



MINISTRY OF HEALTH-REPUBLIC OF GHANA

Health Commodity Supply Chain Master Plan

2021-2025



**USAID GLOBAL HEALTH
SUPPLY CHAIN PROGRAM**
Procurement and Supply Management





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The Global Fund
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Acronyms

ABC	-	Activity-Based Costing
CARISCA	-	Centre for Applied Research and Innovation in Supply Chain-Africa
CHAG	-	Christian Health Association of Ghana
CHPS	-	Community-Based Health Planning and Services
CMS	-	Central Medical Stores
CPD	-	Continuing Professional Development
DRF	-	Drug Revolving Fund
eLMIS	-	Electronic Logistics Management Information System
FASP	-	Forecasting and Supply Planning
FDA	-	Foods and Drug Authority
GHANEPS	-	Ghana Electronic Procurement System
GhiLMIS	-	Ghana Integrated Logistics Management Information System
GHS	-	Ghana Health Service
GHSC-PSM	-	Global Health Supply Chain – Procurement and Supply Management
GOG	-	Government of Ghana
GWP	-	Good Warehousing Practices
IHS	-	Imperial Health Sciences
KNUST	-	Kwame Nkrumah University of Science and Technology
KPI	-	Key Performance Indicator
LMIS	-	Logistics Management Information System
MOH	-	Ministry of Health
NEML	-	National Essential Medicines List
NGO	-	Non-Governmental Organisation
NHIA	-	National Health Insurance Authority
NHIS	-	National Health Insurance Scheme
NSCA	-	National Supply Chain Assessment
PPP	-	Public-Private Partnership
P&SC	-	Procurement & Supply Chain
PV	-	Pharmacovigilance
RMS	-	Regional Medical Store
SC	-	Supply Chain
SCM	-	Supply Chain Management
SCMA	-	Supply Chain Management Agency
SCMP	-	Supply Chain Master Plan
SDP	-	Service Delivery Point
SOP	-	Standard Operating Procedures
STG	-	Standard Treatment Guidelines
TCMS	-	Temporary Central Medical Stores
TWG	-	Technical Working Group
UAV	-	Unmanned Aerial Vehicle
UHC	-	Universal Health Care
UNFPA	-	United Nations Population Fund
USAID	-	United States Agency for International Development
WHO	-	World Health Organisation

Foreword

Access to medicines and medical supplies is essential for the health and prosperity of all Ghanaians. As part of the Health Commodity Supply Chain Master Plan (SCMP), the Ministry of Health (MOH) is working to improve capacity of the supply chain (SC) to accurately forecast, procure, and deliver essential medicines. Improved SC performance that is driven by strategic leadership and collaboration is required for Ghana to reach the Sustainable Development Goals and the Ghana Universal Health Care (UHC) Vision.

The 2015-2020 SCMP, completed in 2015, systematically identified challenges in Ghana's public health SC, outlined objectives for the future, and proposed interventions. Major achievements worth recognition were realised over its implementation; progress has been made in the development of national policies, guidelines, and standard operating procedures (SOPs); scheduled deliveries to service delivery points (SDP)-the last mile delivery (LMD); as well as in the design and rollout of the Ghana Integrated Logistics Management Information System (GhiLMIS).

In strategic alliance with health partners, notably the Global Fund and USAID, the Ministry of Health and its agencies implemented SC reforms that witnessed a successful adoption of framework contracting mechanism for procurement of critical, lifesaving and high-value health commodities at competitive prices, development of a warehousing policy based on network optimisation, deployment of aerial unmanned vehicles (drones) to augment the last mile distribution efforts especially to hard-to-reach areas that need lifesaving health commodities for emergency care, and the institutionalization of SC coordination and governance framework at all levels of the value chain.

As we review recent achievements and remaining challenges, it is clear that a number of interventions are needed for the MOH to continue this important effort and meet its goals. Therefore, a new strategy is required to direct efforts to achieve these goals over the next five years. To ensure that the master plan is forward looking, builds on investment, and reflects SC performance, we structured the plan around the 11 technical areas of the 2019 National Supply Chain Assessment (NSCA), a collaboration between the United States Agency for International Development (USAID) Global Health Supply Chain–Procurement and Supply Management (GHSC-PSM) Program, Ghana Health Service (GHS), and the MOH. New, prioritised interventions centred around the transformation pillars of the SCMP — sustainability, transparency, innovation, coordination, and collaboration — to ensure consistent focus and connection to our ultimate goals.

With the commitment and support from the government of Ghana (GOG), its SC partners, and other stakeholders, we can significantly improve access to essential medicines across the Ghanaian population. I, therefore, urge all involved in implementing this plan to fully dedicate themselves to this effort over the next five years.

The MOH will remain committed to ensuring the successful implementation of this plan to achieve our goals of ensuring equitable access to health services for all our citizens.



KWAKU AGYEMAN -MANU (MP)
MINISTER FOR HEALTH

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Executive Summary

The SCMP 2021-2025 was designed to build on progress made since the previous SCMP, address continued issues, and tackle new and emerging challenges. The plan is directly linked to the Ghana Universal Health Care Vision, with focus functional areas organized by the 11 technical areas of the National Supply Chain Assessment and guided by four transformational pillars: coordination and collaboration, innovation, transparency, and sustainability.

Each “focus functional area” section presents a quick “stock keeping” overview that recaps the key findings of the NSCA maturity assessment, describes progress to date and notes ongoing challenges. Priorities for the functional area are then aligned with each of the SCMP’s transformational pillars to ensure each of these key themes are infused throughout all strategies and interventions. The most important portion of each section is a competency-based improvement pathway. These “pathways” are competency-based as they were built in direct response to the competency assessment of the NSCA. We set forth a look at the current state, vision for future state in 2025, and an overall strategic pathway to get from “a” to “b.” This pathway is then presented in detail through strategic interventions paired with annual performance targets. In total, the Supply Chain Master Plan includes 55 strategic interventions paired with annual performance targets for each of the 11 technical areas and a dedicated section on the key theme of private sector engagement. The following provides a quick overview of the strategy for each area.

Strategic Planning and Management. This SCMP is an opportunity to re-examine all levels of the SC system and to build political leadership that supports reform. Moving forward, in the absence of a Supply Chain Management Agency, it will be necessary to harmonise SC responsibilities and to create complementarity in roles and responsibilities among the MOH and agencies. The goal is a well-coordinated ecosystem of SC actors, including a robust market of private sector entities that is stewarded by the GOG. An overarching priority remains to ensure that all necessary SC functions are fully covered; those existing entities are sufficiently empowered; and that the respective roles, responsibilities, and relationships amongst actors are clearly and universally understood. The SCMP will provide coordinated leadership and governance across MOH and its agencies; reflected in clear guidance regarding functional roles and responsibilities, disseminated to all regions, and reviewed annually.

Policy and Governance. The SCMP will lay the framework to implement strong accountability and governance structures to hold agencies and the private sector accountable for performance. More inclusive policies and stronger governance structures will promote sustainability by bringing in more local actors (private sector, civil society) and inform proper resource allocation. Enhanced coordination according to clear policy and governance structures will strengthen existing linkages. The SCMP strategy will focus on decentralising governance of vertical SCs to the regions whilst transitioning the central level to conduct intensive supportive supervision in which regions are held accountable based on performance scorecards. It will enhance the supportive supervision role of the central regions over the regions through implementation of a performance management framework.

Human Resources. Opportunities for SC-specific capacity building exist, as the presence of dedicated and professionally trained SC personnel is most significant at the highest levels of the public health system and lacking at lower levels. Capacity development must occur at multiple levels (e.g., individual, organisational, societal) and across sectors (public, commercial, civil society) to be successful. The SCMP will aim to standardise SC capacity development at all levels and introduce a Continuing Professional Development program for SC personnel. Implementation of the SCMP will focus on professionalisation and more innovative and sustainable methods of workforce development.

Financial Sustainability. To develop a well-coordinated financial system that supports the public health system, implementation of the SCMP will include a mapping exercise to understand the flow of money and tracking of expenditures at each level. To attain financial sustainability of SC at all levels, the MOH must focus on framework contracting, PPPs, NHIA reform, and the respective linkages with SC. Drug Revolving Fund (DRF) operated in the regions should be replicated at the district, SDP, and sub-district levels. The SCMP will focus on interventions to settle outstanding debts and establish and enforce future payment deadlines and support the design of a dedicated Financial Sustainability Plan to guide this critical area.

Forecasting and Supply Planning. Sustained, high-performing FASP is dependent on the tools and staff capacity. The SCMP proposes a gradual shift to using common FASP software and data inputs on GhiLMIS consumption across all disease areas, including essential medicines, to attain a coordinated FASP program. This will include standardisation of SOPs across programmatic areas and facility levels, establishing a dedicated FASP Unit to streamline processes, and provision of capacity building to enable government-led quantification at central and regional levels.

Procurement and Customs Clearance. To achieve the desired future procurement state, the SCMP will promote e-procurement at all levels to enhance transparency; enhance capacity of procurement entities (staff at all levels) in procurement best practices, including e-procurement; develop mechanisms that promote regular procurement monitoring at all levels, including vendor performance; enforce strict adherence to prevailing procurement laws and guidelines to improve transparency; and improve customs processes to reduce clearance time. A critical element will be the agreement and buy-in of all partners that the goal is to transition the implementation of procurement function to the GOG.

Warehousing and Storage. To reach constant stock turnaround, adherence to GWP, and consistent monitoring, the MOH will invest in physical and human capacity to bring all warehouses at central, regional, and SDP levels to Ghana FDA standards and ensure SOPs and other tools are prepared to international practice levels and implemented by well-trained commodity managers. The plan will implement strategies that enhance labour efficiency and improve management capacity of all warehouses. In addition, it will create an enabling environment for a standardised, modern warehousing infrastructure that promotes good warehousing practice.

Distribution. Improvements in distribution will be driven by an optimised distribution strategy paired with a detailed sustainability plan to reach a state in which commodity distribution plans are structured, implemented, and monitored to achieve regular on-time distribution to SDPs.

Developed according to a root cause analysis of stockouts at SDPs, the strategy will introduce innovative contract mechanisms and performance metrics, and increased use of the private sector. The MOH will leverage on existing experiences in-country and coordinate the development of a broad-based strategy -- through comprehensive consultative processes -- to provide clear regulatory guidance and operational procedures to the use of unmanned aerial vehicles (UAVs) for transportation of medical supplies.

Logistics Management Information System. Significant progress has been made to date on the rollout of the GhiLMIS which will be built on to create an active culture of data quality and use. To realise a fully mature, secure eLMIS that facilitates end-to-end SC visibility through interoperability with other systems, interventions of the SCMP will formalise LMIS responsibilities within job descriptions, establish a SC data governance structure and design and implement a sustainable performance-based incentive mechanism for SC data generation and use, among other efforts.

Quality and Pharmacovigilance. Through implementation of the SCMP, the MOH will improve patient care and safety through its agencies by strengthening the recall system of health products and medical devices (e.g., batch management of inventory, adopting GSI coding) and by developing human resources capacity to manage FDA laboratories and PV activities. In addition, a Ghana Pharmaceutical Traceability Strategy Document will be prepared to ensure the availability and appropriate use of quality medicines and medical products. This strategy will be a starting point for the MOH and FDA to jointly organise and operationalise the foundational work that will support traceability implementation.

Waste Management. Through the SCMP, we will review and disseminate policies and SOPs on specialised waste disposal to improve implementation at all levels, and advocate to expand budgets to improve the pharmaceutical and health care waste infrastructure at all levels. An active costed implementation plan will be prepared and supported in the application of the “polluter pays” principle.

Partnering with the Private Sector. To promote greater private sector, the MOH — through SCMP implementation — will involve the private sector in strategic planning and develop a national private sector engagement strategy to guide implementation of cost-effective SC initiatives. Engagements will focus on mobilizing additional capital and introducing alternative management and implementation skills.

