

Drug Warehousing Reforms in Uttar Pradesh

A Backbone for Public Health Supply Chain

2026

Introduction

The Uttar Pradesh Medical Supplies Corporation Limited (UPMSCL) is a state-owned corporation established by the Government of Uttar Pradesh (GoUP) to centralise procurement, quality assurance, and warehousing of essential drugs and medical supplies for public health facilities across the state.

In 2019, the Government of Uttar Pradesh undertook the Drug Warehouse Strengthening initiative to reform the state's drug warehousing system. Earlier, Central Medical Store Depot (CMSD) warehouses operated with constraints related to limited space, infrastructure, and storage systems, contributing to inefficiencies in managing and ensuring the availability of essential drugs at healthcare facilities. To address these gaps, UPMSCL, with technical assistance from the UP TSU, supported the GoUP in establishing a state-of-the-art network of 75 district warehouses. These modern warehouses provide significantly enhanced storage capacity, standardised storage conditions, and digitised inventory control, streamlining drug management and ensuring uninterrupted supply to health facilities statewide.



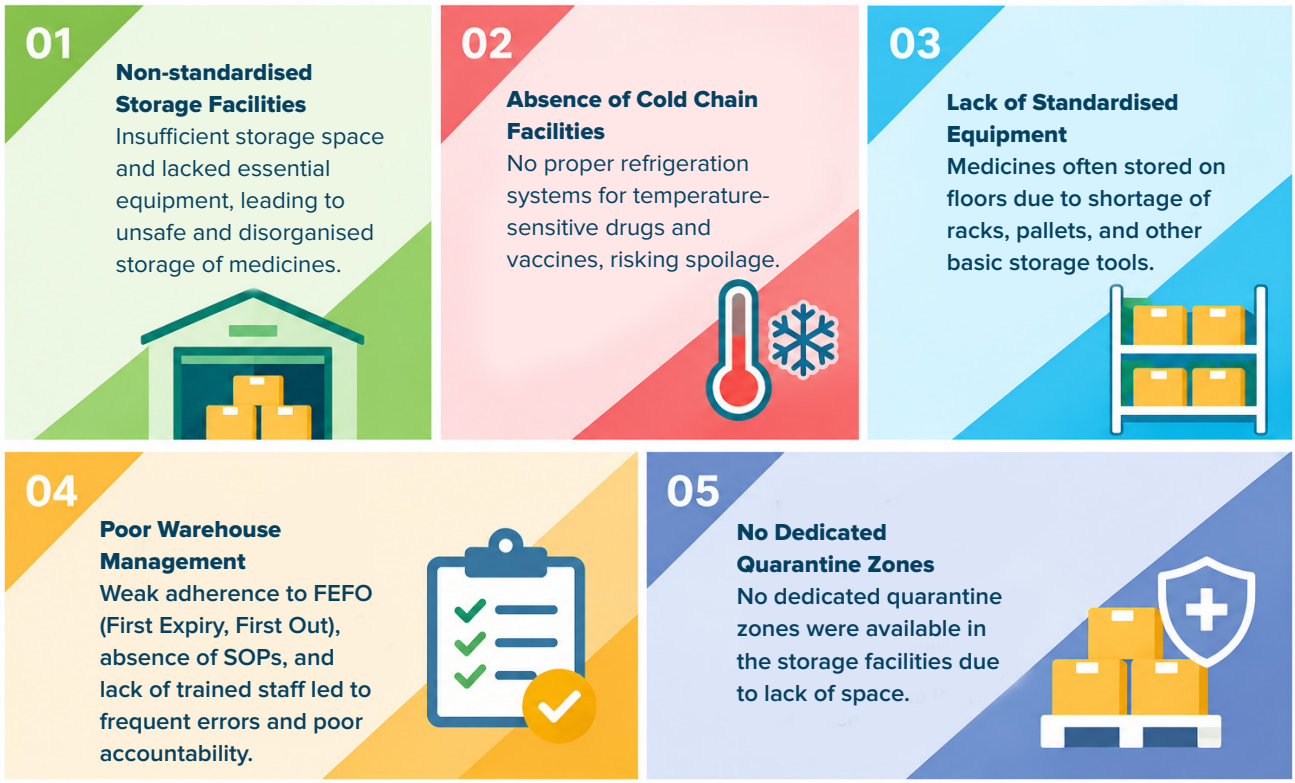
Central Medical Store Depot Warehousing System in Uttar Pradesh (Pre-UPMSCL)

