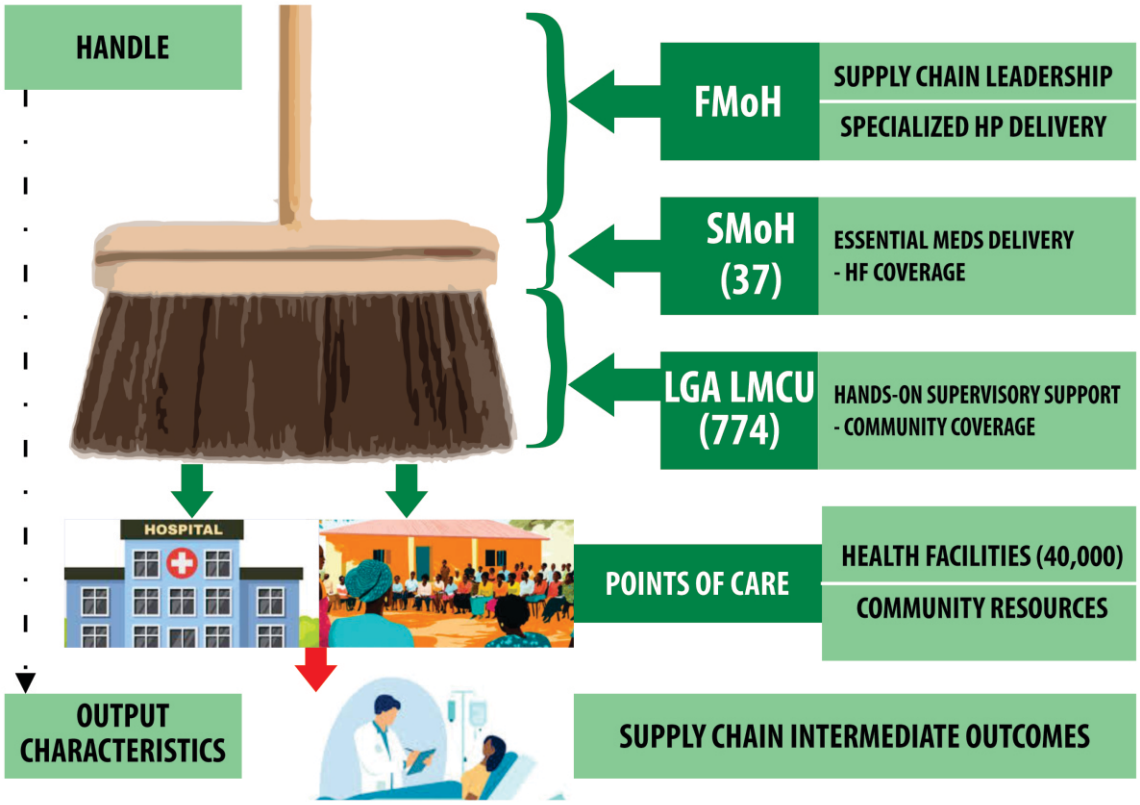
Federal Ministry of HEALTH & SOCIAL WELFARE
Federal Republic of Nigeria

Department of Food and Drug Services

National Product Supply Chain Management Programme



THE NATIONAL HEALTH PRODUCT SUPPLY CHAIN
INTEGRATION FRAMEWORK

December 2025

Acknowledgement

The development of the National Health Supply Chain Integration Framework reflects commitment of a wide range of stakeholders and marks a significant milestone in Nigeria's ongoing efforts to build a unified, efficient, and resilient health supply chain system capable of supporting equitable access to essential medicines, vaccines, diagnostics, and other life-saving health commodities.

The Federal Ministry of Health and Social Welfare extends its profound appreciation to all institutions and development partners: Global Funds, Bill and Melinda Gates Foundation, United States Government, WHO, PVAC, and Medipool whose expertise, collaboration, and commitment made this Framework possible.

Special recognition is to the National Product Supply Chain Management Programme (NPSCMP) for providing technical leadership and coordination throughout the development process. We also acknowledge the invaluable contributions of the Directors, Departments of Food and Drug Services, Hospital Services, Fam Health, Public Health, and Planning, Research and Statistics, whose insights ensured that the Framework aligns with national priorities and global best

We are grateful to the State Ministries of Health especially Yobe, Kano, Kaduna, Niger, Ekiti, Enugu, and Gombe who participated in consultations, technical working groups, and validation sessions. Their diverse perspectives and field-level experience enriched the quality and relevance of this Framework.

Finally, we acknowledge the dedication of pharmacists, logisticians, warehouse managers, programme managers, data specialists, and frontline health workers whose daily efforts ensure that health commodities reach the people who need them most. This Framework is a testament to their commitment and a tool to support their work.

It is our expectation that the National Health Supply Chain Integration Framework will serve as a practical guide for policymakers, programme managers, and all stakeholders working to build a more coordinated, transparent, and sustainable supply chain system for Nigeria.

Daju Kachollom S. mni

Permanent Secretary
Federal Ministry of Health and Social Welfare

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Acronyms

1PL	First Party Logistics (Service provider)
2PL	Second Party Logistics (Arrangement)
3PL	Third Party Logistics (Service provider)
4PL	Fourth Party Logistics (Service provider)
CMS	Central Medical Store
DMA	Drug Management Agency
DRF	Drug Revolving Fund
EM	Essential Medicine
eWMS	Electronic Warehouse Management System
FHSS	Federal Health Supply System
FMoH	Federal Ministry of Health
HF	Health Facility
iLMD	Integrated Last Mile Delivery
KPI	Key Performance Indicator
LGA	Local Government Areas
LMIS	Logistic Management Information System
LMCU	Logistics Management Coordinating Unit
LMD	Last Mile Delivery
MnRTI	Maturing NOT Ready to Integrate
MRTI	Maturing Ready to Integrate
MoU	Memorandum of Understanding
NHLMIS	Nigeria Health Logistic Management Information System
NHP	National Health Policy
NHSS	National Health Supply System
NPSCMP	National Product Supply Chain Management Programme
NSHDP	National Strategic Health Development Plan
PHC	Primary Health Care
PR	Principal Recipient
SHSS	State Health Supply System
SLA	Service Level Agreement
SMoH	State Ministry of Health
UHC	Universal Health Coverage