1.0 Background

Reviewing Supply Chain Master Plan 2015-2020

The 2015-2020 SCMP systematically identified challenges in Ghana's public health SC, outlined objectives for the future, and proposed numerous interventions. Progress has since been made in the development of national policies, guidelines, and SOPs, as well as in the design and rollout of the GhiLMIS. Today, several original recommendations from the 2015-2020 SCMP remain pertinent, underscored by updated data on the current situation of Ghana's public health SC system.

In the aftermath of the 2015 fire that gutted the central medical stores (CMS) in Tema, the MOH partnered with its health development partners, notably the Global Fund and USAID, to prioritise the implementation of key interventions from the 2015-2020 SCMP. These interventions were to ensure several outcomes:

- The systematic and scheduled delivery of health commodities from the two central-level warehouses through the 10 traditional regional medical stores (RMSs) and to more than 4,000 service delivery points (SDPs), “the last mile” dotted around the country.
- The execution of a framework contracting mechanism in which all RMSs and teaching hospitals will procure an agreed list of commodities from prequalified vendors at an agreed competitive price.
- The establishment of an electronic logistics management information system (eLMIS) to derive reliable and timely data to guide SC decision-making at higher levels.
- The implementation of a warehouse policy and strategy based on optimised solutions that improves the public warehousing conditions at central and regional levels.

A review of the interventions (February 2020) revealed significant progress in SC performance objectives in the health sector, specifically:

- The scheduled delivery of commodities from the RMSs to 100% of SDPs to subdistrict level was attained, i.e., regional hospitals, district hospitals, polyclinics, and health centres.
- A warehousing strategy to optimise commodity management and distribution was developed but has yet to be fully implemented.
- A framework contracting mechanism for high-value, high-volume, and critical lifesaving commodities is in place to benefit from economies of scale and assured quality.
- An integrated logistics management information system (LMIS) that captures, analyses, and reports on SC data for decision making was developed and is being rolled out.
- Mechanisms are in place to ensure SC coordination at the regional level by operationalising SC coordinating committees.

These achievements notwithstanding, implementation of the 2015-2020 SCMP faced myriad challenges, from the inability of the MOH to establish an autonomous agency for SC oversight to limited funding for SC activities across all levels. To date, a substantial part SC activities funding (including procurement of health commodities) has been provided by development

partners, primarily the Global Fund and USAID. The United Nations Population Fund (UNFPA) and other development partners supported the procurement of contraceptives, nutrition, and other critical public health commodities. Consequently, the 2021-2025 SCMP must address the observed challenges by developing interventions that will enable a national SC system that is integrated, effective, efficient, lean, agile, and sustainable.

A key task of the 2021-2025 SCMP is to reconsider the priorities outlined in the 2015-2020 SCMP according to the current SC capabilities and performance and, crucially, in the context of contemporary leadership, priorities, economic, and political realities. The goal is to create a new list of priority reforms and interventions to continue to ensure the availability of quality health commodities by 2025.

National Supply Chain Assessment

The NSCA established the presence or absence of key capabilities across 11 technical areas at all facility levels and collected key performance indicators (KPIs). The 2019 NSCA, in assessing progress of specific activities under the 2015-2020 SCMP, demonstrates some progress on specific activities but notes the lack of implementation for others. Most notable of these is the decision not to create a centralised agency or authority to manage the SC. The balance of capabilities and performance suggests opportunities for investment, reform, and intervention; it also serves as a basis for the recommendations that follow.

2.0 Vision, Mission, and Transformation Pillars

Vision. Ensure the availability, timely access, and affordability of high-quality health commodities across public and private sectors to successfully deliver UHC that will ensure all people in Ghana have timely access to high quality health services irrespective of ability to pay at the point of use (Ghana UHC Vision).

Mission. Identify and implement key strategic interventions and priority activities for a country-led robust SC that contributes to the achievement of UHC.

Linkages to transformation pillars. If the GOG operates a transparent, well-coordinated SC and infuses innovation with a commitment to reaching self-reliance, then key gains toward UHC will be achieved. To this end, all interventions in this SCMP will be anchored, amongst others, on the following critical transformation pillars:

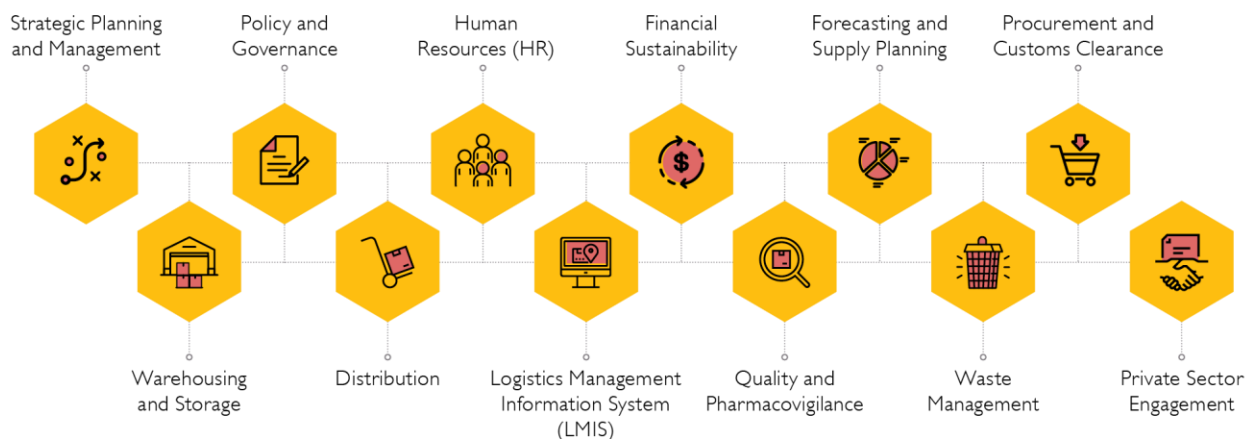
- **Coordination and Collaboration:** The SCMP is intended to inspire a spirit of strengthened coordination, collaboration, and cooperation amongst all actors. A well-coordinated SC will ensure that quality essential health commodities are available, accessible, and affordable, furthering the achievement of UHC. Similarly, sustained collaboration and cooperation amongst all stakeholders, including the private sector, are desirable to attain the vision of this SCMP.
- **Innovation:** The SCMP will deploy innovative SC strategies and interventions that support the MOH's objectives for UHC and result in an efficient, lean, agile, and sustainable SC from the central level to SDPs.

- **Transparency:** The SCMP will focus on transparency in terms of roles and responsibilities, procedures, finances, and data across all levels.
- **Sustainability:** The SCMP will infuse sustainability into each intervention to ensure a strong government-owned and -financed SC that provides available, accessible, affordable health commodities using dedicated staff, coordinated systems, and innovative technology

As the **Government of Ghana** operates an increasingly transparent, well-coordinated supply chain, collaborates across stakeholders, and infuses innovations with a commitment to achieving sustainability...



through implementation of strategic interventions across the focus functional areas of the SCMP..



key gains toward achievement of the Ghana UHC vision will be accelerated, in alignment with the government's mission.

VISION. Ensure the availability, timely access, and affordability of high-quality health commodities across public and private sectors to successfully deliver universal healthcare (UHC) to ensure all people in Ghana have timely access to high quality health services irrespective of ability to pay at the point of use (Ghana UHC Vision).

MISSION. Identify and implement key strategic interventions and priority activities for a country-led' robust supply chain that contributes to the achievement of UHC.

3.0 Focus Functional Areas: Strategy and Improvement Pathway

The following sections are organised according to the NSCA focus functional areas to build upon the NSCA's work and offer aligned strategies. These areas are interconnected and will require coordinated interventions to elevate SC performance. Each focus functional area includes an overview of the status quo that is informed by the 2019 NSCA; these build consensus around the current state and enable stakeholders to be forward looking in consequent sections. Then, strategies that align with each transformation pillar are defined to

emphasise the importance of focusing on coordination, collaboration, innovation, transparency, and sustainability to drive SC improvements. Next, a competency-based improvement pathway is outlined, summarising the current state and envisioning a 2025 future; it also outlines a high-level strategy, detailed strategic interventions, and annual performance targets to achieve the transformative change the government is stewarding. The competency-based improvement pathways are designed in response to NSCA recommendations; interventions are built in direct response to the current level and desired future state of competencies in each of the 11 technical areas. The interventions are not intended to be exhaustive but to communicate key activities to be undertaken for Ghana's health SC to transform from the defined current state to the envisioned future state.



3.1 Strategic Planning and Management

Maturity Assessment, Progress to Date, Ongoing Challenges

The MOH and GHS share strategic planning and management responsibilities in the Ghanaian SC system. The NSCA assessed strategic planning and management capabilities at four central-level facilities: MOH, GHS, the Temporary Central Medical Stores (TCMS), and the Imperial Health Sciences (IHS)-managed warehouse. It also assessed selected regional-level sites: regional hospitals, teaching hospitals, and the RMSs. Central entities had reasonable strategic management and planning capabilities. The MOH and GHS had intact SC strategic and implementation plans, and they engaged with the private sector. The MOH and GHS fell short of the recommended 80% capability maturity score, at 67% and 51% respectively. Whilst strategic plans are in place, the use of performance monitoring plans or frameworks to track SC performance is limited. There is room for growth in private sector engagement and coordination; existing engagements, such as the IHS warehouse, are not fully reflective of a private public partnership.

The challenge in strategic planning and management stems, in large part, from cross-agency issues: duplication of effort, lack of clarity of roles and authority, limited formal coordination, and an apparent lack of trust. The MOH and GHS have overlapping offices, activities, and tasks in SC activities. Moving forward, in the absence of a Supply Chain Management Agency (SCMA), it will be necessary to harmonise SC responsibilities and to create complementarity in roles and responsibilities among the MOH and agencies.

Central-level entities were reported to have greater strategic planning and management capabilities than regional facilities, except the TCMS, which had the lowest capacity. Sub-national strategic planning and monitoring capabilities were limited; 30% of 10 traditional RMSs had SC strategic plans and less than 50% of facilities monitored SC performance. Formal SC risk management plans were rare amongst assessed facilities; most reported risks were financial, human resources, and operational.

Linkage to Transformation Pillars



Coordination and collaboration. Because the creation of an overarching body (SCMA) has been deprioritised, the development of harmonised SC responsibilities across agencies is critical to realise coordinated SC leadership and management. To ensure complementarity of the MOH and its agencies' roles, as well as for well-coordinated strategic planning and management, the MOH will collaborate with its agencies and partners to lead the review and documentation of roles and responsibilities for each SC agency, including the private sector and government agencies beyond MOH. Whilst strategic planning and management are the purview of the MOH and GHS, all other agencies of MOH are responsible for understanding their role in the strategic plans. An overarching priority remains to ensure that all necessary SC functions are fully covered; that existing entities are sufficiently empowered; and that the respective roles, responsibilities, and relationships amongst actors are clearly and universally understood.



Innovation. Building on the enhanced data accessibility and visibility, planning and management approaches that are driven by metrics and causation relationships will be deployed. Government stakeholders will maximise use of accurate data and apply lessons learned to improve decision-making and deliver innovative solutions.



Transparency. To improve transparency of goals and strategic objectives, the SCMP will be aligned with the activities of all MOH agencies, the private sector, and agencies outside MOH and disseminated to all. The transparency and visibility of SC performance aided by technological advances or innovations in the performance of SC functions by different actors, including the private sector, will sustain the network of relationships between the MOH, its agencies, development partners, and the private sector. Transparency and visibility will build an effective SC relationship and achieve positive SC strategic planning, performance, and data-driven decision-making at all levels.