The Central Medical Store Depot (CMSD) warehousing system in Uttar Pradesh supplied drugs to district medical stores attached to Central Medical Offices or District Hospitals, from where Community Health Centres (CHCs), Primary Health Centres (PHCs), and Health and Wellness Centres (HWCs) collected their supplies. These storage facilities operated with certain infrastructure and operational constraints, including limited space and equipment, inadequate ventilation, limited cold-chain facilities for temperature-sensitive medicines, and scope for strengthening fire and pest safety measures. The absence of dedicated quarantine zones further posed challenges for maintaining standardised storage practices. These constraints could contribute to inefficiencies in inventory management, storage, and the availability of essential medicines at health facilities.



UPMSCL, with technical assistance from the UP TSU, supported the GoUP in establishing a state-of-the-art network of 75 district warehouses

Figure 1: Challenges in Public Health Warehousing in Uttar Pradesh



Strategic Reforms to Address the Challenges in Drug Warehousing

To address longstanding challenges in drug warehousing, the government implemented a series of strategic reforms focused on building a reliable and efficient supply chain. Key interventions included identifying private-public warehouses as short-term infrastructure and simultaneously establishing permanent warehouses, with an area of approx 20,000 sq. ft., as long-term infrastructure in all 75 districts. This intervention was planned to replace inadequate storage spaces and to ensure



adequate infrastructure, security, and climate control. The project is introducing cold chain systems, walk-in coolers, and other essential equipment to safeguard temperature-sensitive drugs. Standard equipment, including racks, pallets, fire safety systems, and digital access controls, is being provisioned to enhance efficiency and safety in storage. UP TSU assisted in operationalising the Drugs and Vaccine Distribution Management System (DVDMS) dashboard. Additional staff were recruited, and pharmacists were deployed at district warehouses to ensure proper storage and accountability. Collectively, these reforms transformed warehousing into a transparent, scalable, and resilient system capable of meeting routine as well as emergency drug requirements.





Phased Implementation Timeline (2019–2026)

Interim Setup and Planning - 2019–2020

As a preparatory step to address immediate storage needs, UPMSCL established 75 rental warehouses across all districts, including nine Central Warehousing Corporation (CWC) buildings, 11 government-owned buildings, and 55 privately rented buildings. This interim solution ensured uninterrupted drug storage and distribution while permanent infrastructure was being planned. Simultaneously, under the National Health Mission (NHM), UP TSU assisted UPMSCL in preparing detailed Programme Implementation Plans (PIPs) for constructing permanent warehouses, initially for 25 districts (Phase-1). These plans covered the layout of the warehouse, construction cost, and equipment cost.

Approvals and Initiation of Phase-1 Construction - 2020–2021

During this year, the Government of India approved the budget for the 25 Phase-1 warehouses through the Record of Proceedings (ROP). With this, construction agencies were finalised to execute the infrastructure development. Concurrently, the PIP for the remaining 50 district warehouses (Phase-2) and one central warehouse was prepared for submission. With land identification for the Phase-1 warehouses complete, construction work commenced at the respective sites.

Phased Implementation Timeline (2019–2026)

2021–2022



Phase-2 Funding and Construction Rollout

The ROP budget for the remaining 50 warehouses under Phase 2 was sanctioned in 2021–22, paving the way for construction to commence at all 50 district warehouse sites. Site preparation activities, including the construction of boundary walls, foundation laying, and structural framework, were initiated. This marked a significant scale-up in infrastructure rollout, with both Phase-1 and Phase-2 sites now under active development.