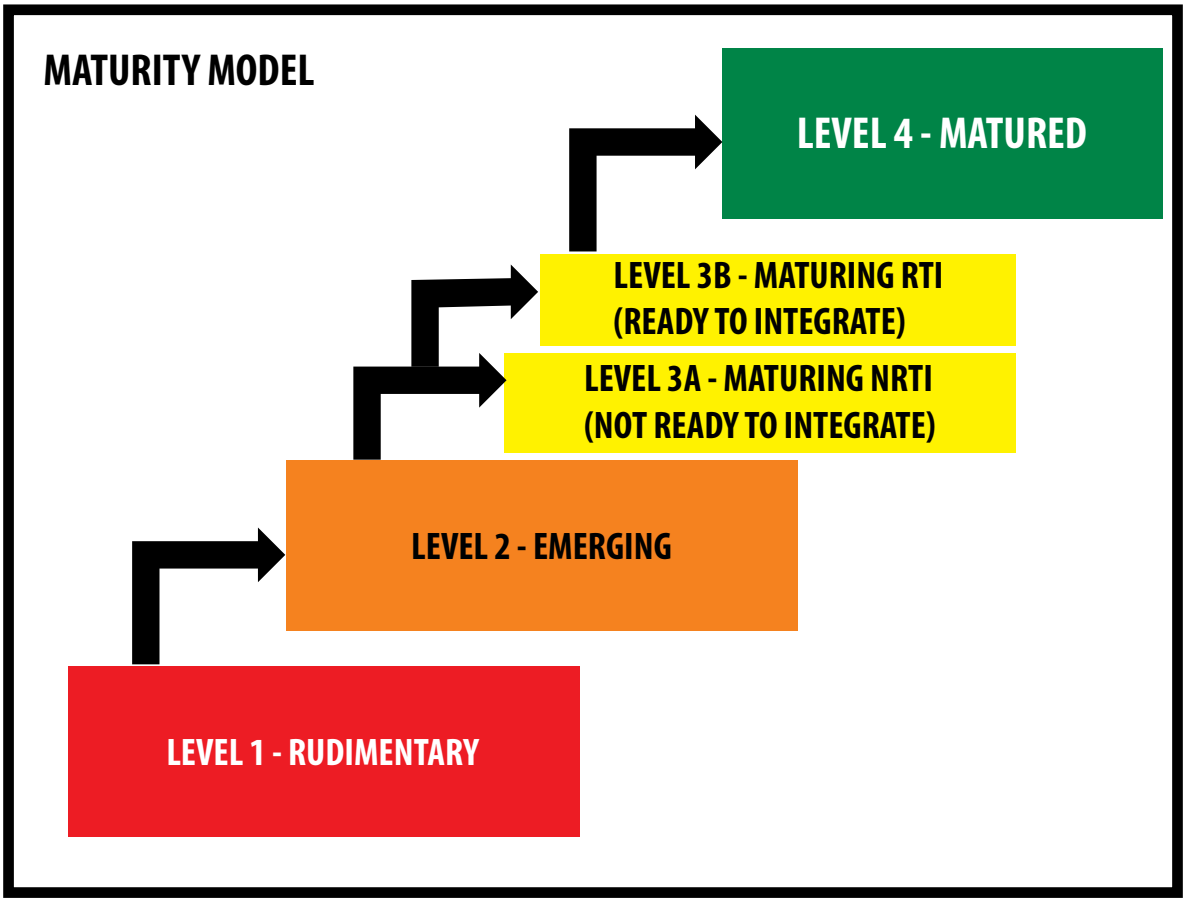
Executive Summary

The National Health Supply System (NHSS) comprises the Federal, State and LGA (community) Health Supply Subsystems harmoniously linked together through long term cross-level collaborative relationships. It was determined to be a most appropriate structure to deliver services to the Nigerian patients in such a manner that is uniformly characterised to suit Universal Health Coverage (UHC).

A system can only perform optimally if the different parts are strengthened and harmoniously linked together. The presence of "outlying" programmes weakens the parts and distorts the linkages. It undermines the efforts of government to achieve unity of action and purpose. It also makes it harder to link the outputs from the many key players to the broader objectives of government policy. A programme is said to be outlying if operated from outside of the management ambit of the government establishment that has the "overall mandate" to manage the supply chain at a particular tier of government.

Each tier of government has been identified with specific service specialisations. Though they are constitutionally independent, they are naturally linked together due to the fact they need each other for the delivery of own and cross-level services. The vertical aspect of the service linkages between the governments is made possible through various collaborative instruments like the NCH, the National Health Policy (NHP), National Strategic Health Development Plans (NSHDP), and similar organisations. The horizontal aspect of the linkages aims to integrate any outlying programme or component into the government-managed supply system.

The integration of these programmes is the main thrust of this strategy document. After two and a half years of implementation in twenty-one (21) states from 2021 to April 2024, the government-led systems at the state and federal levels were significantly strengthened to the extent that three to five states were forecast to attain the maturity level designated as "Maturing Ready to Integrate (MRTI)" by the end of 2025. However, to be gainfully or harmoniously implemented, the integration process will be used as an opportunity to strengthen the weak and vulnerable programmes. The transition process for the strong programmes will also be used to further enhance the strength of the government systems.



For harmonious implementation, the programmes to be integrated will be prioritised in three archetypes: [A] the non- or partially funded programmes such as MNCH, Nutrition, and NTDs; [B] the weak, incomplete, or transiting programmes – immunisation, family health; [C] the strong, complete and "ready-to-continue" programmes – HIV/AIDS, Malaria, TB. The assessment of eligibility will be performed by NPSCMP using standardised tools. For all archetypes, the government has a responsibility to negotiate with the sponsors (funders) on the transition processes and the level of participation, accountability, and transparency to be shared.

SPECIAL NOTE ON THE USE OF THIS DOCUMENT

To maintain the level of brevity required of this document, some important details have been omitted. The user is therefore strongly advised to contact the National Coordinator of NPSCMP (National Product Supply Chain Management Programme) for guidance on the proper use of the document for any elaborate planning purpose.

Chapter 1: Introduction

1.1 Background

An effective and integrated health supply chain that delivers a broad range of medicines and health products is indispensable for achieving Universal Health Coverage (UHC). Over the past two decades, Nigeria's health supply chain has been heavily supported by international donors who have funded procurement, warehousing, distribution, data management, and provided technical assistance for priority programmes such as HIV/AIDS, Tuberculosis, Malaria, Immunisation, Family Planning, and Nutrition. While this support has significantly improved access to life-saving commodities, it has also created parallel, donor-driven supply chains that operate outside state-managed systems. These vertical programmes, while effective in the short term, have led to duplication, inefficiencies, and an over-reliance on external resources.

In an ideal system, federal, state, and local government levels operate within clearly defined roles, supported by strong governance, sustainable financing, and interoperable digital systems that provide visibility and accountability throughout the supply chain.

In recognition of this need, over the years, the Government of Nigeria has initiated deliberate reforms to strengthen supply chain integration, including

- **Policy Development** – Establishing the Health Products Supply System Policy in 2016 and related strategic frameworks to guide governance, operations, and accountability.
- **Institutional Strengthening** – Creating and operationalising structures such as the National Product Supply Chain Management Programme (NPSCMP), state Drug Management Agencies (DMAs), and Logistics Management Coordinating Units (LMCUs) to provide stewardship and coordination.
- **Digital Transformation** – Advancing interoperability of logistics management information systems (LMIS) and integrating programme and essential commodity data for real-time decision-making.
- **Financing and Sustainability for Warehousing** – The Federal Government, through a competitive PPP process under the ICRC Act 2005 and PPP Regulations 2014, established agreements for the operation and maintenance of modern medical warehouses in Abuja and Lagos, improving drug storage and

standardising warehouse practices nationwide. In addition, the federal and state governments, with support from the Global Fund, upgraded state warehouses and the Federal Central Medical Stores, Oshodi.

- **Sustainable Procurement** – Exploring procurement models to reduce costs, mitigate risk, and enhance value-for-money, e.g., pooled procurement mechanisms.
- **Capacity Building** – Investing in supply chain workforce development, making a strategic shift from selling products to delivering integrated, value-added product-service systems (servitisation), clarifying roles, and promoting accountability at federal, state, and local government levels.
- **Partnerships and Alignment** – Engaging development partners, the private sector, and civil society to harmonise contributions within a government-led framework.
- **Risk Management and Resilience** – Embedding measures to anticipate, evaluate, prevent and respond to risks such as expiries, disruptions, and donor transition challenges.

This Integration Framework provides the roadmap for moving from fragmented, parallel supply chain systems to a streamlined, government-led, and country-owned supply chain capable of delivering health products reliably, efficiently, and sustainably for all Nigerians.

1.2 Nigeria's Health Product Supply Chain System

Nigeria's health supply chain has evolved over the years through phases of government-led initiatives, donor-driven interventions, and recent reforms aimed at integration and sustainability.

