



UTTAR PRADESH Medical Supplies Corporation Limited

An Overview Note

BACKGROUND

A well-functioning health system ensures equitable access to essential medical products of assured quality, safety, and efficacy at affordable prices, reducing out-of-pocket expenditure (OoPE) and enhancing public confidence in healthcare services. In India, where 60-70% of healthcare is provided by the private sector, high OoPE remains a significant burden, with drugs accounting for over 80% and 50% of OoPE in outpatient and inpatient care, respectively. Public health supply chain inefficiencies aggravate this issue. Moreover, most private and public insurance packages do not cover outpatient expenses. Addressing these challenges, the Government of Uttar Pradesh (GoUP) has implemented system design changes to ensure the availability of quality drugs in public health facilities, aiming to strengthen the public health supply chain and reduce reliance on private care.



CHALLENGES IN THE LEGACY PUBLIC HEALTH DRUG SUPPLY CHAIN IN UTTAR PRADESH

The Comptroller and Auditor General (CAG) Performance Audit Report for Uttar Pradesh highlighted significant gaps in the public health drug supply chain. In 2017-18, rate contracts were available for only 18% of the 1,036 drugs on the essential drug list, with district authorities procuring just 3% to 42% of these drugs. Shortfalls in drug availability ranged between 76%-96% in District Women's and Combined Hospitals and 58%-93% in Community Health Centres (CHCs). Additionally, reliance on vendor-provided quality

certificates instead of independent quality assurance compromised drug quality. This necessitated a thorough review of the then-existing public health drug supply chain system model, studying best practices in other states and countries, and redesigning to ensure the availability of essential drugs required for patients at all public health facilities.

While studying the legacy public health supply chain model, GoUP understood that it exacerbated inefficiencies. For

example, the Central Medical Stores Depot (CMSD) was responsible for price discovery via tendering but had minimal accountability for drug availability, supplier performance, or quality assurance. District Chief Medical Officers (CMOs) and Chief Medical Superintendents (CMSs) placed independent orders, resulting in fragmented processes, limited economies of scale, and increased vendor business costs due to unpredictable multi-location orders.

KEY GAPS INCLUDED



Single-year rate contracts with one vendor per drug, leading to delays and stockouts.



Fragmented procurement by 75 CMOs and 167 CMSs, forcing vendors to fulfill unpredictable demands and insistence on minimum order thresholds.



Lack of scientific demand estimation and non-uniform drug distribution, causing inconsistent availability.



Paper-based inventory management limiting stock visibility and delaying procurement initiation.



Absence of independent quality checks and forced to rely on vendor self-certification.

Rate contracts were done at the state level, procurement and distribution of health commodities was managed by the Districts.