2022–2023



Commencement of Civil Construction

By the end of the financial year 2022–2023, nearly 60 percent of Phase 1 warehouse sites had advanced to mid-stage construction. Consistency in construction timelines was ensured through contractor mobilisation, coordination of the raw material supply chain, and on-site supervision. The year laid the structural foundation for the programme's permanent infrastructure component.

2023–2024



Structural Completion and Initial Handovers

Construction advanced significantly across the Phase-1 warehouses. Roofing, plastering, flooring, and demarcation of internal storage and administrative sections were completed at many sites. Essential utility systems such as plumbing, electrical wiring, and fire safety installations were also put in place. By the end of the year, five warehouses were fully completed and officially handed over to UPMSCL for operations.

2024–2025



Expansion, Equipment Installation, and Operationalisation

This year marked a substantial scale-up of the initiative, with the total number of completed warehouses reaching 30 following the completion and transfer of 25 additional warehouses to UPMSCL. Each permanent warehouse is equipped with core infrastructure such as quarantine zones, Not of Standard Quality (NSQ) zones, separate areas for inward and outward drug flow, storage areas, dispensing areas, CCTV monitoring rooms, electrical panels, power backup generators, solar power systems, fire sprinkler systems, fire extinguishers, fire exits, office rooms, safety hazard provisions, vents with exhaust fans, water harvesting systems, drainage systems, parking areas, warehouse boundaries, proper lighting, toilets, and drinking water facilities.

Installation of warehousing equipment also progressed, with heavy-duty racks, walk-in coolers, and Ice-Lined Refrigerators (ILRs) being deployed. Several warehouses reached commissioning or partial operational status.

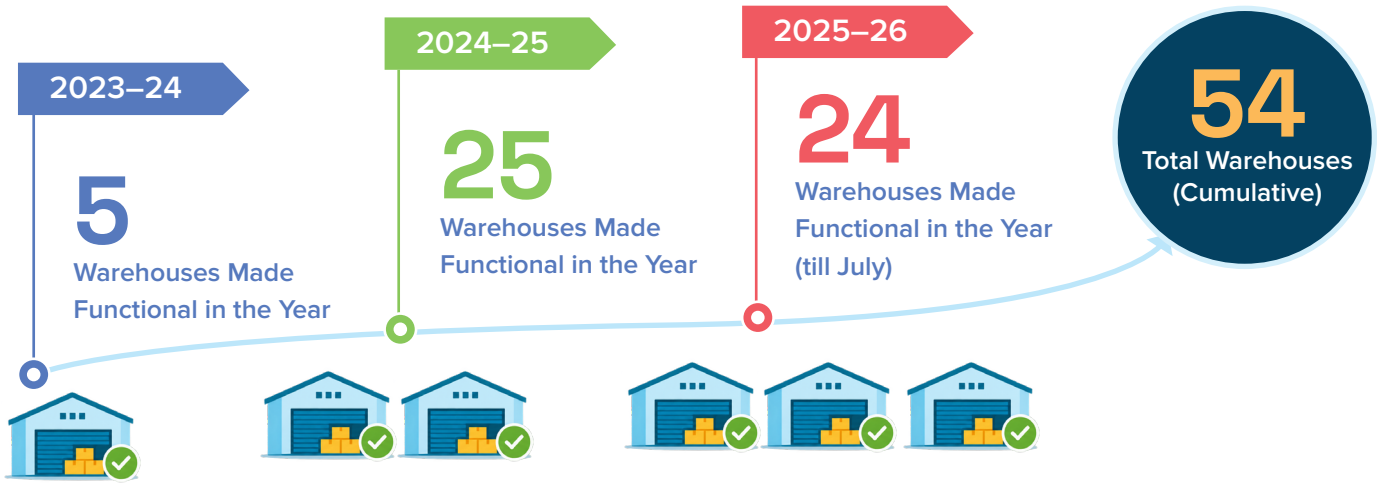
2025–2026



Operational Expansion and Priority District Coverage

24 more warehouses were completed, increasing the number of operational warehouses to 54. These facilities, located in high-priority districts, functioned as regional distribution hubs, ultimately strengthening the last-mile availability of essential medicines. The remaining 21 warehouses are progressing steadily through various stages; some are in the planning phase for handover; several are nearing construction completion.