Public Health Programs in Nigeria (Vertically Organised)

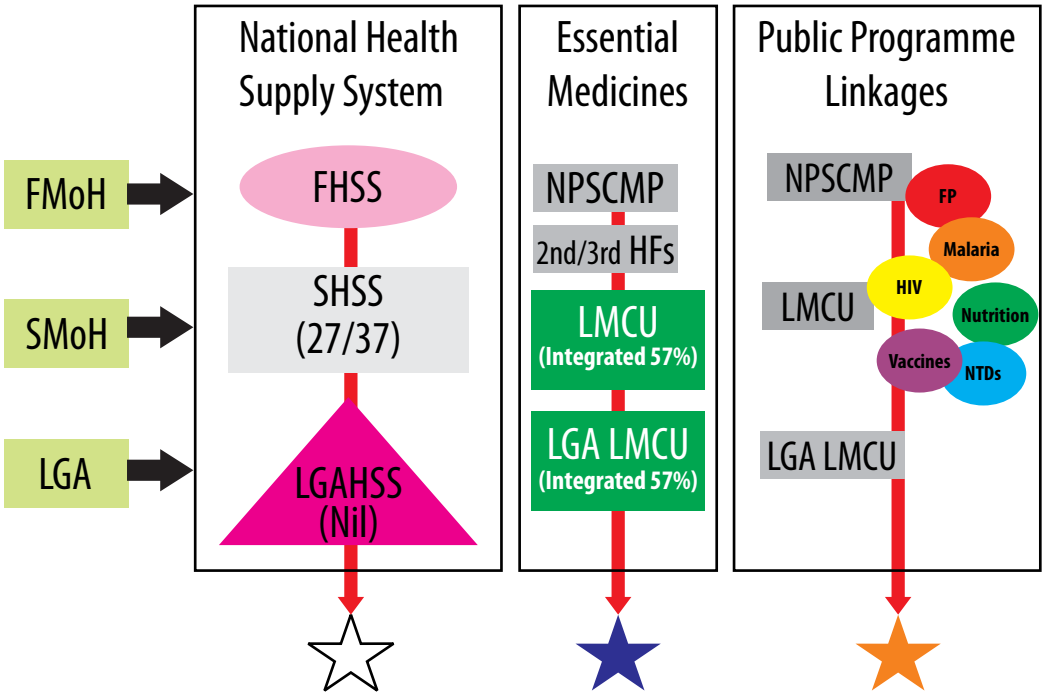
1. HIV/AIDS
2. Tuberculosis and Leprosy
3. Malaria
4. Family Planning
5. Essential medicines including Maternal Newborn and Child Health
6. Nutrition
7. Vaccines
8. Neglected Tropical Diseases (NTDs)

Early efforts, such as the Drug Revolving Fund schemes, faced challenges of weak logistics and poor accountability, leading to their collapse. Subsequent donor-supported programmes by partners introduced modern supply chain practices but also created parallel, vertical systems with limited government ownership.

More recently, the federal government, through the Federal Ministry of Health, NPSCMP, state Drug Management Agencies, LMCUs, and with support from development partners and the private sector, has advanced reforms to harmonise roles, strengthen governance, improve visibility through digital systems, and build a resilient National Health Supply System aligned with Universal Health Coverage.

Before the NSCIP (Nigerian Supply Chain Integration Project) era, there was no collaborative link among the three tiers of government. What existed was a parallel structure created for the delivery of public health programme commodities (HIV/AIDS, TB, Malaria, Family Health and Vaccine Distribution). The first linkages were made in 2015. State and LGA LMCUs were established and linked to the NPSCMP.

Figure 1: The Status of the National Health Supply System (NHSS). The SHSS has been developed; the overflows of development resources extended to the FHSS and LGAHSS have had some impact on the whole system.



1.3 Current Challenges with Nigeria's Health Product Supply Chain

- **Programme-Commodity Overlap:** In many states, programme managers directly control public health commodities, undermining accountability and causing misalignment between service and logistics data. Even where DMAs warehouse commodities, programme managers retain control, perpetuating fragmentation.
- **Sub-optimal Governance Structure:** The NHSS requires alignment across federal, state, and LGA/facility/community levels. Supply chain services initiated at the state level often lack federal strategic direction, achieving outputs but not UHC-aligned outcomes.
- **Weak Programmes:** Services such as MNCH, nutrition, NTDs, vaccines, and family planning suffer from poor funding, weak design, and low operational capacity.
- **Inefficient Programmes:** Donor-funded programmes, though strong, often incur wastage through expiries and mismatched service/logistics data, partly due

to long procurement lead-times and a “free drug” mindset.

- **Weak Government Establishments:** Integrating strong programmes (e.g., HIV/AIDS, TB, Malaria) into state essential medicine systems is difficult unless those systems are mature enough to absorb them without service disruption.
- **Differing Notions of Integration:** Stakeholders hold conflicting views on the meaning, timing, and scope of integration – whether as product-focused or system-focused. These misalignments threaten coherent implementation.

1.4 The Rationale for Health Product Supply Chain Integration

As global financing priorities shift, several major donors are scaling down or preparing to exit Nigeria. This transition poses substantial risks to commodity security, including stockouts of critical medicines and vaccines, interruptions in last-mile delivery, and the collapse of weak programmes that lack sustainable domestic financing. Without a deliberate supply chain integration strategy, Nigeria risks losing the gains made in public health outcomes as donor-driven systems wind down.

Integration, therefore, becomes an urgent necessity. By consolidating donor-supported supply chains into government-led systems, Nigeria can:

- Safeguard service continuity by ensuring that programme commodities are absorbed into a unified supply chain rather than collapsing when donor support ends.
- Strengthen government ownership at federal, state, and LGA levels, embedding supply chain management into institutional structures such as DMAs, SLMCUs, and LLMCUs.
- Achieve financial sustainability by linking supply chain operations to state Drug Revolving Funds (DRFs), NHIA reimbursements, and budgetary allocations, reducing dependency on unpredictable donor flows.
- Increase efficiency and reduce duplication by pooling procurement, warehousing, distribution, and information systems across essential medicines and public health commodities.
- Improve effective communications across public health programmes.
- Leverage donor investment in infrastructure across public health programs
- Build resilience against future shocks, whether funding cuts, epidemics, or insecurity—through system maturity, standardisation, and risk management.

1.5 Goal and Objectives of Supply Chain Integration

The goal is to achieve a single, self-sustaining, government-led, horizontally and vertically integrated supply chain system that:

- delivers quality-assured health products efficiently and equitably.
- reduces wastage and parallelism.

- builds resilience and sustainability.
- aligns with UHC and SDG 3.8 targets for Nigeria.

Nigeria's Public Health Supply Chain is anchored in national policy decisions that link supply chain practice to health outcomes.

This will be achieved through the following specific objectives

1. To harmonise all standalone or parallel programmes within the national health supply system to ensure streamlined efficiency and sustainability.
2. To foster effective collaboration across federal, state, and local government levels by clarifying interdependencies and reinforcing complementary roles.
3. To establish clear, distinct, and accountable roles and responsibilities for public health programme management and health commodity management.
4. To ensure a common understanding of supply chain integration at all levels of the health system.

1.6 Guiding Principles and Systems Assumptions

i. **Policy Alignment:** All supply chain activities within Nigeria are subject to national laws and policies, regardless of funding source or technical assistance. The overriding policy guidance is Universal Health Coverage (UHC). Therefore, supply chain design, development, management, operation, and governance shall consistently deliver the outcome characteristics of availability, affordability, quality, equitable coverage, and continuity

ii. **Responsibility and Accountability:** The government entity with the overall mandate for supply chain service delivery or coordination is ultimately responsible and accountable for all inputs, processes, outputs, and outcomes within its jurisdiction. Such entities may outsource or partner with non-state actors but remain the custodians of accountability.

iii. **Public Policy as Driver:** Nigeria's Public Health Supply Chain is anchored in national policy decisions that link supply chain practice to health outcomes. Reforms stem from the 2014 Presidential Summit on UHC, the 2016 National Health Policy, and the NHIA Act 2022, which collectively institutionalise access, equity, and financial protection. The decision of stakeholders in 2019 to reposition the supply chain led to the establishment of the National Health Supply System (NHSS), its delivery structure, and subsequent strategic and blueprint documents.

iv. **System View:** The NHSS is conceived as a coherent national system made up of the Federal Health Supply System (FHSS), State Health Supply Systems (SHSS), and the LGA Health Supply System (LGAHSS). Integration serves as the interconnections linking these subsystems, with the overall function being the delivery of health commodities in line with UHC goals.

v. **Systems Theory Approach:** The NHSS functions as a system of inputs, processes, and outputs, influenced by internal and external environments. Leadership provides the "control handle" to set standards, regulate processes, and ensure that outputs meet UHC-aligned characteristics.

vi. **Gainful Integration:** Integration must be deliberate, value-adding, and risk-sensitive. It should prioritise strengthening weaker systems by embedding them within stronger ones, while ensuring that stronger programmes retain quality and continuity during transition. Integration is not simply absorption but a guided process that creates value for the system as a whole.

vii. **Business-like Approach:** This implies managing government-led systems with the discipline and efficiency of private sector enterprises while safeguarding public accountability. It requires clear structures, defined roles, and measurable outcomes, supported by entrepreneurial thinking in financing, operations, and risk management.