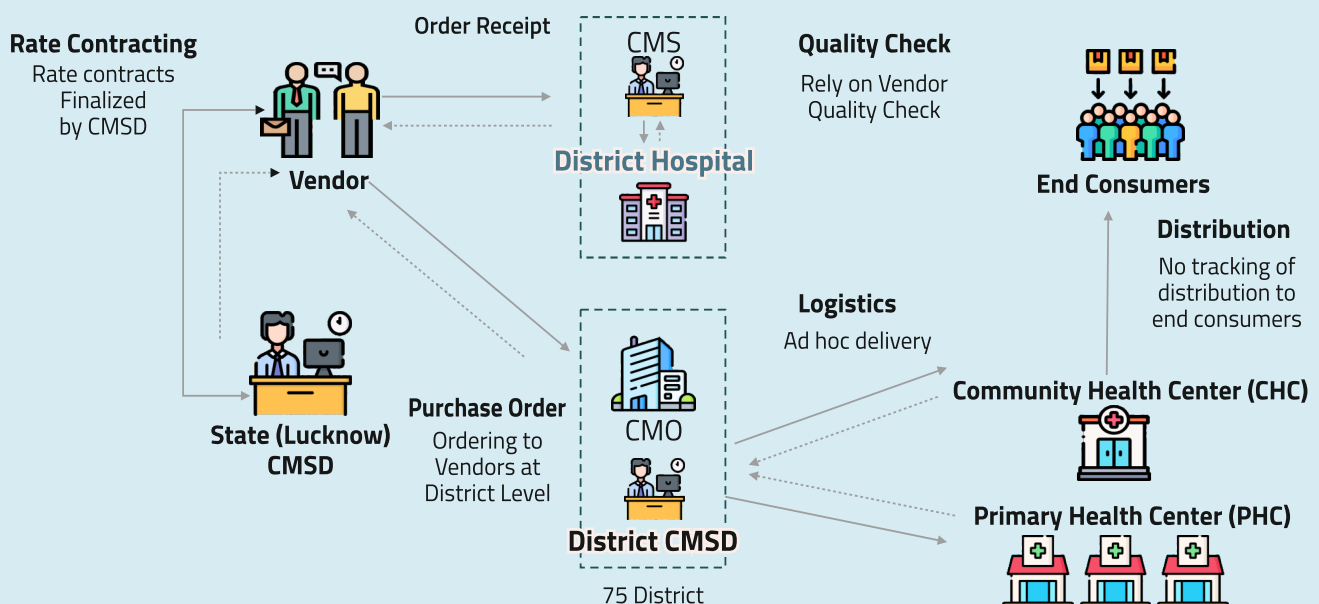


Figure 1: The Public Health Supply Chain in Uttar Pradesh - Legacy Model

REDESIGNED PUBLIC HEALTH SUPPLY CHAIN MODEL FOR UTTAR PRADESH

To ensure the consistent availability of quality drugs and medical supplies at public health facilities, the GoUP transitioned from the fragmented Central Medical Stores Depot (CMSD) model to a centralized procurement model with the establishment of the Uttar Pradesh Medical Supplies Corporation (UPMSC) in March 2018. This marked a shift toward transparency, efficiency, and responsiveness in the public health supply chain.

Key initiatives undertaken to operationalize UPMSC include:



Governance Framework: Development of the Articles of Association (AoA) and Memorandum of Association (MoA) defining organizational roles and responsibilities.



Human Resources: Recruitment of qualified personnel for a lean and efficient workforce.



Policy and Process Development: Creation of policies, standard operating procedures (SOPs), and frameworks for transparent operations.



Warehouse Management: Establishment of permanent and rental warehouses in all districts, ensuring 24/7 availability of essential drugs.



Technology Integration: Deployment of the Drugs and Vaccine Distribution Management System (DVDMS) for real-time inventory tracking and data-driven decision-making.