Sustainability. Proper and well-coordinated strategic planning and management will promote a strong and sustainable SC. To date, the private sector has been underutilised. To promote greater private sector engagement, the MOH — through SCMP implementation — will involve the private sector in strategic planning and develop a national private sector engagement strategy to guide implementation of cost-effective SC initiatives. Where feasible, the MOH will continue to “outsource to” or “contract with” the private sector. A focus on contract management will equip the MOH to effectively acquire and manage services. To ensure financial sustainability of the SC at all levels, the SCMP will promote framework contracting, public-private partnership (PPP), and national health insurance authority (NHIA) SC-related reforms.

Competency-Based Improvement Pathway

Current state. Inefficiencies are rooted in fragmented management of the SC with an existent overarching strategy of non-complementary roles and responsibilities across key agencies, as well as insufficient risk management protocol, and engagement of the private sector.

Future state. The goal is a well-coordinated ecosystem of SC actors, including a robust market of private sector entities that is stewarded by the GOG. The government itself operates in accordance with clear mandates and collaborates through defined mechanisms and communication channels. There is alignment across all MOH agencies and at all levels of the SC around a shared strategic plan that is updated regularly. SC operations are characterised by strong risk management processes and clear performance management structures.

Strategy. This SCMP is an opportunity to re-examine all levels of the SC system and to build political leadership that supports reform. Coordination at a strategic planning and management level is critical for an efficient SC in Ghana. Rather than create an SCMA, which was deprioritised by stakeholders, the SCMP will provide coordinated leadership and governance across MOH and its agencies; the coordination will be reflected in clear guidance regarding functional roles and responsibilities, disseminated to all regions, and reviewed annually. Although the SCMP primarily involves or targets public sector entities, there is need to consider other stakeholders in the private and other sectors, such as civil society and non-MOH entities, in the SC leadership and governance shift at central and regional levels.

Strategic intervention 1.1: Clarify the division of all SC functional and strategic roles and responsibilities. A key initial task of the SCMP will be to clarify the division of roles and responsibilities as they relate to SC functionality amongst the MOH and its agencies, the private sector, and other entities.

Activities will include:

- Conduct a mapping exercise of the respective roles, responsibilities, and authorities of each central-level SC entity; include interviews with key stakeholders of each entity, strategic forums for discussion, and finalisation of clear roles
- Designate an authorities' matrix to provide coordinated leadership across the MOH and agencies
- Design and monitor KPIs for SC actors based on the agreed roles and responsibilities from stakeholders' consultations and engagements

Strategic intervention 1.2: Institutionalise strategic planning practices at all levels (with emphasis on the central and regional levels).

Activities will include:

- Design region-specific SC strategic plans within the SCMP context; review annually based on attainments or otherwise of KPIs
- Disseminate the SCMP to all regions
- Review process annually against performance targets

Strategic intervention 1.3: Formalise the practice of assessing SC risks at the central and regional levels.

Activities will include:

- Conduct regular SC risk assessment at all levels

- Design relevant advocacy mechanisms to address SC risks emanating from the risk assessment
- Define performance management

Strategic intervention 1.4: Transform the RMSs into business units.

Activities will include:

- Hold consultative engagements with management of Regional Health Administrations on RMSs’ transition into business entities
- Conduct activity-based costing (ABC) in all regions to identify true operations costs; use findings to guide transitions into business units
- Prepare business plans for each region

Strategic intervention 1.5: Introduce a focus on financial sustainability, including sustained advocacy for increased resources for SC interventions.

Activities will include:

- Establish strategies to strengthen and expand framework contracting, PPPs in SC, NHIA reforms
- Establish a private sector engagement strategy
- Develop advocacy mechanisms for improved funding for SC interventions
- Organise regular resource mobilisation at least annually for SC performance, including procurement of programme commodities

Strategic intervention 1.6: Establish strategic framework for engagement of the private sector.

Activities will include:

- Analyse landscape of current private sector partners, identify barriers to further market entry, and design interventions to expand market accordingly
- Develop a private sector engagement strategy

Strategic intervention 1.7: Institutionalise monitoring and tracking frameworks for all SC strategic interventions.

Activities will include:

- Design and implement an overarching and region-specific checklist on monitoring and tracking interventions



Performance Targets

Annual: Identify SC risks; develop and implement mitigation plan

2021-2022: Develop and implement regional business plans; review annually

2022: Ratify guidance outlining roles and responsibilities of each agency from national level to facilities

2023: Review SCMP implementation annually

2023-2025: Develop road map on sustainability



3.2 Policy and Governance

Maturity Assessment, Progress to Date, Ongoing Challenges

Whilst NSCA assessed the existence of policy and governance capabilities, the level of implementation and the policies' effectiveness were not explored, though they have implications across other functional areas. At ministerial level, nearly all assessed "basic" capabilities are in place (100% at MOH, 84% at GHS). Overall, a broad range of formal policies (e.g., National Essential Medicines List [NEML], standard treatment guidelines [STG]), as well as guidelines and SOPs for key SC functions, are in place and updated regularly. There are challenges with disseminating these policies to the lower levels of the public health system. Only 53% of facilities made copies of key national policies accessible. Annual policy reviews, as recommended by the 2015-2020 SCMP, are not conducted.

Governance issues — such as the lack of a clear governance structure to guide TCMS operations, and limited mechanisms to hold SC-managing stakeholders accountable and set expectations — inhibit TMCS functionality. To improve regulatory and governance implementation, it will be necessary to create robust supervisory structures and increased clarity into agencies', departments', and units' respective roles, authority, and responsibility to create and implement SC policies; these will require MOH's sustained prioritisation and leadership. Entities outside MOH are pushing for stronger policy and governance, requesting more transparency and accountability of the SC business.

Linkage to Transformation Pillars



Coordination and collaboration. To improve governance structures and operations according to policy, it will be critical to decentralise interventions and disseminate policies to the sub-national level. Entities outside of the MOH (i.e., civil society organisations, government entities) must be involved to provide external feedback on fairness and equity.



Innovation. The innovative path to improving public health in Ghana includes revising policies to reflect changing best practices and onboarding new technologies and solutions. Elevated data use to monitor SC performance should be explored.

Innovative areas for governance solutions should be introduced in updated policies for regional- and facility-level drug revolving funds (DRFs) and in processes to monitor policy implementation, including NEML, STGs, and SOPs. Implementation of monitoring by non-MOH entities, such as civil society organisations, should become as important as clear policies, guidelines, and oversight.



Transparency. The SCMP will lay the framework to implement strong accountability and governance structures to hold agencies (GHS, teaching hospitals, etc.) and the private sector accountable for performance, as well as in the use of the GhiLMIS system; management of framework contracting; and adherence to national NEMLs, STGs, Internally Generated Funds Guidelines, etc. The SCMP also will set up publicly generated and disseminated scorecards for SC stakeholders and actors across the board. In addition,

appropriate forums will be created at all levels to share experiences and best practices.



Sustainability. More inclusive policies and stronger governance structures will promote sustainability by bringing in more local actors (private sector, civil society); they also will inform proper resource allocation. Enhanced coordination according to clear policy and governance structures will strengthen existing linkages. For example, to promote sustainability, the SCMP will continue to deepen the coordination between the NHIA and the National Medicines' Pricing Committee for all pharmaceutical and medical equipment to ensure 1) no price divergence, and 2) timely insurance reimbursements to service providers.

Competency-Based Improvement Pathway

Current state. Policies, guidelines, and SOPs are partially developed and implemented at regional and facility levels. Central levels govern the implementation of the vertical SCs for most pharmaceutical products, whilst regions focus on governing the supply of essential medicines. The involvement and management of private sector actors and engagement of civil society is ad hoc.

Future state. Clear monitoring structures are in place to enable the central level to monitor regional governance performance through coordinated leadership at MOH and GHS. Similarly, the regions coordinate SC performance at the district, SDP, and sub-district levels.

Policies, guidelines, and SOPs are well-understood and drive improved performance of public and private sector actors at each SC level. Civil society's voice is heard and informs policy; it also propels strong SC performance so that patient needs are met.

Strategy. The SCMP strategy will focus on decentralising governance of vertical SCs to the regions whilst transitioning the central level to conduct intensive supportive supervision in which regions are held accountable based on performance scorecards. It will enhance the supportive supervision role of the central regions over the regions through implementation of a performance management framework. The MOH will provide physical copies of policies, guidelines and SOPs and other items will be provided to all SC functional levels and introduce a scorecard approach with performance-based incentives where feasible.

The SCMP will also expand the framework contracting process to include vendor management and will strengthen the application of revised NEML and STGs in procurement and prescribing practices. The procurement entities (MOH and agencies, i.e., GHS) will actively manage vendor performance, publish results, and apply performance results to future contract awards. The MOH will collaborate with its agencies to develop and implement guidelines for sanctioning those who are non-compliant with procurement processes, as well as for vendors that are non-compliant; this includes adherence to guidelines for issuing and using certificates of non-availability. The MOH will ensure that all procurement entities monitor vendor performance as part of their contract management. Vendor performance is transparent, posted and used in subsequent contract awards.

The MOH will create an enabling environment that enhances the Foods and Drug Authority's (FDA) technical and financial capacities to perform its regulatory functions; this will assure

access to quality health technologies, including testing and post-marketing surveillance.

Strategic intervention 2.1: Update NEML and STGs annually to ensure relevance and usefulness, as recommended by 2015-2020 SCMP.

Activities will include:

- Develop SOPs and scorecards for annual reviews
- Involve non-MOH/GHS entities in scorecard
- Revise NEML and STGs accordingly
- Develop National Health Commodity Non-Medicines Tracer List



Performance Targets

2021: Finish guidelines updates and scorecard format with non-MOH/GHS actors

2022: Complete check on 90%-100% physical availability of policies

2023: Set annual performance targets

2024: Start performance target scorecard monitoring

2025: Clear implementation responsibilities for regions on vertical commodities

Strategic intervention 2.2: Ensure awareness and availability of extant national policies at all levels.

Activities will include:

- Include checks for physical copies of policies, guidelines, and SOPs in supportive supervision visits
- Introduce regular reviews of pricing regulatory mechanisms
- Disseminate key policies through regional public meetings, newspapers, non-governmental organisation (NGO) visits, internet, etc.

Strategic intervention 2.3: Streamline management of donated commodities at regional level.

Activities will include:

- Increase regional involvement in managing vertical commodities for each step of the SC, from quantification, procurement, and financing to last-mile availability

Strategic intervention 2.4: Establish a standardised framework for accountability and continuous monitoring of SC performance at all levels.

Activities will include:

- Initiate scorecard monitoring on the implementation of all policy and governance issues at central, regional, and SDP levels

Strategic intervention 2.5: Improve performance management and accountability structures at central, regional, district, and SDP levels.

Activities will include:

- Develop scorecards for key issues
- Initiate scorecard monitoring on implementation of policy and governance processes and in performance to ensure commodity availability at central, regional, and SDP levels
- Disseminate key policies through regional public meetings, newspapers, NGO visits, internet, etc., to inform civil society
- Explore opportunities to apply enhanced data availability through GhiLMIS to better manage performance and expand access to information on performance of various SC actors



3.3 Human Resources

Maturity Assessment, Progress to Date, Ongoing Challenges

The SC workforce includes a variety of individuals at national, district, and health facility levels; these include logisticians, pharmacists, warehouse personnel, and SC managers. Within the broader context of insufficient and unequal human resources in Ghana's public health system, it is specifically SC functions that are inadequately and, often, inappropriately staffed. Vacancies exist in SC positions throughout the system (e.g., an average of 24% of SC positions at district hospitals and 44% of SC positions at GHS headquarters are vacant). The presence of dedicated and professionally trained SC personnel is most significant at the highest levels of the public health system and lacking at lower levels.

Opportunities for SC-specific capacity building exist, including mentorship, certificate programs, bachelor's degrees, and master's programs; but SC topics are not fully integrated into the traditional public health curriculum. SC-specific capacity building efforts are concentrated mostly at regional levels. About a quarter of Community-Based Health Planning and Services (CHPS) and clinics (23%), and Health Centres and polyclinics (26%) received no SC capacity building support in the past year. Mechanisms such as supportive supervision are in place, with 80% of facilities providing regular reports of supportive supervision throughout the system.