1.7 Policy Statement

The relevant Ministries, Departments, Agencies and partners at national and state levels shall ensure that integration processes are guided by systems thinking, anchored in strategic planning, supported by resilient business models, and underpinned by sustainability measures that anticipate potential donor withdrawal. Compliance with these approaches shall be a prerequisite for determining readiness to integrate, with evidence drawn from formal assessments and linked to national policy objectives for Universal Health Coverage.

Chapter 2: Integration Components

2.1 Definitions

Integration

Integration refers to the coordination and collaboration of processes, systems, and partners across the supply chain to achieve seamless operations and maximise efficiency. In the context of this framework, Integration is the transfer of responsibility and accountability for the processes and outcomes of the elements of the supply chain to the government entity that has the overall mandate at a particular tier of government. This definition applies to federal, state, LGA, and tertiary facility supply chains.

The Integrator

In the context of Nigeria's supply chain integration framework, the integrator is the government entity that holds the overall legal mandate for supply chain service delivery and coordination at a particular tier of government (federal, state, or local government area).

- **Federal (FHSS):** FMoH/NPSCMP for standards and coordination across health programs, states and federal tertiary institutions.
- **State (SHSS):** SMoH/State DMA, which manages procurement, warehousing, and distribution for PHCs, secondary, and state-owned tertiary facilities.
- **LGA (LGAHSS):** LGA Health Authority responsible for coordinating supply chain operations at primary health facilities.

Integrand

The integrand is the programme, component, or service that operates outside the formal mandate of the government entity and is therefore a candidate for integration.

An integrand may be:

- A public health programme (e.g., HIV/AIDS, TB, Malaria, Nutrition, MNCH).
- A specific function or component (e.g., warehousing, distribution, data management, financing).
- A donor-funded pilot or intervention intended for institutionalisation.

The integrand becomes part of the government system once transferred under the operational and governance oversight of the integrator. Integration offers an opportunity for improved coordination and efficiency and strengthens both the integrand and the integrator through a structured transition process.

Types of Integration

1. *Horizontal Integration:* This is the integration of supply chain programmes within the same tier of government. The focus is on consolidating outlying or parallel programmes into the government entity that has the legal mandate. For example, at the state level, integrating the public health programme warehousing and distribution for HIV, Malaria, TB, and Family Planning into the State DMA. Horizontal integration reduces parallel systems, wastage of resources, and clarifies accountability at each level
2. *Vertical Integration*: This involves linking supply chain functions across tiers of government (FEDERAL →STATE →LGA). The focus is on coordinating services that naturally depend on one another across different levels. The integration of health logistics management information systems is an example of this type of integration. Vertical integration ensures that supply flows smoothly from national to community levels and vice versa without duplication or gaps.
3. *Partial Integration:* Partial integration happens when only some features of a programme are included in the integration process. It focuses on specific touch points such as warehousing, distribution, data management and financial management.
4. *Complete Integration:* Complete integration happens when the entire programme is planned for integration. All features of the programme are brought under the authority and management of the government entity with the mandate. This ensures full accountability for investments, processes, and outcomes within the government framework.

Outlying Programme

Any supply chain service intended for the benefit of the public but is not operated within the management sphere of the government entity with the overall mandate of managing health supply chains is termed “outlying”.

System-based Approach

A system is made up of elements that work together harmoniously to deliver a function. The system can only come to life if the elements are complete and linked together through integration. The efficiency of the system in delivering the function can be attributed more to the linkage than to the strengths of the individual elements.

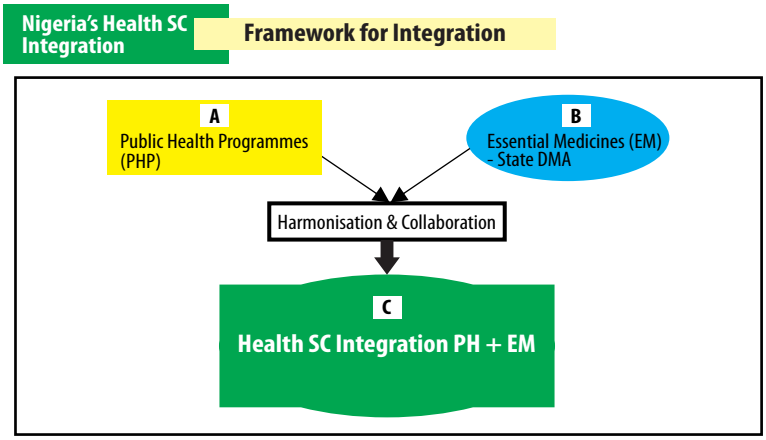
The National Health Supply System (NHSS)

The National Health Supply System (NHSS) represents the collective efforts of the three tiers of government to provide supply chain services for Nigerians in line with UHC. For the system to come to life, the contributing elements (the subsystems) at the federal, state and local government levels must be linked.

Nigeria operates the system-based approach as enshrined in the National Health Policy (NHP) and the National Strategic Health Development Plans (NHSDP). This way, every health-related activity in Nigeria will align perfectly both internally within each level and externally with others in the ecosystem. The system design at any period reflects the need to achieve and maintain the harmony of the entire system and the effectiveness of its functions. A completely outlying programme is not attached to any of the three levels of government. A programme is partially outlying if it is not attached as appropriate at the three levels of government.

Outlying programmes weaken the system if they operate outside government oversight. By bringing them under the authority of the government entity with the legal mandate ("gainful integration"), the entire system becomes more streamlined, accountable, and resilient. Vertical collaboration across tiers happens naturally, but true system strength comes from horizontal integration within each tier, where all supply chain services align under one responsible authority.

Figure 2: Framework for integration



Integration ensures no parallel or fragmented systems, strengthens accountability, and makes supply chains more sustainable and effective for delivering health services.

Health Supply Chain Subsystems

Within each tier of government, the system approach also applies. All the efforts of the government at each level determine the scope of the system and its design. The design in all cases should include the political, policy, strategic and operational levels. The systems have been classified as the Federal Health Supply System (FHSS), the State Health Supply System (SHSS), and the LGA Health Supply System (LGAHSS).

Each subsystem is made up of layers of functions that altogether sustain the survival, stability, functionality, and growth in the output characteristics of the system.

- The political level: This provides the steering function, ensuring that the system focuses on the priorities of government and the community.
- The policy and strategy level: This is responsible for the supply chain policies, performance monitoring, governance and strategies.
- The coordinating function ensures that guidelines are followed, KPIs/SLAs are met, and that data and information are organised for the convenient use of the policy and strategy function at the FHSS, SHSS and LGAHSS.

2.2 Scope of Integration

It is essential to know where precisely a programme or component to be integrated will target. An outlying programme offering policy or strategic services should be incorporated at a similar level within a tier of government. The same applies to a programme offering coordination, operational, research, and development services, among others. Consideration should be given to their level and how they fit within each subsystem.