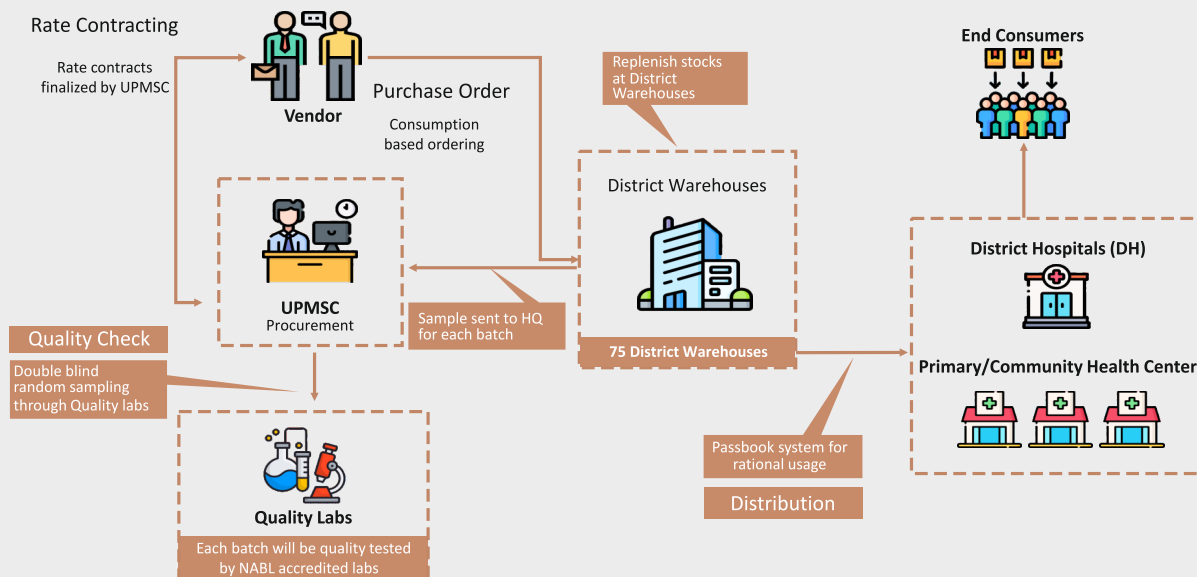


Figure 2: Redesigned Model of Public Health Supply Chain

Best practices from successful supply chain models in the country (Tamil Nadu Medical Supplies Corporation, Rajasthan Medical Services Corporation Limited, Gujarat Medical Services Corporation Limited, etc.) were used to identify six pillars of a responsive and efficient supply chain process. These pillars, depicted below, have been adapted to Uttar Pradesh's context and provide the foundation for the functioning of UPMSC.

THE SIX PILLARS OF UPMSC'S SUPPLY CHAIN MODEL:

Pillar 1: Essential Drug List (EDL): By narrowing down essential list of drugs from 1,300 to 393 items, UPMSC has focused on providing only those drugs that are essential and frequently consumed by the population ensuring its relevance and cost-effectiveness.

Pillar 2: Strategic Warehousing: UPMSC has established 75 State-of-the-art district warehouses which are operational 24/7 and equipped with climate-controlled storage for proper drug handling. These districts' centralized drug storage reduces discrepancies and improves inventory management. Currently, 20 permanent warehouses are operational, while the remaining 55 are in the final stages of construction and are currently operating on a rental basis.

Pillar 3: Centralized Procurement: UPMSC implemented a centralized drug procurement process to purchase in bulk through rate contracts with multiple suppliers, leveraging economies of scale. This resulted in reduced drug prices and consistent drug availability in the warehouses. Supplier performances are also monitored to build a credible database, while the e-tendering process expedites approvals and enhances transparency.

Pillar 4: Passbook System: Passbook System has been introduced to link budget allocation to drug utilization. This system has empowered every facility with autonomy to indent drugs based on actual needs, shifting from a 'push' to a 'pull' model. It ensures accountability, tracks drug usage, and supports data-driven forecasting. By December 2024, the system was adopted by 100% of CHCs, DHs, 96% of SHs, and 91% of PHCs in Uttar Pradesh.

Pillar 5: Quality Control: A Quality Control Policy is created to check drug safety through a double-blind testing methodology, where samples are anonymized and sent to NABL-accredited labs via a randomized process managed by DVDMS. Drugs are quarantined until certified as "Standard Quality," ensuring transparency and high-quality standards before distribution to public health facilities.

Pillar 6: Centralized Payments: A unified payment system reduces delays, incentivizing participation from large-capacity vendors. Vendor payments are now centralized at one location, instead of over 200 units as before, reducing business costs and delays.

DVDMS (e-tracking): Foundation of the Six Pillars

Drugs and Vaccines Distribution Management System, an online Logistic Management Information System for procurement and inventory management of medicines, serves as the IT backbone of UPMSC. It provides real-time data on stock inventory at the various warehouses and helps generate automatic placement of supply orders based on consumption of each EDL medicine from all the warehouses with a specific quantity per consignee (Warehouses). This system can later be linked to the electronic health records systems of the hospitals to track end point consumption at the hospital level.

PROGRESS SO FAR

Procurement related performance of UPMSC: Figures – 3 shows that the overall availability of EDL medicines in all warehouses improved from 34% to 96.5% between December 2020 and July 2024.

UPMSC's annual procurement value of medicines doubled from \$58M in 2019 to \$112M in 2024, with a COVID-19-related dip in 2020. Correspondingly, medicine consumption by facilities rose from \$38M in 2021 to \$90M in 2024, reflecting increased uptake across more facility types.