Linkage to Transformation Pillars



Coordination and collaboration. Capacity development must occur at multiple levels (e.g., individual, organisational, societal) and across sectors (public, commercial, civil society, etc.) to be successful. The SCMP will aim to standardise SC capacity development at all levels and introduce a Continuing Professional Development (CPD) program for SC personnel that is akin to those for physicians and pharmacists. For this to be accomplished, adequate funding and government coordination must align with civil service cadre job descriptions for SC positions. In addition, the MOH and GHS will liaise with local institutions (i.e., universities, Centre for Applied Research and Innovation in Supply Chain-Africa [CARISCA], professional associations) to explore opportunities for sustained, cutting-edge SC

capacity building and professionalisation support for SC cadres in the health sector on regular basis.



Innovation. Implementation of the SCMP will exert an increased focus on professionalisation and more innovative and sustainable methods of workforce development. Development of innovative training platforms, including e-learning and an in-service curriculum for staff, will strengthen SC skills and formal qualifications to become recognised SC practitioners in the civil service cadre. Innovative partnerships with private sector entities through secondment, internship, or mentorship programs will be explored. The GOG will seek to leverage and apply operational research in labour markets to inform “whole of market” approaches for sustained human resources capacity.



Transparency. Transparency fuels accountability. The GOG will strive through SCMP implementation to increase transparency of 1) performance management processes for staff and 2) in job selection criteria, remuneration policies, and practices. Efforts will also be made to establish a clear career trajectory in SC management to increase motivation of the SC workforce. SC practitioners are critical stewards of transparent SC operations and will be guided by the CPD program on priority issues for SC improvements in Ghana and in sharing data transparently with civil society and other key stakeholders. For example, a TWG or a committee for each region/RMS should regularly analyse and share data with key stakeholders at all levels for effective decision-making.



Sustainability. In tandem with building knowledge and skills, sustainable human resource development will require improving systems, processes, and performance, with a focus on professionalisation, and addressing motivation. To become increasingly self-reliant, Ghana’s public health SC must be able to identify, attract, support, capacitate, and retain adequately skilled and qualified SC staff — or contract services from a private sector organisation with the capability. Meeting the future needs of Ghana’s SC workforce entails understanding and harnessing the Ghanaian SC labour market: the educational and training institutions that produce qualified workers; the policies and regulations that determine SC personnel requirements, influencing career paths; and the dynamics that influence SC workers’ movement between organisations and sectors. The GOG will explore each facet of the labour market and develop more sustainable human resources systems that are supported by robust regulatory bodies and local academic institutions.

Motivation is a key component of a sustained workforce. Workforce motivation will be achieved with the support of good performance, SC workers’ understanding and caring about their role, supervisors’ providing support and performance management to staff, and employees’ owning their roles and responsibilities. To propel strong performance and encourage professional commitment, the SCMP will introduce incentives and recognition to the health SC workforce.

Competency-Based Improvement Pathway

Current state. A fragmented approach to professional SC competencies and workforce structure results in insufficient workforce capacity to manage the public health SC.

Future state. A well-performing, motivated, and professionalised health SC workforce is officially recognised within the public and civil service and adequately staffed to meet health system needs. Effective policies, structures, and training (pre-service and in-service) is intact to attract qualified staff and to equip professionals with modern approaches and tools for improved health results. Compensation and remuneration for SC professionals are equitable and commensurate with functions performed, improving workforce retention and motivation.

Strategy. Systematic improvements to human resources systems require detailed interventions in staffing, skills, motivation, and the work environment. The SCMP will formalise career paths for SC professionals with defined incentives at all levels. Capacity of SC staff will be built according to the task shifting policy of MOH/GHS. A continuous professional development program will enable continued capacity building and introduce a continuous improvement mechanism to increase SC efficiency and level of service. The MOH and GHS will strengthen linkages with local institutions (i.e., universities, CARISCA) as a sustainable source of cutting-edge SC capacity building.

Through regularly scheduled technical discussions with peers and management, professionals at all levels will be encouraged to channel individual observations into proactive improvement action. To increase private sector engagement and introduce private sector thinking, private sector SC professionals will be included in a national network of SC professionals who hold annual conferences for peers. To improve public health SC staff recruitment and retention, and to align with the private sector, the SCMP will introduce a performance-based salary incentive that is tied to SC objectives.

The MOH will collaborate with its agencies to create a Supply Chain Management (SCM) professionalisation framework for the country.

Strategic intervention 3.1: Advocacy for critical inputs to improve SC workforce.

Activities will include:

- Advocate for more visibility of SCM practitioners in the HRH Strategy Document
- Strengthen advocacy for increased resource allocation for SC functions in Ghana
- Advocate for increased resources to improve SC staff performance at all levels
- Develop performance-based incentives for SC practitioners and institutions

Strategic intervention 3.2: Increase professionalisation of the SC workforce.

Activities will include:

- Improve job descriptions and remuneration at regional, district, and SDP levels
- Strengthen development of SCM champions at all levels
- Incorporate SC functions into formal job descriptions at all levels
- Introduce recognised positions and remuneration for SC; sustain the role of logistics officers to be competitive with private sector
- Define qualifications and required skills set for regional management role
- Explore accreditation opportunities

Strategic intervention 3.3: Enhance supportive supervision practices.

Activities will include:

- Harmonise supportive supervision exercises with revised SC job description roles and responsibilities
- Conduct on-the-job training to reinforce knowledge and skills for SC practitioners

Strategic intervention 3.4: Improve recruitment and retention of SC personnel.

Activities will include:

- Conduct labour market assessment
- Introduce SC module to the World Health Organisation Workload Indicators of Staffing Need human resource management tool to track staff vacancies
- Develop recruitment processes to hire SC program graduates into public health SC roles
- Revisit staffing norms and separate divorcing SC qualifications from pharmaceutical qualifications
- Continue to experiment with national policies that address geographic disparities in recruitment and retention of public health, including SC professionals

Strategic intervention 3.5: Improve job descriptions and remuneration at regional, district, and SDP levels.

Activities will include:

- Strengthen the development of SCM champions at all levels
- Incorporate SC functions into formal job descriptions at all levels
- Introduce recognised positions and remuneration for SC; sustain the role of logistics officers to be competitive with private sector
- Define qualifications and required skills for regional management role

Strategic intervention 3.6: Engagement with relevant local training institutions on provision of institutionalised capacity for SC staff at all levels.

Activities will include:

- Hold consultative meetings with relevant institutions



Performance Targets

2021: Each SDP has at least one SC practitioner who will supervise SC activities

2021-2024: Identify and engage local training institution to provide regular SC capacity to relevant staff; monitor and measure performance of SC trainees

2022: Complete SC job descriptions; make remuneration levels competitive

2023: Submit new SC cadre to civil service

2024: Complete recruitment for converted and vacant positions

2025: Formally recognize new civil service cadre for MOH and at GHS for SC officers

- Develop appropriate memoranda of understanding with identified training institutions
- Train relevant staff on SC
- Monitor SC performance of trainees
- Liaise with relevant local training institutions to develop open-sourced e-learning modules on SC functions and make accessible to all who need them

Strategic intervention 3.7: Strengthen collaboration between professional networks of health SC professionals.

Activities will include:

- Advocate for strengthened collaboration between public and private health SC practitioners
- Organise and participate in annual conference of SC professionals
- Support SC practitioners to become members of SC professional bodies (e.g., International Association of Public Health Logisticians)

3.4 Financial Sustainability



Maturity Assessment, Progress to Date, Ongoing Challenges

General financial management best practices are present. At the MOH level, budgets are prepared annually and updated quarterly; SC costs are explicitly recorded; and the government contributes to these costs. At RMSs, annual budgets and miscellaneous budget lines are used, and SC costs are explicitly recorded. At lower levels of the health system, some fiscal best practices are followed, but there is greater variation in capabilities across sites.

Most facilities across all levels report that government and/or facility revenue and cost recovery covered the majority or all of their SC costs last year. However, substantial numbers of facilities reported budget shortfalls for health commodities in the past year. Health insurance is accepted at nearly all SDPs; but SDPs frequently report that insurance reimbursements inadequately cover costs for health commodities and are “rarely or never” on time, especially for certain medicines. Facilities use internally generated funds intended for DRFs to finance activities, such as wages and staff incentives.

Linkage to Transformation Pillars



Coordination and collaboration. There is a need for better coordination amongst the central, region, and district levels. To develop a well-coordinated financial system that supports the public health system, the SCMP must conduct a mapping exercise to understand the flow of money and tracking of expenditures at each level. A pricing policy and guidelines need to be developed, and uniform financial tracking tools made available. The MOH must ensure that the National Medicine’s Pricing Committee meets regularly (at least twice a year) to review pricing, aligning them between the purchase price and the service cost with the reimbursement rate of the National Health Insurance Scheme (NHIS).



Innovation. To attain financial sustainability of SC at all levels, the MOH must focus on framework contracting, PPPs, NHIA reform, and the respective linkages with SC. To improve the sustainability of the NHIS specifically, framework contracting mechanisms should be introduced for high volumes and high-value commodities. To incentivise efficiency through innovation, the MOH will consider introducing technical assistance targets tied to funding levels; an innovation that worked well in the short-term through Global Fund technical assistance. A similar road map regarding a financial incentive mechanism would be adopted for SCMP with annual and five-year targets; this should address all intervening SC functions that lead to commodity availability at the last mile. Tied to this will be a mechanism in which the NHIA will consider colour coding facilities whose records on claim documentation are satisfactory; will enhance NHIA payment mechanisms.



Transparency. Clear-cut policies regarding the needs and use of the DRF need to be disseminated across all levels of the health system and implemented and monitored regularly according to well-designed e-templates. Guidelines of reporting on financial expenditures at facility, district, and regional levels must be defined and communicated.



Sustainability. Whilst regions operate revolving drug funds, the system is not highly functioning or sustainable. To sustain the critical role of the DRFs, there is need for 1) timely reimbursement by NHIA; 2) recapitalisation of ailing RMSs; 3) strengthening of governance and accountability mechanisms for the revolving drug fund at all levels; 4) transition to self-reliant financing for regional DRFs and co-financing vertical donor supported commodities; and 5) coordination with Ministry of Finance during annual and midterm budgeting for a smooth transition from development-partner financing toward self-reliance.

Competency-Based Improvement Pathway

Current state. Unpredictable and insufficient reimbursements continue to undermine the financial solvency of Ghana's public health SC system. Baseline costs and expenditures for commodities vary greatly across regions and health facilities. Delays in reimbursement to facilities by the insurance scheme continue to be a challenge, although marginal improvements are observed. A variety of SC interventions are underfunded.

Future state. Each region operates a DRF to support the costs of commodity procurement and SC service costs, including psychiatric facilities. This should be replicated at the district, SDP, and sub-district levels. NHIS revises rates, and claims are paid on time. Central and regional levels set commitment cost levels to share for the vertical commodities funded by development partners; they also dedicate funding to sustain SC initiatives/reform being financed by development partners.

Strategy. Prepare overall actual financial cost levels for 2019 based on pre-COVID-19 numbers, and update for actual 2020 costs inclusive of the new reality of COVID-19. Prepare a five-year costed financial implementation plan for 2021-2025 with sufficient funding to 1) provide capital to stabilise regional revolving drug funds; 2) strengthen the governance and accountability for revolving drug fund at all levels; and 3) fund commitments to co-finance vertical SC commodities and SC services.

Strategic intervention 4.1: Prioritise a national effort to settle outstanding debts and establish and enforce future payment deadlines.

Activities will include:

- Determine the magnitude of outstanding debts
- Develop mechanisms for outstanding debt clearance
- Prepare a five-year costed financial implementation plan for region-led recapitalisation
- Institute a favourable facility-performance-based payment scheme
- Design appropriate mechanisms to ensure prompt SDP payment to RMSs

Strategic intervention 4.2: Ensure the financial sustainability of the SC system.