For an integrating entity to be recognised as a candidate integrator, it must be "strong enough" to accommodate the programme to be integrated into its operational framework. NPSCMP has the mandate to specify, through a standardised assessment procedure using the FMOH tool, the maturity level of the integrating entity.

2.3 Sustainability of the Integrated Supply Chain

Sustainability is central to the long-term success of Nigeria's integrated health supply chain. An integrated system must not only deliver products reliably in the short term but also be institutionally resilient, financially viable, and capable of continuous improvement over generations. Sustainability ensures that the supply chain remains responsive to public health needs, supports Universal Health Coverage (UHC), and reduces dependency on external donor funding.

Donors and philanthropists remain vital partners. When programmes they fund are integrated at any level, they should have visibility into supply chain data. The integrating entity must be held accountable and should be partners within the provisions of the governance structures applicable to the level of their investments. The government will formally engage donors before, during, and after integration.

Chapter 3: The Integrated Health Product Supply Chain System

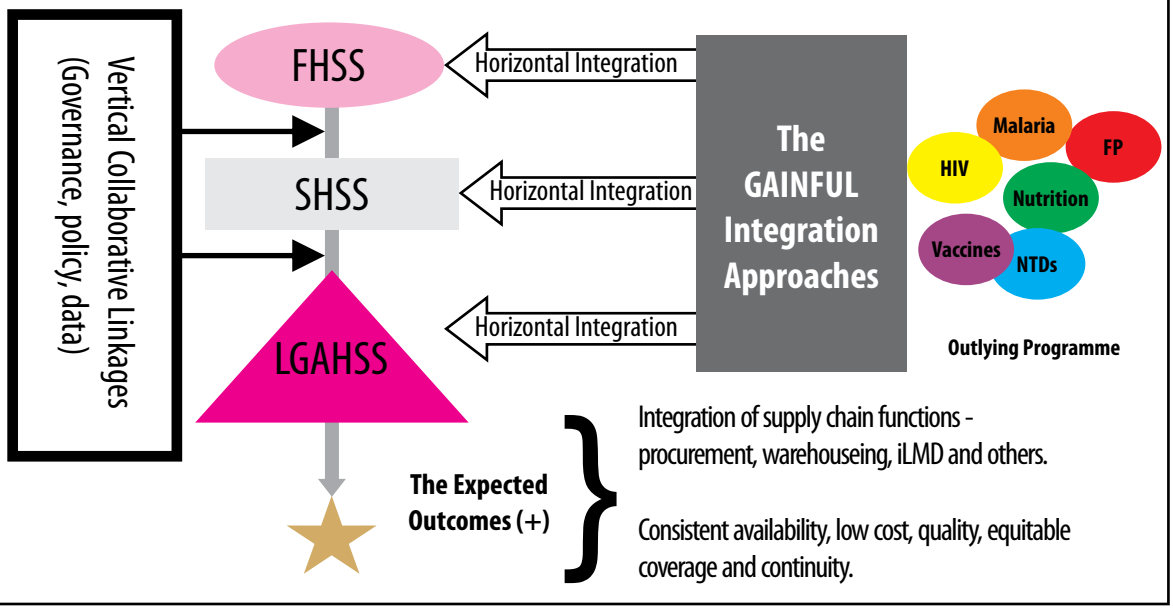
3.1 Background

Supply chain integration is essential for sustainability, equity, efficiency and resilience of the entire health system operations, especially as donor and government funding declines. The integration framework provides a pathway for a sustainable, government-led medicine supply system by linking the three pillars of the National Health Supply System (NHSS): the Federal Health Supply System (FHSS), State Health Supply Systems (SHSS), and Local Government Area Health Supply Systems (LGAHSS) down to the community and the end user.

Historically, parallel supply chains of public health programme-managed systems (HIV/AIDS, TB, Malaria, Immunisation, etc.) versus state-managed essential medicines have led to duplication, inefficiencies, and waste. The revised integration model, therefore, emphasises two complementary dimensions:

- **Horizontal integration** – the harmonisation of procurement, warehousing, distribution, and information management functions across Health programmes and essential medicines supply chains within each level of government (federal, state, and LGA).
- **Vertical integration** – the alignment and interoperability of supply chain functions across the three tiers of government (federal, state, LGA), ensuring seamless policy direction, governance, and data visibility.

Figure 3: Horizontal and Vertical Integration Across the Supply Chain



This dual approach aligns with the National Health Act (2014), the NHIA Act (2022), NHSCSP (2021–2025), NHSCP (2025), and the Health Sector Strategic Blueprint (HSSB) 2023–2027, all of which emphasise government ownership, sustainability, and universal health coverage (UHC).

3.2 The Attributes and Functions of the Integrated System

To operationalise the concept of supply chain integration, it is necessary to distinguish between horizontal and vertical integration. Horizontal integration refers to the harmonisation of supply chain functions within each level of government, across multiple programmes and partners. In contrast, vertical integration focuses on alignment across levels of government: federal, state, and LGA.

Both dimensions are mutually reinforcing. Horizontal integration reduces fragmentation and inefficiency within each level, while vertical integration ensures streamlining, accountability, and end-to-end visibility across the tiers of the health system. The table below provides a summary of how the integrated system's attributes and functions map into horizontal and vertical dimensions.

Table 1: Dimensions of Integration

Dimension	Horizontal Integration (within each level, across programmes/actors)	Vertical Integration (across levels: Federal - State - LGA)
Attributes	• Unified supply streams: merge programme-managed, tertiary and state-managed systems. • Standardised PSM practices (SOPs, KPIs/SLAs, guidelines). • Efficiency and waste reduction through strategic procurement, harmonised warehousing, integrated Last Mile Delivery, and Data management) • Continuous quality improvement (CQI, peer review, supportive supervision). • Private sector engagement (PPPs for procurement, warehousing and distribution, 3PL/4PL PPPs). • Sustainable waste management	• Government ownership and visibility at all levels (FHSS, SHSS, LGAHSS). • Single stream of service reaching all facilities. • Financial self-sustenance (DRFs, BHCPF, NHIA and State Social Health Insurance Agency {SSHIA} reimbursements). • Interoperable information systems (NHLMIS/SCMIS and NHMIS). • Cross-level collaboration (joint quantification, supervision). • National accountability mechanisms (NPSCMP, TWG, State Health Committees, LMCUs). • Resilience/maturity framework (NHSCSP, ASCM model).
Functions	• Procurement harmonisation (programme & essential medicines pooled). • Warehousing/distribution standardisation (CMS, zonal hubs, pharma-grade standards). • Unified distribution models (1PL/2PL/3PL) • Data Management NHLMIS replacing parallel LMIS • Interoperability with DHIS2 and eWMS • Facility-level service delivery aligned with the 6 rights of logistics. • PPPs to extend reach to hard-to-reach areas.	• Setting Standards (Policy direction) and governance chain (Federal–State–LGA). • Product flow: Federal CMS ⟶ State CMS ⟶ Zonal hubs ⟶ LGAs/Facilities. • Data flow: Facility ⟶ LLMCU ⟶ SLMCU ⟶ NHLMIS/NPSCMP. • Financing chain: Federal BHCPF & NHIA ⟶ State DRFs ⟶ Facility DRFs. • Performance monitoring through joint supervisory visits and national KPIs. • Accountability through federal and state steering committees. • Coordination across federal, state and Local Government.

The table below outlines how these two dimensions apply across the core supply chain functions of warehousing and distribution, information flow, and product flow, providing a unified view of integration pathways in Nigeria's National Health Supply System.