Year-wise Progress in Operationalisation of Permanent Drug Warehouses in Uttar Pradesh



Impact

1. **Improved Storage Infrastructure Boosting Drug Availability:** The expansion of warehouse space and infrastructure allowed larger volumes of drugs to be stored, enabling facilities to indent drugs in bulk, reducing repeated visits to warehouses, and ensuring steady availability at the service delivery points. As per DVDMS data, the average availability of drugs at warehouses has shown a steady year-on-year improvement, rising from 170 drugs in 2021 to 278 out of 287 (97%) in 2024 and 354 out of 394 (90%) in 2025, reflecting sustained gains in average stock levels across the state's warehousing network.
2. **Reduction in Stock-Outs, Expiries, and Wastage**: Stock-out incidence dropped from 94.4% in 2022 to 10.1% in 2025 across 75 districts due to systematic warehousing reforms. Improved storage practices and adoption of the First Expiry, First Out (FEFO) principle enabled efficient inventory management, minimising stockouts, preventing expiries, and reducing wastage while ensuring accountability and transparency.
3. **Strengthening Facility Reach Through Warehousing:** Each of the 75 district drug warehouses in Uttar Pradesh operates as a central



hub in a hub-and-spoke model, supplying drugs to over 31,885 public health facilities across the state. This network includes 107 District Hospitals, 135 Special Hospitals, 956 Community Health Centres (CHCs), 3,724 Primary Health Centres (PHCs), and 26,963 Ayushman Arogya Mandirs (AAMs), all integrated into DVDMS. On average, a single district warehouse caters to an extensive network of around 400 health facilities, underscoring the scale and reach of the warehousing system.

4. **Inter-warehouse Transfer:** An efficient inter-warehouse transfer mechanism enabled the timely redistribution of drugs from surplus warehouses to deficit warehouses, balancing inventory across districts, minimising shortages, and ensuring uninterrupted availability of essential drugs.

5. **Ensured Safety and Potency of Drugs:** With adequate warehouse space, proper security, and controlled conditions for temperature, humidity, and light, drugs are stored safely under one roof. These measures preserve potency and quality while minimising risks of degradation, contamination, or cross-mixing.

6. **Strengthened Quality Assurance through Quarantine Zones**: Dedicated quarantine zones are established in all warehouses to prevent cross-mixing and ensure that every drug batch undergoes mandatory quality testing by NABL-accredited laboratories before distribution. These zones help maintain drug safety, prevent circulation of substandard medicines, and enhance confidence in the public health supply chain.

7. **Equity in health service delivery:** The establishment of dedicated warehouses in every district has resulted in the availability and easy access to essential drugs in all parts of the state, including rural and remote areas, ensuring equitable distribution and bridging gaps in service delivery for underserved populations.

8. **Cost Efficiency:** Capital investments in warehouse infrastructure have created long-term state assets, eliminating recurring rental costs and reducing maintenance expenses due to modern, well-planned infrastructure.

9. **Capacity Building on Warehouse Management:** Training and the introduction of Warehouse Standard Operating Procedures (SOPs) have enhanced warehouse pharmacists' capacity, leading to better adherence to storage standards, improved inventory management, and safer handling of medicines. This has reduced errors, strengthened compliance, and increased the overall efficiency of warehouse operations. In addition, with UP TSU's support, guidance on maintaining a safe working environment has promoted well-organised storage and clear pathways, ensuring workplace safety and management.

Way Forward

- **Cold Chain Upgrade:** Walk-in coolers in dedicated space are being installed in all 75 warehouses to support temperature-sensitive medicines and vaccines.
- **Infrastructure Enhancement:** Standardised warehouse equipment such as heavy-duty racks, pallets, and hydraulic stackers are being provisioned.
- **Manpower Augmentation:** While pharmacists are currently deployed, additional technical and support staff are required for efficient warehouse operations.





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