Activities will include:

- Conduct a financial sustainable assessment; use findings to plan a sustainability strategy
- Develop warehousing and distribution strategy for new regions
- Develop a resource mobilisation strategy for incremental financing of SC interventions (including procurement of programme commodities)
- Strengthen continuous coordination between MOH, GHS, NHIA, partners, and stakeholders
- Advocate for enhancement of NHIA's reimbursement mechanisms
- Make all financial management guidelines available to all stakeholders; operationalise their implementation
- Prepare SC annual budgets at all levels; review quarterly
- Design and implement e-templates to monitor DRF use at all levels; address bottlenecks in a timely manner

Strategic intervention 4.3: Develop Financial Sustainability Plan for 2026-2030.

Activities will include:

- Update the five-year financial sustainability and implementation plans for next five years, starting from 2024



Performance Targets

2021: Prepare overall baseline financial costs for 2019 and a five-year financial plan for 2021-2025

2022: Update five-year financial plan for 2021-2025 to assure sufficient funding

2023: Standardise fiscal support

2024: Include best practices in annual update to financial plan

2025: Prepare overall financial plan for 2026-2030



3.5 Forecasting and Supply Planning

Maturity Assessment, Progress to Date, Ongoing Challenges

National disease programs perform the strongest in forecasting and supply planning (FASP) but still display wide variability between them, indicating a lack of standardisation. This wide variability translates into a wide range of the quality of forecasting performance, as well. National quantification guidelines are not employed in entities that conduct forecasting. The calculation of forecasting metrics at the product level is not standardised in the health system. Each national disease program conducts its own quantification without a common tool or coordinated data input. FASP for essential medicines is not well-coordinated at central and regional levels.

Linkage to Transformation Pillars



Coordination and collaboration. Stakeholders will work together to define the most appropriate national-level FASP coordination mechanism. Each of the programs conducts its own quantification. There are differing opinions on continuing this practice or conducting joint FASP because of the unique demands of each program (i.e., Global Fund for malaria grant negotiations, the United States Presidential Malaria Initiative wants quantification to be revised to inform the Malaria Operational Plan). Aligning the timing across commodities may be the most palatable way forward. The SCMP will explore implementing one coordinated quantification cycle and one medium to disseminate FASP for all commodities. Central-level stakeholders will be represented across all programs. Forecasting for essential medicines at the regional level should be coordinated across the regions so they use similar parameters and historical data consistently.



Innovation. The SCMP will aim for all programs to use modern, innovative tools to forecast their consumption needs, improving the forecast accuracy and efficiency of supply planning (i.e. PipeLine for supply planning, Quantimed for HIV, transition from Microsoft Excel tools for family planning and malaria, and adopt new forecasting tools and software for essential medicines as they are available). The SCMP will also explore the use of a common forecasting tool across all programs and the viability of harnessing consumption data through GhiLMIS.



Transparency. The SCMP recommends onboarding a coordinator at the central level to provide leadership on FASP practices and to coordinate the commodities quantification for all programs, as well as to share final output with all stakeholders.



Sustainability. Sustained, high-performing FASP is dependent on the tools and staff capacity. Use of GhiLMIS (for consumption data) and forecasting tools is critical for improved data and sustainability. Capacity of staff at central and regional levels will be built and training rolled out to other SC levels so that FASP tools may be used accurately.

Competency-Based Improvement Pathway

Current state. The FASP process is siloed by program area and for essential medicines. For most programs, quantification is conducted with some level of technical assistance. Most programs use issuance and service data for quantification.

Future state. Consumption data is the basis of forecasting, improving accuracy. The timing of the quantification process is aligned. The regional level follows guidelines for national disease programs and essential medicines. Data and lessons learned are shared across disease areas.

Strategy. There should be a gradual shift to using common FASP software and data inputs on GhiLMIS consumption across all disease areas, including essential medicines, to attain a coordinated FASP program.

Strategic intervention 5.1: Standardise SOPs for FASP across programmatic areas and facility levels.

Activities will include:

- Introduce and standardise use of modern forecasting tools
- Update the national quantification guidelines (include KPIs)
- Include essential medicines and the regional level in updated guidelines and processes

Strategic intervention 5.2: Establish the FASP Unit to strengthen the National Quantification Team and streamline quantification processes.

Activities will include:

- Recruit appropriate staff for the FASP unit based on a recruitment plan
- Align national forecasting processes for each program; introduce essential medicines
- Provide funding for the conduct annual quantifications and biannual reviews for disease and programme areas
- Strengthen advocacy to increase GOG annual funding for quantification, supply planning, and monitoring; enhance capacity of national quantification team for long-term sustainability
- Conduct annual quantification; disseminate outputs of quantification to all stakeholders

Strategic intervention 5.3: Capacity building to enable government-led quantification at central and regional levels.



Performance Targets

2021: Standardise SOPs; begin training on new unified FASP tool

2022: Align forecasting timing for all medicines

2023: Submit enhanced FASP budget

2024: Implement FASP training program with training of trainers

2025: Government leads coordinate FASP program across all disease areas

Activities will include:

- Develop training program with modules
- Run a pilot training program
- Implement through a training of trainers approach



3.6 Procurement and Customs Clearance

Maturity Assessment, Progress to Date, Ongoing Challenges

Procurement processes are well-established and have designated approvers; SOPs have been developed to guide processes. Audits occur, and there is somewhat consistent documentation. However, the procurement landscape in Ghana continues to be fragmented. The MOH and GHS headquarters have their own procurement units, even though they were noted as “unnecessary duplication” in the 2015-2020 SCMP.

Visibility of the procurement system is strong at the central level and quite opaque elsewhere. Despite a strong legal framework and well-established procedures, public perception of the procurement of pharmaceuticals and medical equipment is that it is non-transparent and does not achieve value for money. The effects of this governance vacuum permeate the system. The cost of medicine in the GHS is not sustainable. Delays are experienced in GOG procurement and in customs clearance.

Linkage to Transformation Pillars



Coordination and collaboration. The harmonisation of procurement processes amongst many procurement partners will require extensive partner coordination. Further coordination and collaboration will be needed between key stakeholders to reduce the time for customs clearance.



Innovation. eProcurement is an innovative tool to increase efficiency, agility, and transparency. Through SCMP implementation, eProcurement needs to be brought from concept to implementation in the health sector and other GOG ministries. A system (UNIPASS) update will include improving designated officers’ approval processes.

The MOH will consider piloting and introducing innovative project management and procurement tracking e-tools that are available at a low cost; these would complement government e-procurement tools. The SCMP will leverage the introduction of the Ghana electronic procurement system (GHANEPS) and encourage system use for procurement activities in the health sector on an incremental basis.



Transparency. A rigid action plan for framework contracting has been implemented successfully for essential medicines in the regions. This initiative has inspired high-level cooperation between regions and central health entities, as well as full, transparent outreach to the private sector. The SCMP must build on this momentum to increase procurement transparency for program commodities and to eliminate administrative bottlenecks in tax exemption and custom clearance, reducing average clearing time.



Sustainability. For procurement processes to be sustainable, flexible co-financing arrangements on key disease areas must be introduced with the concurrent use of national procurement systems. The SCMP must explore boosting local production of pharmaceuticals and medical equipment to support national procurement.

Competency-Based Improvement Pathway

Current state. Framework contracting is implemented for essential medicines by the GOG under national procurement legal framework by GOG staff. Framework contracting for HIV/AIDS, malaria, family planning is conducted under multiple donor legal frameworks through donor supported technical assistance. Procurement delays and delays in customs clearance processes are frequently experienced.

Future state. The GOG is responsible for implementing framework contracts for HIV, malaria, and family planning. It participates in co-financing health commodities in areas that were previously fully funded by donors and moves to use of Ghana's national legal framework. Responsive, transparent procurement systems are intact. Customs clearance processes are well-documented and efficient.

Strategy. To achieve the desired future procurement state, the SCMP will promote e-procurement at all levels to enhance transparency; enhance capacity of procurement entities (staff at all levels) in procurement best practices, including e-procurement; develop mechanisms that promote regular procurement monitoring at all levels, including vendor performance; enforce strict adherence to prevailing procurement laws and guidelines to improve transparency; and improve customs processes to reduce clearance time. A critical element will be the agreement and buy-in of all partners that the goal is to transition the implementation of procurement function to the GOG.

Strategic intervention 6.1: Align procurement with existing procurement laws.

To eliminate the duplication of procurement authority between the MOH and GHS, existing procurement laws must be aligned and adjusted, and clear roles and responsibilities established. Standardised guidance should be ubiquitous throughout the procurement system.

Activities will include:

- Establish clear roles and responsibilities for MOH and GHS procurement teams that are not duplicated
- Disseminate all procurement procedures and SOPs to all entities that can procure
- Develop scorecards to monitor implementation of the framework arrangement at all levels

Strategic intervention 6.2: Plan and roll out an integrated electronic procurement system.

Activities will include:

- Train central and regional procurement managers on GHANEPS use
- Ensure that e-procurement system includes project management tools and document filing; evaluate off-the-shelf complementary software, as well as government e-systems

Strategic intervention 6.3: Prepare procurement road map to transition from duplicative partner procurement systems to Ghana national procurement system.

Activities will include:

- Advocate for incremental annual funding for GOG to procure health commodities
- Begin GOG's delegated procurement implementation for commodities financed by development partners

Strategic intervention 6.4: Develop clear procurement oversight processes.

Either within Public Procurement Authority or MOH, clear roles and responsibilities at all levels must be developed and disseminated for procurement oversight. Penalties for failure to comply with procurement policies and procedures also must be developed and oversight actors empowered to enforce them.

Activities will include:

- Institute monitoring mechanism; issue guidelines for facilities and other entities to adhere strictly to the framework contracting arrangement tenets
- Ensure compliance with the Public Procurement Authority's procurement act and regulations
- Develop and monitor KPIs in respect to vendor (supplier) performance for the framework contracting mechanisms
- Develop and implement guidelines to sanction entities within the system for non-compliance with procurement processes, as well as for non-compliant vendors, including for adherence to the certificates of non-availability process

Strategic intervention 6.5: Develop interventions to address tax exemption and customs clearance bottlenecks to improve clearance time.

Activities will include:

- Map processes to obtain tax exemption and custom clearance
- Develop strategies to reduce delays in the process
- Update procurement lead time to include tax exemption and clearing processes



Performance Targets

2021: Resolve duplication of procurement functions

2022: Scale framework procurement for essential medicines

2023: Roll out e-procurement system, which includes project management, e-filing, and e-timeline tracking

2024: Begin collaboration on joint or delegated procurement implementation from development partners

2025: Submit five-year plan for 2026-2030 for procurement strengthening



3.7 Warehousing and Storage

Maturity Assessment, Progress to Date, Ongoing Challenges

Warehousing and storage capabilities are well below optimal levels across the system. Overall, the IHS warehouse has the strongest performance, measured by the existence of, and its adherence to, storage and inventory management SOPs; adequate physical infrastructure and safety equipment to store commodities; and appropriate security and accountability. Amongst GOG-owned entities, the RMSs had the strongest performance. National SOPs for warehousing and storage exist but are not widely disseminated: Only 6% of CHPS has a copy accessible. Access to SOPs improves at district and regional levels but remains suboptimal. Limited SOPs access limits the opportunity to improve performance and adhere to guidelines.

Improvements in specialised storage capabilities are needed urgently, and there is an overall lack of sufficient infrastructure and equipment to optimise warehousing. Storage conditions, especially at lower levels in the system, are subpar; stockouts of key medicines are rampant at all levels. Stock card accuracy issues are pervasive throughout the system. At lower levels, staff understanding of the minimum/maximum levels is inconsistent.