Table 2: Dimensions of Integration Across Core Supply Chain Functions

Function Area	Horizontal Integration Functions	Vertical Integration Functions
Warehousing, Distribution & Last Mile Strategy	• **Standardisation of Warehousing**: All warehouses (federal CMS, state CMS, zonal hubs shall meet GSDP requirements and be registered by PCN; and DMAs shall apply uniform standards. • **Unified Distribution Models**: 1PL/2PL/3PL • **Cross-Docking Facilities**: States establish zonal hubs (≥1 per senatorial zone) to decongest CMS and strengthen iLMD. • **Private Sector Partnerships**: Engage licensed 3PL/4PL providers with SLAs for efficiency and accountability.	• **Federal Level**: NPSCMP sets supply chain standards, coordinates and oversees 4PLs activities. The Food and Drug Services department will coordinate procurement mechanisms in collaboration with the procurement department of the FMoHSW in line with the Public Procurement Act (2007) and the ICRC Act (2005) • **State Level**: DMAs manage CMS/zonal hubs, and LMCUs coordinate and ensure data integration. • **LGA/Facility Level**: LLMCUs facilitate PHC resupply, verify records, mentor staff; facilities generate primary data. • **Accountability Chain**: State Committees provide an oversight function for supply chain activities
Information Flow Strategy	• **SCMIS/NHLMIS Integration**: Merge programme LMIS into a single interoperable NHLMIS. • **Expanded Indicators**: Include medicine quality, wastage rates, and patient costs. • **Interoperability with DHIS2 and eWMS**: Link service data with supply data. • **Digitisation**: Mandatory e-reporting from PHCs, SHFs, tertiary hospitals, pharmacies, PPMVs.	• **Facility → LGA**: Facilities submit LMIS reports; LLMCUs digitise reports. • **LGA → State**: LMCUs aggregate/validate facility and programme data, provide upward feedback. • **State → National**: States feed collated data for all programmes and Health facilities into NHLMIS managed by NPSCMP, which shares reports with stakeholders. • **National Oversight**: Data informs quantification, procurement, waste and Risk Management. • **Analytics**: Facility-level data analysed for risk detection, forecasting accuracy, and rational resupply planning.
Flow of Products	• **Unified Commodity Flow**: Merge programme commodities and essential medicines into one channel. • **Tailored Delivery Models**: 1PL/2PL 3PL • **Private Sector Role**: Explore local 3PLs/distributors with KPI-based accountability.	• **Federal → State**: Commodities pre-positioned at CMS 1–2 months ahead. • **State → Zonal Hubs**: States replenish zonal hubs ahead of distribution cycles. • **Zonal Hubs → LGAs/Facilities**: Products dispatched with record validation. • **Monitoring Chain**: SCMISS/NHLMIS tracks stock end-to-end, ensuring visibility from CMS to the patient dispensing point.

3. 3 Transition Risk and Sustainability Measures

Transitioning from fragmented, donor-led supply chains to a single, government-led system that is financially viable, institutionally strong, self-reliant and sustainable ensures that Nigeria can protect public health outcomes, maintain universal access to essential medicines, and achieve the long-term vision of Universal Health Coverage (UHC).

Table 3: Transition Risks and Sustainability Measures for the Integrated Supply Chain

Programme Area	Current Support	Transition Risks as Donors Scale Back/Exit	Required Sustainability Measures
HIV/AIDS	PEPFAR, Global Fund GoN	• Reduced procurement of ARVs, OIs medicines, viral load test commodities and test kits. • Stockouts at health facilities. • Weak state capacity to manage large-volume commodities. • LMIS risk due to payment of a subscription fee	• Integrate ARVs into the federal procurement strategy and State DMA procurement cycles. • Expand NHIA coverage to HIV services. • Invest in state CMS and zonal hubs for storage. • Use of some local solutions or Open LMIS
Malaria	Global Fund, PMI GoN	• Gaps in LLIN distribution and ACT supply. • Interruption of seasonal malaria chemoprevention (SMC). • Inadequate procurement of SP for IPTp	• Federal and state DRFs to include ACTs. • NHIA reimbursements for diagnostics and treatment. • Institutionalise SMC procurement in state budgets.
Tuberculosis (TB)	Global Fund, USG GoN	• Reduced supply of TB medicines and diagnostics (GeneXpert cartridges). • Risk of treatment interruption.	• Federal procurement integrated with a procurement partner for bulk purchase. • Domestic financing lines for TB diagnostics. • Capacity building for DMA-managed last-mile delivery.
Family Planning (FP)	UNFPA, USG Gates Foundation CIFF GoN	• Stockouts of contraceptives (DMPA-SC, implants, condoms). • Reduced funding for demand generation.	• Integrate FP commodities into DRFs (as has been done in Kano state). • Include FP services under the NHIA benefit package. • States to fund logistics via dedicated budget lines.
Immunisation (Vaccines)	Gavi, UNICEF GiveWell GoN	• Gradual reduction of Gavi support ⟶ risk of vaccine shortages. • Cold chain maintenance gaps.	• Federal financing via BHCPF and FMoH budget. • Integrate vaccine storage into the DMA-managed pipeline and consider transitioning vaccine financing to NHIA. • Consider insurance for cold chain equipment. • PPPs for cold chain and 3PL distribution.
Nutrition	UNICEF, WFP GoN	• Gaps in RUTF and micronutrient supplementation.	• Domestic budget allocation for nutrition commodities. • Integrate RUTF into DMA-managed essential medicines pipeline.
MNCH (Maternal, Newborn & Child Health)	Multiple (UNICEF, UNFPA, USG)	• Reduced supply of lifesaving MNCH commodities (oxytocin, Cabetosin, misoprostol, chlorhexidine and amoxicillin and ORS). • Risk of increased maternal mortality.	• Prioritise MNCH commodities in framework contracts. • NHIA coverage for MNCH medicines. • Institutionalise last-mile delivery to PHCs.

Chapter 4: Readiness to Integrate

Assessments are a prerequisite for determining whether supply chain systems and programmes are ready for integration. They provide an evidence base for capacity strengthening, sequencing, and risk management.

4.1 Timing of Assessments

Assessments shall be conducted using the FMOH maturity assessment tool at three critical points in the maturity journey of both integrators and integrands:

- **Baseline Assessment** – conducted before maturity support begins for a programme or DMA, to determine the starting point and define a performance improvement plan.
- **Midway Assessment** – conducted during implementation of the maturity plan to track progress, identify persisting gaps, and refine interventions.
- **Eligibility Assessment** – conducted to determine whether the integrator has reached sufficient maturity to commence integration without jeopardising service delivery.

4.2 Purpose-Specific Tools

The right assessment tools shall be applied depending on the objective. Tools must measure system maturity, not only operational and programme performance. For example:

- **The State DMA Maturity Tool,** developed under the NHSCSP 2021–2025, evaluates governance, coordination, institutional capacity, and sustainability, not just logistics performance.
- **Programme-specific readiness checklists** assess the stability of programme financing, data reliability, and supply chain function maturity.

Assessments are expected to capture general performance scores to measure progress in supply system improvements. Additionally, they should measure barrier scores to determine whether identified systemic barriers to maturity have been addressed. This dual lens prevents states from being deemed ready for integration when foundational barriers remain unaddressed, as highlighted in the State DMA assessment toolkit.

4.3 Readiness to Integrate

4.3.1 Readiness Criteria

Prior to integration, both the government entity (integrator) and the programme or supply chain function (integrand) must demonstrate readiness. This implies that the integrator, such as the State Health Supply System or government-led supply chain, has matured sufficiently to standardise at least core processes in governance, financing, LMIS, warehousing, and distribution, while the integrand is stable enough to be absorbed without compromising service quality, product availability, or patient safety.

4.3.1.1 Integrator/Entity Readiness

Integrator readiness (such as the DMA) will be assessed against five domains:

1. **Governance** – presence of legal frameworks, accountability structures, and functional oversight mechanisms.
2. **Financial Sustainability** – existence of DRFs, budgetary allocations, NHIA reimbursements, or other financing streams.
3. **Operational Capacity** – warehousing standards, functional LMIS/SCIMS, established distribution models (1PL/3PL/4PL).
4. **Human Resources** – trained supply chain personnel, supportive supervision, and performance management systems.
5. **Programme Maturity** – the integrand programme demonstrates reliable procurement, stable financing, and effective logistics systems.