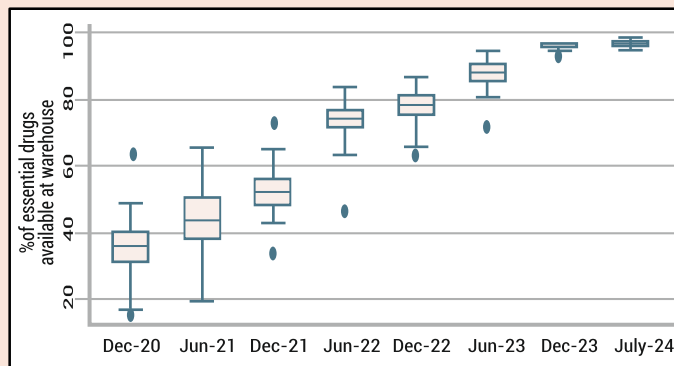


Figure 3: Percentage of EDL medicines available across 75 district warehouses over time

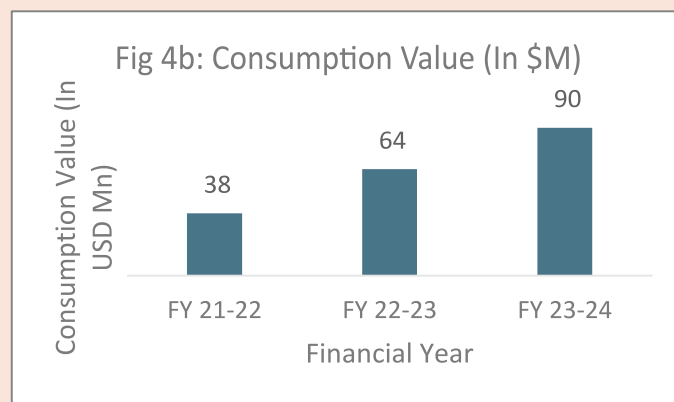
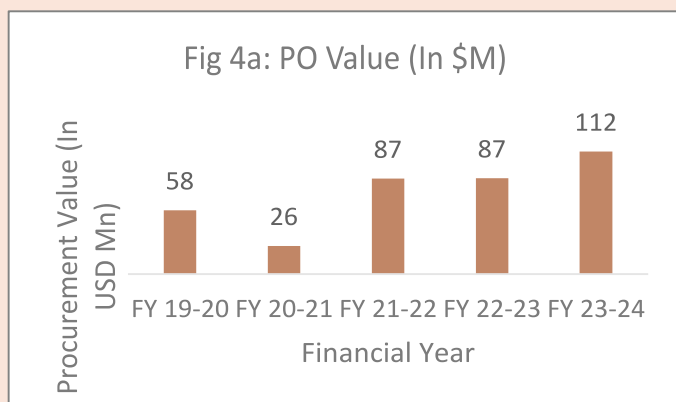


Figure – 4a: Annual Purchase Order (PO) value by UPMSC Figure – 4b Annual consumption value of medicines by facilities
Source: DVDMS data

Quality testing related performance of UPMSC: Figure – 5 shows that the number of batches tested for quality assurance increased from 2857 in 2021-22 to 13844 in 2023-24. The total time consumed by the Quality Control process has been reduced from approximately 8 months to 2 months.

The above findings indicate a positive trend in UPMSC's performance in medicine procurement, storage, quality testing, and delivery.

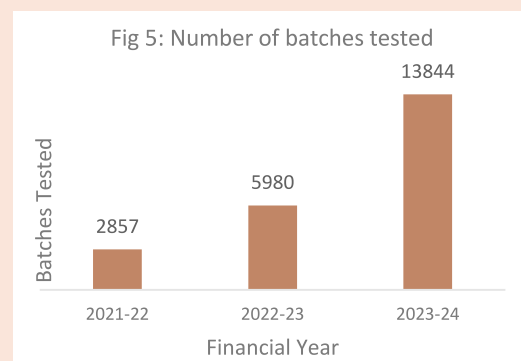


Figure – 5: Number of batches tested annually by UPMSC
Source: DVDMS data

WAY FORWARD

The GoUP plans to enhance its drug supply chain by adopting advanced last-mile delivery systems at the facility level, combined with real-time tracking, data analytics, reduced

transportation costs, and minimized drug stockouts in facilities. Additionally, it aims to establish a centralized procurement system for surgical items and medical

consumables to enable economies of scale, ensure consistent quality, and streamline supply across health facilities, mirroring the successful state-level drug procurement model.