An optimise warehouse strategy is available, but it has yet to be implemented. It recommends a one-hub central warehouse with significant cost savings over the status quo. Currently, each level (national and regional) is responsible for its own operational financing.

Linkage to Transformation Pillars



Coordination and collaboration. There are two primary issues required for better coordination: 1) lack of a permanent, functional CMS that is empowered as the top of the commodity health SC; and 2) limited coordination between central and regional warehouses. The MOH will address these by securing a singular, permanent, functional CMS that is mandated to function as an independent business unit and by creating an enabling coordinating mechanism to ensure effective, seamless operational relationship between CMS and RMS.



Innovation. The MOH will create an environment to acquire high-performing, financially efficient warehouse and storage services from the private sector for central and regional operations. The MOH will explore the expansion of market entry for capable logistics providers to service the public sector.



Transparency. Visibility of SDP functional performance needs to be tracked individually and cumulatively by region to show the overall level of RMS performance. With transparent functional performance and financing data, the overall regional situation can be diagnosed and improved. As financial and operational performance become better linked, performance issues' root causes will become more transparent. A targeted understanding of warehousing and storage issues will enable stakeholders to develop effective solutions; it also will reveal outliers that are driving down overall regional performance. For example, within each region, data will be applied to reveal whether the lack of on-shelf availability is due to insufficient funds, lack of SOPs, incorrect minimum/maximum levels (due to

staff inability), or inadequate storage space; and whether inventory data issues at the regional level are concentrated in a few SDPs or widespread.



Sustainability. For sustained improved performance of warehouse operations, the MOH will collaborate with GHS to disseminate SOPs to government- and private sector-operated warehouses and storage areas at central and regional levels. It also will ensure regular performance reviews to improve adherence to SOPs. Further use of the private sector as a viable source of warehousing for public sector commodities will also drive self-reliance.

Competency-Based Improvement Pathway

Current state. The Ghana public health SC operates 10 regional warehouses that are renovated intermittently. At the facility level, storage is generally poor, and the physical condition of storage places, highly variable. There is no performance coordination across and within SC levels; each level manages its own performance, as well as its own financing, which presents challenges.

Future state. By 2025, warehousing and storage performance will be consistently monitored by standardised KPIs across all levels. Commodities will see constant stock turnover (consistent, frequent stock cycles) according to minimum/maximum levels with resultant cost benefits. It is envisaged that, in the next five years, there will exist a standardised, modern warehousing infrastructure at all levels; it will assure Good Warehousing Practice (GWP) Regional warehouses will be FDA accredited, and adherence to policies governing use of DRF at the SDP level to ensure they are able to service debts owed the RMSs to improve their financial sustainability.

Strategy. To achieve this desired future state, the MOH will invest in physical and human capacity to bring all warehouses at central, regional, and SDP levels to Ghana FDA standards; it also will ensure that SOPs and other tools are prepared to international practice levels and implemented by well-trained commodity managers. The plan will implement strategies that enhance labour efficiency and improve management capacity of all warehouses; it also will implement an optimised one-hub central warehousing strategy. In addition, it will create an enabling environment for a standardised, modern warehousing infrastructure that promotes good warehousing practice.

Strategic intervention 7.1: Expedite the decision-making process for finalising plans for the new CMS one-hub warehouse.

Activities will include:

- Work with MOH committee to ensure timely establishment of the one-hub CMS
- Prepare improvement plans in parallel at RMS and CMS levels
- Prepare timelines for RMS and CMS levels

Strategic intervention 7.2: Address outstanding gaps in warehousing capabilities and performance at the RMSs.

Activities will include:

- Address lack of pallets, receiving and dispatch areas, and backup electrical power at RMSs, as well as human resource gaps
- Prepare a phased approach for each RMS to reach FDA certification; collaborate with the FDA to upgrade all RMSs to FDA standards
- Phase the installation and implementation of smart temperature monitoring systems in all RMSs and district hospitals
- Conduct ABC analysis at the central and regional levels to enable the CMS/RMSs to operate on sound business models

Strategic intervention 7.3: Ensure adequate specialised storage for cold chain, quarantine, hazardous, and controlled substances in facilities.

Activities will include:

- Identify the key RMSs that can pilot and model specialised storage practices for other RMSs

Strategic intervention 7.4: Ensure full dissemination and consistent application of inventory management practices.

Activities will include:

- Distribute inventory management SOPs to all facilities, paired with refresher training
- Disseminate the SOP performances that include KPIs to all stakeholders to demonstrate annual improvements
- Identify key targets for overall coordination

Strategic intervention 7.5: Develop appropriate risk mitigation mechanisms to ensure the safety and accountability of stored commodities at all warehouses.

Activities will include:

- Prepare and disseminate relevant mechanisms, including SOPs that will address safety and accountability of commodities stored at various warehouses across the entire SC system

Strategic intervention 7.6: Develop appropriate risk mitigation mechanisms to ensure the safety and accountability of stored commodities.

Activities will include:

- Identify and prioritise areas for coordination at all levels



3.8 Distribution

Maturity Assessment, Progress to Date, Ongoing Challenges

The GOG uses a its own fleet and 3PL services to deliver from RMSs to SDPs. There is no formal relationship between the TCMS and the RMS: Most distribution operations are focused on the RMS level. All RMSs (100%) have approved distribution plans, distribution routes, and schedules that are communicated in advance to recipients: 80% conduct integrated distribution. Most RMSs (90%) maintain proof of delivery for outbound products, and 80% of RMSs use those proofs of delivery to reconcile delivery quantities. Cold chain infrastructure is available at 100% of RMSs.

There is low awareness of policies that govern commodities distribution and transportation. Some RMSs (40%) have a system to capture and maintain transportation data, and few (20%) monitor KPIs. Outbound shipments tracking is conducted, but it is done manually. On-time delivery rates range from 59% to 88%. The inadequate stocking of RMSs because of SDPs high indebtedness results in the inability of suppliers to meet demand due to liquidity challenges at the RMS level.

RMSs do not actively collect or use cost data (only 20% collect any cost data); as such, cost data is not applied to implement interventions to reduce transport costs or operating costs. High debt across the system renders the RMS unable to stock adequately. Performance monitoring is hindered by limited data capture, and there is opportunity to standardise data collection to drive distribution performance. RMSs need to track and manage cost data closely to ensure operational sustainability.

↓ **These Performance Targets are For The Previous Section - 3.7. Warehousing and Storage.**



Performance Targets

2021: Prepare time-bound plan for new CMS; finalise plan for periodic RMS renovation

2021-2023: Prepare baseline performance data for TCMS, private sector CMSs, and RMSs

2021-2025: Prepare annual implementation status report on specialised improvements

2021-2025: Prepare annual SOP and KPI implementation status report

2022-2023: Develop and implement relevant risk mitigation to ensure safety and accountability of commodities

2025: Prepare overall warehousing and storage improvement plan for 2026-2030

Linkage to Transformation Pillars



Coordination and collaboration. Through implementation of the SCMP, high-level SC actors and the NHIA must coordinate to ensure prompt reimbursements to SDPs and, subsequently, prompt SDP reimbursement to RMSs. Delays in reimbursement across tiers results in sustained stockouts at RMSs and SDPs with dire consequences in health care delivery. Stronger coordination is needed between the RMSs and those who monitor supply plans, so the RMSs have timely, sufficient commodities to fulfill SDP requisitions.



Innovation. Innovative contract mechanisms and performance management of private sector logistics providers could propel the efficiency of distribution operations in terms of commodity delivery and cost. The MOH will review and consider using unmanned aerial vehicles to optimise distribution of health commodities and lab samples.



Transparency. To increase transparency and inform the public and government SC staff, the GHS will implement a system to identify and record the root causes of stockouts at SDPs (i.e., downstream issues: late delivery, late SDP requisition, insufficient funds, low RMS stock level; or upstream issues not directly related to distribution transport from RMS to SDP level).



Sustainability. Analytical studies have shown that the use of 3PLs has cost and performance advantages. The GHS will develop and implement a phased sustainability plan to roll out 3PL distribution to the most distant SDPs and prioritise close, larger SDPs for GOG distribution vehicles. An optimised sustainability distribution plan requires choosing specific facilities or clusters of facilities to schedule delivery, choosing the optimal mix of least cost and best performance. Because this optimised plan is beyond the scope of last-mile distribution analytical studies, additional technical assistance will be needed.

Competency-Based Improvement Pathway

Current state. All RMSs (100%) have approved distribution plans, routes, and schedules communicated in advance to recipients; 80% conduct integrated distribution. On-time delivery rates range from 59% to 88%. Distributions from RMSs consistently do not deliver full orders. RMSs need to track and manage cost data more closely to ensure operational sustainability; ABC has not yet been implemented.

Future state. Distribution across the public health SC is guided by a distribution sustainability plan for consistent performance improvements, reduction of costs, and cost sharing with stakeholders. On-time and in-full distribution KPI are met for all deliveries to SDPs. Distribution costs are actively tracked at 1) central to RMS, and 2) RMS to SDP levels. Vendor-managed distribution to the last mile will be put in place.

Strategy. To achieve the desired future state, the SCMP will ensure that distribution plans are structured, implemented, and monitored to achieve regular on-time distribution to SDPs. The most appropriate SDPs for 3PL distribution will be identified to optimise performance and savings. An optimised distribution strategy will be implemented; a detailed sustainability plan to “pull out” stakeholders who support distribution from central level to the RMSs and THs, as well as from RMSs to SDPs, will be developed, implemented, and monitored. The use of unmanned aerial vehicles (UAVs) for transportation of medical products including vaccines, pharmaceuticals, and emergency blood supplies is increasingly providing solutions to distribution of commodities particularly to the hard to reach areas. The MOH will therefore leverage on existing experiences in-country and coordinate the development of a broad-based strategy -- through comprehensive consultative processes -- to provide clear regulatory guidance and operational procedures to the

use of UAVs for transportation of medical supplies. The strategy will also address health-system integration and long-term sustainability in the use of UAVs.

Strategic intervention 8.1: Stronger coordination between the RMSs and those who monitor supply plans will ensure that RMSs have timely, sufficient commodities to fulfill requisitions from SDPs.

Activities will include:

- Conduct studies to determine why RMSs are unable to fulfill orders; use results to systematically improve supply to SDPs
- High-level SC actors and NHIA should coordinate more closely to ensure prompt reimbursement to SDPs, and from SDPs to RMSs
- Track KPIs separately for on-time, in-full, and on-time in-full distributions

Strategic intervention 8.2: Systematise the collection of data around delivery; apply system to drive performance.

To support the goals of improved cost management and optimisation, there must be a systematic effort to collect and use distribution cost data to improve the direct delivery system that is in place.

Activities will include:

- Identify root causes to implement improvements
- Track KPIs more carefully within each RMS to identify issues for correction
- Investigate and report on root causes for stockouts and deliveries that do not meet KPIs
- Track and manage RMS cost data more closely by implementing ABC to ensure operational sustainability
- Review unmanned aerial vehicles distribution initiative

Strategic intervention 8.3: Prepare updated optimised distribution strategy based on results of tracked KPIs.

Activities will include:

- Standardise and implement systems to collect and use distribution cost data to improve the direct delivery system
- Once cost data is systematically captured, use cost-related KPIs to shape RMS distribution strategies to ensure sustainability



Performance Targets

2021: Track each RMS KPI for on-time and in-full distribution for all deliveries to SDPs for 1) on-time, 2) in-full, and 3) on-time in-full distributions

2022: Prepare remedial plan for RMSs that cannot meet KPI targets

2023: Prepare first annual report on distribution improvements; share with civil society

2024: Get public feedback on first annual report on distribution improvements

2025: Prepare a sustainability plan for consistent performance improvements, reduction of costs, and cost sharing with development partners

Strategic intervention 8.4: Leverage on existing lessons learned on the use of unmanned aerial vehicles (UAVs) for transportation of medical supplies and coordinate a broad-based consultative process for the development of a Strategy to provide clear regulatory guidance and operational procedures to the use of UAVs for transportation of medical suppliers in Ghana.