Classification of Maturity Levels

Programmes and states will be categorised into one of five maturity levels:

Table 4: DMA Supply Chain Maturity Levels

Level	Definition	Comment
1	Matured	This is an optimised DMA that has integrated the Essential Medicines Programme with other public health programme supply chains.
2	Maturing Ready to Integrate	This is an efficient DMA that can or has started integrating the EM programme with other public health programme supply chains.
3	Maturing Not Ready to Integrate (MnRTI)	This is a functional DMA that is implementing the EM Programme, working to institute efficient and effective supply chain systems.
4	Emerging	This is a DMA with weak supply chain systems for managing the EM Programme.
5	Rudimentary	This is a Central Medical Store that is yet to transition to a legalised DMA entity, but with a demonstration of political will.

4.3.1.2 Programme Readiness/Archetypes for Integration

As part of the broader framework for gainful integration, programmes are grouped into archetypes according to their strength, funding stability, and risk of disruption. This categorisation provides a practical guide for determining how each programme should be integrated into government systems.

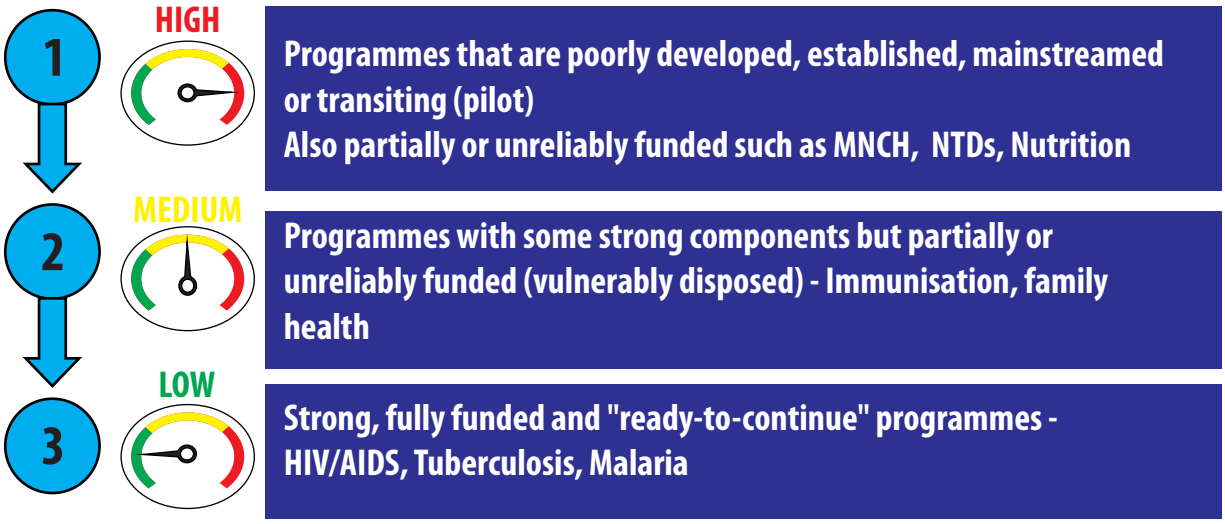
By tailoring the approach to weak, vulnerable, or strong, the integration process safeguards service continuity, strengthens system resilience, and aligns supply chain functions with long-term government-led sustainability goals.

Table 5: Programme Integration Archetypes

Archetype	Characteristics	Approach
1. Weak or Endangered Programmes	- At risk of collapse or malfunctioning. - Represent the "lowest hanging fruit" for integration.	- Direct integration into a strong enough government entity (integrator). - Priority is to salvage quickly and ensure service continuity.
2. Moderately Strong but Vulnerable Programmes	- Some strong components but weakened by poor or unstable funding. - Risk of service disruption without sustained support.	- Integrate into stronger government entities, with negotiated donor support. - Strengthening happens during and after integration.
3. Strong and Well-Funded Programmes	- Fully funded, strong, and "ready-to-continue." - Already well-functioning but not aligned with long-term government-led sustainability.	- Integration strengthens the government system (e.g., SHSS) more than the programme. - Transition must be carefully managed to protect quality. - Donors retain visibility, accountability, and participation via agreements.

The three archetypes are represented in the illustration below.

Figure 4: Integration Archetypes (Programme Focus)



Supply chain programmes vary in strength, funding, and level of development. To integrate them effectively, each must be handled according to its archetype.

Table 6: Archetypes and Practical Focus

Archetype	Examples	Main Risk	What to Do	Role of Funders	Integrator's Role
1. Poorly developed & mainstreamed programmes	Nutrition, MNCH pilots, small-scale initiatives	Risk of discontinuation of service	Keep services running first, then strengthen within government systems	Negotiate visibility and participation in funded & unfunded areas	Ensure continuity of service, and gradually improve systems post-integration
2. Partially or unreliably funded programmes	Family Health, Immunisation, HIV/AIDS, TB, Malaria	Weak links in strategy, governance, or operations	Integrate directly into state systems (DMA/SHSS), then strengthen once inside	Agree on accountability and visibility arrangements	Accept weak programmes, strengthen them during or after integration
3. Strong, fully funded, ready-to-continue programmes		Misalignment with national strategy, risk of parallel systems	Align with national laws & UHC strategy; integrate through phased transition	Continue financial support, stay engaged in oversight (e.g., via SLAs)	Absorb programmes gradually, protect service quality, avoid system stress

4.3.2 Decision Matrix

Integration shall only proceed once readiness has been established through formal assessments conducted jointly by the NPSCMP, State DMAs, and partners. Decisions to integrate must be evidence-based, drawing on maturity and barrier scores to ensure system and programme preparedness. Integration shall be phased, beginning with Maturing Not Ready to Integrate (MnRTI) entities as they progress toward Maturing Ready to Integrate (MRTI) status.

A dual-lens framework is required to guide policymakers in a structured way to decide when a DMA is ready (Levels 1–5), and which type of programme can be integrated safely at each maturity stage.

Table 7: Integration Decision Matrix

DMA Maturity Level (System Readiness)	Programme Archetype 1 – Weak / Endangered (at risk of collapse)	Programme Archetype 2 – Moderately Strong but Vulnerable (partially functional, unstable funding)	Programme Archetype 3 – Strong / Well-Funded (fully functional, donor or government-supported)
Level 1 – Rudimentary (Political will present, systems absent)	Cannot integrate; programme risks collapse if absorbed. Requires foundational system building first.	Not suitable for integration. Focus on building DMA systems before considering programme absorption.	Not suitable; a strong programme may overwhelm a weak system. Maintain vertical until DMA matures.
Level 2 – Emerging (Weak systems, limited functionality)	High priority for state and partner support. Integration is premature; provide external maturity support.	Not ready; may attempt pilots with safeguards, but there is a high risk of service disruption.	A strong programme cannot be absorbed; maintain vertical with phased alignment.
Level 3 – Maturing Not Ready to Integrate (MnRTI) (Functional but with	Integration is only possible with significant maturity support and effective risk mitigation.	Sequenced integration is feasible with parallel capacity-building of DMA.	Delay full absorption; consider phased alignment of specific functions (LMIS, warehousing).
Level 4 – Maturing Ready to Integrate (MRTI) (Efficient, institutionally stable)	Integrate weak programmes immediately; the system is strong enough to prevent collapse.	Integrate with negotiated support (technical/financial) from donors during transition.	Integrate progressively; a strong programme transition should reinforce DMA capacity without service loss.
Level 5 – Matured (Fully optimised DMA managing essential medicines & public health supply chains)	Fully absorb weak programmes, providing stability and sustainability.	Integrate fully, leveraging DMA's strong governance and financing mechanisms.	Fully harmonise; integration consolidates parallel systems into one streamlined channel.

Each transition must be accompanied by risk mitigation plans to safeguard service quality and ensure uninterrupted commodity security.

Chapter 5: The Integration Process – A Step-by-Step Guide

The Government of Nigeria has adopted a structured Integration Framework to guide the integration of programmes into national health supply chain systems. This framework encourages the participation of donors, development partners, and private sector actors, while placing ultimate responsibility for decision-making and implementation in the hands of the mandated government entities at the federal, state, and LGA levels.

This ten-step approach will be applied across all tiers of government to ensure harmonised, sustainable, and resilient supply chain operations aligned with Universal Health Coverage (UHC).

Step 1. Identify Programmes or Components for Integration

- Map all supply chain programmes at federal, state and LGA levels.

Step 2: Invitation to assess

- The state government entity requests a "ready to integrate" assessment from the federal government using the standardised FMOH assessment tool for the selected programmes or components.

Step 3: Mobilise Resources for the Assessment and Transition Plan Development

Federal-level representatives facilitate advocacy efforts with appropriate government entities or programmes, funder(s) and other key stakeholders to clarify the plan. Any concerns still raised after advocacy should be addressed before the next step, as securing investments, improving outcomes, creating value, and avoiding service disruption are critical.

Step 4: Assess System Readiness to Integrate

NPSCMP conducts the assessment using the integration assessment tool. The assessment determines the integration archetype. The assessment requires an understanding of:

- the government's capacity to integrate.
- how to measure the strength of partners/programmes.
- how to measure donor capacity.
- funding for commodities.
- funding for logistics across the board.
- funding for system strengthening (Technical Assistance).

Step 5: Analyse Results and Decide on the Programme or Components for Integration

Based on the results of the assessment, classify integrating entities and programmes as appropriate and decide on what to integrate using the Integration Decision Matrix (Table 7).

Step 6: Decide the Scope of Integration

- Partial integration: only certain functions (e.g., warehousing, distribution, data, financing).
- Full integration: the entire programme is absorbed into government management.

Step 7: Develop and Cost the Integration Transition Plan

Convene stakeholders to develop and cost an integration plan for the entity, programme(s) or component.

- Identify the type of agreement needed:
  - **MoU (Memorandum of Understanding):** General cooperation statement.
  - **Framework Agreement:** High-level commitment between government entities (e.g., FMoH Permanent Secretary and SMoH Permanent Secretary).
  - **Service Level Agreement (SLA):** Operational details between donor fund managers (e.g., PRs or contractors) and government outcome centres (e.g., Heads of DMA).
- Define responsibilities – clarify roles and obligations of federal and state governments.
- Specify performance targets, indicators, and reporting obligations.
- Ensure oversight – NPSCMP must be a co-signatory on SLAs, either as a witness or as an assignee of one or more KPIs.
- Include all relevant parties (e.g., logistics agencies, monitoring units, finance officers) where necessary to cover all KPIs.
- Ensure continued donor/partner involvement for accountability and funding support.
- Risk management – develop a risk and business continuity plan.
- Develop KPIs (financial, operational).
- Cost the plan.

The transition plan ensures that negotiated decisions are implemented with the conditions for smooth integration met before starting. It must have a clear timeline and secured resources. If funders cannot provide resources, the government should bridge the gap to prevent delays or indefinite suspension of integration.

Step 8: *Mobilise Resources for Implementing the Integration Transition Plan*

This will include all the processes involved with fulfilling the terms of the agreement, such as the enlargement and placement of the management, operational, and governance teams to accommodate the representatives of partners, as well as the modification of data management systems and signing of legal documents. It will also include the review of operational guidelines and of the operational processes themselves, and the deployment of cost-sharing mechanisms as might have been agreed upon.

Step 9: *Gestation period support (Implement Monitor and Strengthen the Integration Transition Plan)*:

- Transfer functions, staff, assets, and data into the government-managed system.
- Track and Report KPIs: Use the agreements to hold all parties accountable for service quality, timeliness, and resource use.
- Ensure continuity of services at all levels (federal warehouses, state CMS, LGAs, facilities).
- Maintain partner engagement during and after handover.
- Conduct joint reviews with relevant government entities, partners and donors.
- Use agreed KPIs (stockout rates, fill rates, financial flows, data visibility): The result of the SLA monitoring may be reported to the responsible offices of the governments that signed the framework agreements after review by the cross-level technical working groups.
- Apply the maturity model to track progress and guide further strengthening.
- The NPSCMP will provide post-integration monitoring and supportive supervision by ensuring that the approved plan implements all processes; any alterations thereof are mutually agreed upon, and understood as not jeopardising the objectives of the integration process.

NPSCMP is responsible for providing the integration progress report to the relevant decision-makers of the government, funding entities, donors or funders.

Step 10: Graduation

The gestation period should end as progress is made in the adoption and acculturation of the new standards by all the teams involved.

For the third archetype, SLA monitoring is critical and should be sustained for a period that the funder deems fit.

Chapter 6: Recommendations for Transition

Donor withdrawal is not only a challenge but also an opportunity to accelerate the integration process. It provides the impetus to transition from fragmented, donor-led supply chains to a single, government-led system that is financially viable, institutionally strong, and sustainable. Integration ensures that Nigeria can protect public health outcomes, maintain universal access to essential medicines, and achieve the long-term vision of Universal Health Coverage (UHC).

The roadmap below links timeframes with practical actions and outcomes, ensuring states can plan for sustainability as donor exit accelerates.

Table 8: Recommended Roadmap for Integration and Transition

Phase	Timeframe	Priority Actions	Expected Outcomes
Short-Term	0–2 years (while donors are still present, but scaling down)	• Update state-level supply chain maturity assessments across all 36+1 states • Develop a national costed supply chain integration and transition plan • Expand benefit packages to include HIV, TB, FP, and MNCH commodities across all states • Establish/strengthen state Drug Revolving Funds (DRFs) to cover essential medicines and gradually absorb programme commodities. • Adopt a national procurement strategy, e.g. pooled procurement mechanism. • Finance the transition by ring-fencing state and federal budget lines for priority commodities (FP, MNCH, TB, HIV, Malaria). • Integrate all donor-supported LMIS, including the national warehouse infrastructure, into SCIMS/NHLMIS. • Negotiate transition agreements with donors for phased handover.	• Clear visibility on system maturity gaps. Functional Drug Revolving Funds across all 36+1 states. Budgetary provisions for essential medicines begin to cover programme commodities. Reduced duplication in information systems.
Medium-Term	3–5 years (donors exiting or reducing significantly)	• Scale up the implementation and coverage of the adopted procurement strategy to cover more states/programmes. • Facilitate financing arrangements for the establishment of pharma-grade state CMS and zonal hubs (insured and maintained). • Institutionalise PPP contracts with 3PL/4PL providers for last mile delivery. • Professionalise the supply chain workforce at state and LGA levels.	• Programmes progressively absorbed into state-led systems. • NHIA financing offsets donor withdrawal. • Reliable, insured infrastructure at state and zonal levels. • Private sector delivering cost-efficient last-mile services. • Stronger cadre of trained supply chain professionals.

Phase	Timeframe	Priority Actions	Expected Outcomes
Long-Term	0–2 years (while donors are still present, but scaling down)	• Achieve fully integrated DMA-led supply chains (Level 5: Matured). • Full domestic financing of public health commodities through DRFs, BHCPF, and NHIA reimbursements. • End-to-end SCIMS/NHLMIS interoperability with DHIS2 for real-time data visibility. • Regular continuous quality improvement (CQI) and supportive supervision are institutionalised. • Embed risk management systems (insurance, contingency planning, forex buffers).	• Self-reliant, government-led supply chain system. • Uninterrupted commodity availability. • Strong accountability and transparency mechanisms. • Sustained resilience against shocks (epidemics, donor withdrawal, insecurity).

Department of Food and Drug Services

National Product Supply Chain Management Programme