Activities will include:

- Consultative stakeholder engagements to develop a comprehensive Strategy on use of UAVs in the health sector in Ghana.



3.9 Logistics Management Information System (LMIS)

Maturity Assessment, Progress to Date, Ongoing Challenges

The Ghana public health SC operates on a universal integrated paper-based LMIS, yet there is wide variation in sites' capabilities and pervasive inaccuracies in the reported data. The implementation of an integrated eLMIS, GhiLMIS, is in progress. The slow transition from paper to the eLMIS has resulted in several reporting lines and the use of several LMIS reporting tools. The transition has faced other challenges, as well: process inputs, SOPs, and tools are not sufficiently present; infrastructure challenges are widespread (hardware and internet connectivity); regional and district leadership commitment is inadequate; and an established system governance is lacking.

Additionally, the data quality is lacking, and significant data quality errors threaten to neutralise gains in capability. Internal data quality audits are not conducted regularly in last-mile facilities; these facilities also do not formalise LMIS in job descriptions, and they typically have the worst data quality (potentially driven by the lack of formal job duties and tools).

Linkage to Transformation Pillars



Coordination and collaboration. Facilitate the development of eHealth architecture to facilitate the interoperability of GhiLMIS and other systems. Establish the use of a common infrastructure to provide efficiencies in the SC systems that facilitate information transfer between systems. Develop a Ghana-wide master data strategy for data management, highlighting critical data needs for each key stakeholder to meet performance objectives. Coordinate with regulatory bodies (FDA, NHIA) for the uniform application of policies across the value chain. Facilitate the establishment of industry-standard data management practices to inform decision-making.



Innovation. A key prerequisite for the development of GhiLMIS was to include a standardised master data file for relevant products and locations in the Ghana health value chain through a common business language — a global standard. This standard can be used by all trading partners, from manufacturer to dispenser, to identify, capture, and share information about pharmaceuticals and their movement in the SC. Thus, the MOH and its partners will 1) align master data with global standards and transition to the use of GSI standards across the value chain; 2) establish a technology-enabled intelligent SC that leverages innovative technology to boost Ghana's competitive edge with advanced analytics to predict

outcomes, optimise and automate business operations, and take informed action; 3) ensure an audit trail and support encryption for detecting falsified and substandard drugs in the system; and 4) leverage GhiLMIS as a decision support system that connects and integrates all SC functions. In the future, Ghana's SC will leverage machine learning and artificial intelligence to perform relevant SC functions across the entire chain.



Transparency. Ensure and maintain system security and audits to determine regulatory compliance and information-handling processes at all times and at all levels; develop and establish a culture of quality data production and use to perpetuate better data production and enhanced information use for decision-making; facilitate end-to-end visibility and analytics across all SC tiers through the provision of real- or near-real-time quality transactional data; leverage GhiLMIS as a decision support system that is capable of connecting all SC functions; ensure data timeliness, completeness, consistency, and accuracy to improve quality.



Sustainability. Ensure efficient, sustainable GhiLMIS use at all levels by developing organisational capacity and coordination amongst stakeholders and users; implement sustainability drivers, ensuring availability of political will and government leadership, alignment of system objectives with MOH vision/intervention, and inclusion of all key stakeholders; establish a sustainability framework that supports realisation of GhiLMIS' full use and benefits; conduct post-implementation evaluation to identify cost benefits and operational efficiencies; and develop continuous process-improvement strategies to ensure organisational capabilities and infrastructure support the system's full utilisation.

Competency-Based Improvement Pathway

Current state. Launch and roll out of GhiLMIS are achieved in a timely fashion. Infrastructure supports a high-functioning eLMIS. Data management for decision-making is improving. Interoperability with other systems needs to be developed.

Future state. A fully mature, secure eLMIS facilitates end-to-end SC visibility through interoperability with other systems. A system that supports in-country SC operations and global solutions is supported by better data production and enhanced information use to improve health systems' performance whilst reducing inventory operation costs and maximising resource utilisation.

Strategy. Ensure full use of the GhiLMIS that supports end-to-end data visibility, facilitates the production of quality data, and is used in decision-making across the value chain. Adopt a theory of change in data use for decision-making to ensure the rational allocation and efficient use of resources whilst increasing capacity to deliver and coordinate the SC. Establish performance metrics to drive improved quality for better data management, enabling a culture of data use that leads to better decisions, an improved health system, and improved health outcomes. Establish the visibility and analytic network that 1) is interoperable with in-country SC systems and global solutions; 2) supports end-to-end visibility; and 3) is used by a highly skilled team to deliver efficient SC services, perform complex analytics, and provide optimised holistic plans and proactive corrective actions to meet value chain needs.

Strategic intervention 9.1: The GHS must distribute SOPs, stock cards, and other necessary LMIS-related tools to all facilities in the health system.

Activities will include:

- Review and update current SOPs to reflect changes in the SC system
- Disseminate SOPs to beneficiaries

Strategic intervention 9.2: LMIS responsibilities need to be formalised in job descriptions for all SC staff, especially at the last mile.

Activities will include:

- Conduct site capacity utilisation across the value chain; provide updated job descriptions with LMIS activities
- Develop learning tools for refresher training and new-user orientation

Strategic intervention 9.3: Develop a culture of data quality.

A concerted push at all levels of the system is needed to develop a culture of data quality. There is significant improvement to be made on data quality in the paper and eLMIS systems.

Activities will include:

- Develop an action plan to leverage GhiLMIS as a decision support system
- Identify KPIs to measure data quality and use in each SC thematic area
- Develop a Data Management Strategy representing MOH/GHS organisation-wide scope
- Develop and establish data governance
- Develop a GhiLMIS data quality strategy to ensure that GhiLMIS data quality meets MOH/GHS business needs

Strategic intervention 9.4: Establishment of SC data governance structure that will promote data-driven decision-making across the entire SC.

Strategic intervention 9.5: Design and implement a sustainable performance-based incentive mechanism for SC data generation and use.



Performance Targets

2021: Review and update SOPs; distribute 1,000 SOPs

2022: Full system utilisation

2023: Data Management Strategy

2024: Data Governance

2025: GhiLMIS is fully used for decision-making



3.10 Quality and Pharmacovigilance (PV)

Maturity Assessment, Progress to Date, Ongoing Challenges

Pharmacovigilance, also known as drug safety, is the pharmacological science relating to the collection, detection, assessment, monitoring, and prevention of adverse effects from pharmaceutical products. Quality assurance and PV were the poorest performing technical areas that were assessed in the NSCA using the capability maturity model. PV in Ghana is considered to be a responsibility of the FDA, not the SC. Cooperation between FDA and SC is an ongoing challenge and must be bolstered to improve the PV system.

SOPs and reporting forms for PV are scarce at last-mile facilities (CHPS, clinics, district hospitals). QA/QC processes at the RMS level, a critical node in the SC, are in nascent stages. The quality of FDA post-market surveillance was identified as a weakness at the stakeholder SWOT analysis; and the PV system has no widespread availability of SOPs, reporting tools, or prepared staff. Results of post-market surveillance are not easily accessible and, therefore, not routinely applied to inform SC procurement decisions. Overall, the enforcement and continuous quality monitoring of goods in storage and transit is insufficient.

In its quest to maintain the quality of pharmaceuticals and other health products, the FDA has established a monitoring system that keeps regulatory/enforcement coverage at pace with developments in the environment.

Linkage to Transformation Pillars



Coordination and collaboration. The SCMP will promote enhanced coordination with the FDA. The FDA will be represented on the TWG, and a new monitoring committee will be established to review progress and goals annually.



Innovation. The SCMP will explore leveraging GhiLMIS for commodity tracking and traceability in SC using GSI coding. Analytical mini-LABs may be introduced at the RMSs and teaching hospitals.



Transparency. Through the SCMP, results of the annual PV action plan will be distributed to civil society for feedback. Counterfeits and expiries will be investigated vigorously for root causes by the responsible region, and investigation results shared widely.



Sustainability. To promote PV sustainability in the SC, PV reporting will be introduced into SC performance monitoring.

Competency-Based Improvement Pathway

Current state. The FDA ensures GWP and conducts product quality testing, registration, and post-market surveillance. The FDA has systems for PV data collection, reporting, and dissemination. There is limited coordination with the SC sector.

Future state. The FDA proactively provides feedback on the quality of pharmaceuticals and medical equipment to have a full-cycle PV system that cooperates with the SC. Proactive intervention for counterfeit and low-quality product is in place through improved quality testing at RMS and teaching hospitals for product tracing and recall.

Strategy. To achieve the desired future state, the MOH will improve patient care and safety through its agencies by strengthening the recall system of health products and medical devices (e.g., batch management of inventory, adopting GSI coding) and by developing human resources capacity to manage FDA laboratories and PV activities. In addition, a Ghana Pharmaceutical Traceability Strategy Document will be prepared to ensure the availability and appropriate use of quality medicines and medical products. This strategy is a starting point for the MOH and FDA to jointly organise and operationalise the foundational work that will support traceability implementation.

Strategic intervention 10.1: Staff understand and execute QA and PV functions in accordance with SOPs; they properly and regularly use reporting tools and job aids to provide quality service to patients.

Activities will include:

- MOH and GHS review all PV SOPs, reporting tools, and job aids for accurate, appropriate, and up-to-date information
- The MOH and GHS print and distribute PV tools to facilities
- Monitoring is coordinated with the FDA

Strategic intervention 10.2: Quality assurance process for warehousing — FDA certification of warehouses.

Activities will include:

- FDA quality assurance certification is achieved for all regional warehouses to ensure the quality of medicines routing through these warehouses



Performance Targets

2021: Update all PV SOPs, reporting tools and job aids; FDA inspects all RMSs

2021: Develop and implement a Pharmaceutical Traceability Strategy through a consultative process that involves key stakeholders in the public and private sectors

2022: Collaborate with FDA to establish TWG Monitoring committee and to issue first annual PV action plan

2023: Monitoring committee issues second annual PV action plan

2024: Monitoring committee issues third annual PV action plan

2025: Monitoring committee issues 2026-2030 PV action plan



3.11 Waste Management

Maturity Assessment, Progress to Date, Ongoing Challenges

Waste management policies, SOPs, regulations, and regulatory agencies exist at GHS headquarters. Best practices in waste management are followed primarily at regional hospitals, RMSs, and central warehouses (thereby, increasing waste management capabilities at higher levels of the system). Existing policies and SOPs have yet to be disseminated throughout the system, especially at lower levels.

Multiple methods are available for waste management; the most predominate is transport to higher-level government facilities (DHAs) or warehouses. There is no clear pathway, however, for reverse logistics in the SC. Further effort and research need to be done to develop an eco-friendly SC that is not detrimental to the environment.

Waste management is partially integrated into the LMIS. (Information on what is waste and how it is captured is missing.) The frequency with which lower-level facilities report relying on “transport to higher facilities” as the main waste management method exceeds the integration of waste management reporting into LMIS. Waste management information is not fully available, and there is a need to capture information on reverse logistics in general, not on waste management in isolation.

Linkage to Transformation Pillars



Coordination and collaboration. Focus on the waste management information, working to make it usable and accessible. With increased access to information on waste management, actors along the SC will have a clear idea of who is managing and responsible for which waste, when.



Innovation. The SCMP will consider innovative medical packaging; it also will look at chronic disease management and its intersection with waste management and how bulk packaging could decrease costs.



Transparency. The SCMP will promote transparency in waste capture, assessment, and transport. It is important to note that what is currently considered waste might not be waste. Increased information will help transparency. The SCMP will look at waste flow visibility and what happens at product expiration, documentation, and regulation.



Sustainability. The establishment of institutional and human resource capacity for proper waste management will promote a more eco-friendly, sustainable SC. The MOH will ensure that SC waste is not detrimental to the environment through alternate recycling options.

Competency-Based Improvement Pathway

Current state. Pharmaceutical and health care waste are managed in the same way as household waste: without special waste collection containers (e.g., red or yellow bags) and without transportation to specialised disposal facilities.

Future state. Coordinated reverse logistics system for pharmaceutical and health care waste is governed by well-understood policies and best practices. Waste is reported consistently. Pharmaceutical and health care waste management is an active initiative that is not mixed with household waste.

Strategy. Through the SCMP, we will review policies and SOPs on specialised waste disposal at all levels, and then improve 1) dissemination to improve implementation at all levels, and 2) budgets to improve the pharmaceutical and health care waste infrastructure at all levels. An active costed implementation plan will be prepared and supported financially by the health sector in the application of the “polluter pays” principle.

Strategic intervention 11.1: Research and develop an effort to explore how health care packaging affects the environment and how can the SC adapt.

Activities will include:

- Plan LLIN campaigns that include waste disposal
- Conduct a waste management study to determine the environmental effect of health care waste; identify eco-friendly options for disposal

Strategic intervention 11.2: Improve knowledge of and adherence to policies for pharmaceutical and health care waste.

Activities will include:

- Review, update, disseminate extant waste management policies, guidelines, and SOPs
- Investigate whether inconsistent separation of usable and unusable pharmaceutical waste is the result of unfamiliarity with best practices or insufficient storage space
- Include supervisory support systems

Strategic intervention 11.3: Optimise use of health care and pharmaceutical waste management infrastructure.

Activities will include:

- Commission an assessment of waste disposal infrastructure to ascertain the efficiency and efficacy of the current mix of waste disposal means: What is there, how can it best be used, what gaps exist?
- Increase dissemination efforts or optimise storage space

Strategic intervention 11.4: Ensure waste management are fully incorporated into LMIS to inform efficient reverse logistics practices in the disposal of pharmaceutical waste.

Activities will include:

- Develop strategies to inspire system use
- Integrate waste management into LMIS activities

Strategic intervention 11.5: Develop a coordination mechanism with the FDA.

The FDA's role in waste management must be determined to streamline efforts across entities and SC levels. To conduct reverse logistics, we need to know how waste moves through the system.

Activities will include:

- Convene the FDA, local government, environment authorities, and health facilities to understand disposal of their special waste
- Conducting a mapping activity to determine where the waste is sitting and develop a clear understanding of waste processing



Performance Targets

2021: Prepare a model regional health care and pharmaceutical waste collection and disposal plan

2022: Select two to three regions to implement the plan for pharmaceutical and health care waste

2023: Prepare progress report for public dissemination and comments

2024: Involve FDA, local governments, and environmental authorities to improve waste management plan implementation

2025: Prepare rollout plan for waste management implementation to all remaining regions



3.12 Partnering with The Private Sector

Traditionally, health care provision has been the government's responsibility. However, with governments' growing fiscal constraints, coupled with the private sector's growth in expertise and funding, partnership between the public and private sectors has become imperative in most countries, particularly to achieve UHC and reach sustainable development goals. Increased private sector engagement has been driven by public funds' limitations to cover investment needs, and by efforts to increase public services' quality and efficiency. There are multiple viable mechanisms by which the GOG and its sub-entities can increase partnerships among global, regional, and local private sector markets, including outsourcing SC functions to private sector providers; acquiring advisory services from private sector firms; and executing PPPs, which typically involve a contract between a public authority and a private counterpart who assumes substantial financial, technical, and operational risk in the project.

- **Outsourcing.** In the health sector SC, areas that can be considered for outsourcing or entering into contractual agreement between the government and a private sector provider include the provision of warehouse operations management and/or services, development and operation of procurement e-systems, LMIS, and provision of

commodities distribution services across the SC. In Ghana, the use of private sector 3PLs for commodity distribution has grown as an effective, efficient practice.

- *PPPs*. PPP schemes for health care investments traditionally envisage a Project-Build-Operate-Transfer (PBOT). PPPs can be explored for a variety of initiatives, including to support long-term infrastructural investment, such as building a warehouse or hospital.
- *Advisory services*. Technical assistance in SC best practices or advisory services — such as SC design, needs quantification, or LMIS design — can be accessed through contracts or partnerships with regional and local private sector firms.

Whilst partnerships with the private sector have advantages, these arrangements can be complex to design, implement, and manage. The profit-driven approach of most private sector firms can spur operational efficiency but must be kept in check to ensure the quality and integrity of products and services. The MOH will ensure that each partnership with the private sector has a demonstrable value-addition and that effective implementation mechanisms are in place to attain objectives of all partnership parties.

Because health is a public good, a conscious effort will be made to ensure that engagements with the public sector do not lead to high costs; high costs defeat the underlying vision of providing UHC in Ghana.

Each engagement with the private sector will ensure that the private sector provides additional capital; alternative management and implementation skills; value added to the consumer and the public at large; and better identification of needs and use of resources. In other words, a value-for-money analysis would be conducted before any engagement with the private sector to determine whether a private investment proposal is a more convenient and efficient public procurement. Strategically, the MOH will create an enabling environment to spur the private sector to invest in the SC in Ghana whilst ensuring value for money and a win-win for all partners.

Maturity Assessment: Progress to Date and Ongoing Challenges

There exists interaction (communication), dialogue (cooperation on mutual interest), and agreement (joint contract design and implementation) between the private sector and the public sector on health needs in Ghana. Private sector actors play a complementary role on health commodity supplies. The private sector uses national data of health commodities consumption to plan support to the public health system.

Private sector engagements have provided increased access to skills, expertise, investment, and innovation; improvement in operational efficiencies; shared risk; and improved availability of health commodities.

Major financial arrangements between private and public sector actors through the NHIS tariff regime have increased financing of health commodity SCs, but the integration of the private actor's information systems into the public health LMIS has been minimal.

Some challenges to be addressed include:

- Data disparities and difficulties in aggregation because private actors use sales data to plan health commodity supplies, whilst the public sector uses consumption data.
- Short contract length, which limits local private actors' desire to participate in health commodities supply.
- Misalignment of performance metrics of expected outcomes in the delivery of health commodities.
- Unfavorable payment terms from bureaucracy and budgetary challenges in the public sector.
- Increasing health commodities supply costs and uncontrolled tariffs, stemming from the importation and distribution of counterfeit and pirated health commodities.
- Weak regulatory enforcement from under-resourced regulatory agencies.
- Highly technical training without corresponding training for SC management competence.
- Poor and inadequate warehousing and distribution systems for health commodity supplies.
- Difficult conditions for private suppliers to assess financing for health commodity supply.
- Lack of integrated enterprise systems for health commodities demand planning.

Linkage to Transformation Pillars



Coordination and collaboration. The SCMP will incorporate effective coordination and collaboration between private and public sector stakeholders. It is important to note that the focus of the engagement is to generate increased availability, affordability, and effective and efficient use of health commodities. This is expected to lead to greater access to skills and expertise, operational efficiencies, access to capital investment, innovation, and shared risk.



Innovation. The focus will be on improving performance through novel and locally relevant solutions for sourcing, warehouse configuration, and information technology. The integration of GhiLMIS with private sector enterprise systems will increase the visibility of health commodities supply across the country. The adoption of innovative operating models (including network optimisation and redesign of transport loops) for last-mile distribution will help increase access to health commodities. The creation of health commodities desks in existing banks will provide tailored support for health commodities SC financing.



Transparency. Increasing the level of trust will result in a successful partnership and collaboration between private and public sector partners. A high degree of openness and increased willingness to dialogue, interact, and engage with stakeholders in the private sector will help boost confidence and trust in any public-private collaboration.



Sustainability. Effective collaborative planning between public and private sector actors will boost the sustainability of health commodities SCs. This partnership and collaboration must be based on mutual trust and shared benefits. Private stakeholders must receive their due as and when required to guarantee the continuity of support and collaboration.

Competency-Based Improvement Pathway: Strategy

Current state. The private sector does not have adequate capability (financial, expertise, and infrastructure) to complement the public sector in the delivery of quality health services. Engagement between the public and private actors in the health commodities SC is at arms' length, resulting in private sector actors' struggle to complement the public sector to provide quality health services.

Future state. Involvement is enhanced through interaction, dialogue, and joint contract design and implementation between the private and public sectors on the health needs on the state. The private sector has enhanced capability to complement the public sector more collaboratively to deliver superior quality health services. An enabling environment spurs the private sector to invest in the SC in Ghana whilst ensuring value for money and a win-win for all partners.

Strategy. Create a standing interactive and dialogue platform for public sector, private sector, global health donors, other health partners, and civil society actors for joint health commodity demand planning and implementation. Create health commodities financing packages (Pharma desks, Pharma banks, Fintech, group loans, etc.) to enhance the financial capability of the private sector. Provide appropriate and realistic tariff regimes to sustain private sector participation. Improve the integration of the private sector information systems into the public health LMIS to increase visibility, demand planning, and product availability along the health commodities SC. Develop standard metrics to design, build, and operationalise private sector health commodities. Creating an enabling environment to spur the private sector to invest in the SC in Ghana whilst ensuring value for money and a win-win for all partners.

Strategic intervention 12.1. Create a standing interactive and dialogue platform for public and private sectors, global health donors, other health partners, and civil society actors for joint health commodity demand planning and implementation.

Activities will include:

- Conduct stakeholder mapping within health commodities SC network to identify needs, interests
- Hold stakeholder meetings to interact, find issues of mutual interest, and jointly design and implement demand planning for health commodities
- Design a framework of engagement based on the outcome of the stakeholder mapping and dialogue
- Source government buy-in and policy enactment to support these initiatives
- Develop an action plan that incorporates all agreed milestones for framework implementation

Strategic intervention 12.2: Create a health commodities financing packages to enhance the financial capability of the private sector.

Activities will include:

- Assess health commodities SC financing options
- Assess viability of each option
- Map viable options
- Engage government and related stakeholders to share viable financing packages for input, buy-in
- Engage stakeholders to establish a framework to actualise viable financing packages
- Launch packages for access by the private sector and related stakeholders

Strategic intervention 12.3: Provide appropriate and realistic tariff regimes to sustain private sector participation in health commodity supply in the public health sector.

Activities will include:

- Design a framework to analyse health commodities' price
- Use framework to assess health commodities needs and pricing factors
- Compile reports on the framework assessment
- With all stakeholders, review existing NHIS tariffs
- Propose policy review with government-related agencies based on the framework assessment and existing NHIS tariffs
- Implement, monitor, and evaluate progress of new tariffs regime

Strategic intervention 12.4: Improve the integration of the private sector information systems into the public health LMIS to increase visibility, demand planning, and product availability along the health commodities SC.

Activities will include:

- Assess enterprise information systems used by private sector actors
- Analyse systems integration feasibility with existing public health commodities LMIS
- Engage health commodities supply stakeholders on systems integration feasibility outcome
- Design systems integration architecture; build infrastructure to support proposed integration
- Train IT staff on integrated systems
- Launch and implement systems integration program



Performance Targets

2022: Design stakeholders' engagement framework with accompanying policy and regulatory enactment

2024: Design architecture and build infrastructure for private and public sectors' systems integration

2025: Design and implement health commodities SC financing implementation framework

2025: Realign and implement new health commodities tariffs regime to address mismatch of NHIS tariffs and prevailing market prices of health commodities

4.0 Conclusion

The 2021-2025 SCMP summarises strategic interventions that align with NSCA results and are developed in collaboration with SC sector stakeholders. It is driven by four transformation pillars: coordination, innovation, transparency, and sustainability. If the GOG implements these strategic interventions to transform the Ghanaian public health SC into a transparent, well-coordinated SC that infuses innovation with a commitment to reaching self-reliance, then it will achieve key gains toward UHC. Successful implementation will require the commitment of the GOG, its entities, the donor community, and all health sector stakeholders. Implementation will be monitored and evaluated according to annual performance targets for each programmatic area.