

June 2026

White Paper 2026

Strengthening Pharmaceutical Cold Chain
Management in India

1st Cold Chain Community Meet (CC-CM)

Document No.:
NABCCM/WP/2026/JN1

COPYRIGHT & DISCLAIMER

Copyright © 2026

National Accreditation Body
for Cold Chain Management
(NAB-CCM)

All rights reserved.

This White Paper represents the recommendations emerging from discussions held during the 1st Cold Chain Community Meet (CC-CM).

The publication is intended to facilitate dialogue, capacity building and continuous improvement in pharmaceutical cold chain management.

No part of this publication may be reproduced, stored or transmitted in any form without acknowledging NAB-CCM as the source.

TABLE OF CONTENTS

Foreword	4
Executive Summary	5
About NAB-CCM	6
About CC-CM	7
Current Challenges	8
Recommendations	9
Manufacturer Accountability	10
Training & Capacity Building	11
Certification Framework	12
Roadmap	13
Conclusion	14
Acknowledgements	15
Photo Gallery.....	16



FOREWORD

The integrity of temperature-sensitive pharmaceutical products is fundamental to patient safety and public health. As India continues to strengthen its healthcare infrastructure and pharmaceutical supply chain, ensuring proper storage, transportation, monitoring and handling of medicines and vaccines has become increasingly important.

The 1st Cold Chain Community Meet (CC-CM) was organized as a collaborative platform bringing together regulators, pharmaceutical manufacturers, logistics providers, healthcare institutions, academia, industry associations and cold chain experts to deliberate on key challenges and opportunities within the pharmaceutical cold chain ecosystem.

The recommendations contained in this White Paper represent the collective insights and consensus of stakeholders committed to strengthening pharmaceutical cold chain management practices across India.

NAB-CCM remains dedicated to supporting industry, regulators and healthcare institutions through training, certification, awareness creation and standardization initiatives.

Sarvesh Chaubey

Founder - National Accreditation Body for Cold Chain Management (NAB-CCM)

Executive Summary.

Temperature-sensitive pharmaceutical products including vaccines, biologics, insulin, specialty drugs, blood products and other critical healthcare products require strict adherence to prescribed storage and transportation conditions throughout their lifecycle.

Despite significant progress in pharmaceutical distribution practices, gaps continue to exist in storage compliance, workforce competency, vendor qualification, hospital handling practices and monitoring of cold chain operations across the supply chain.

Recognizing these challenges, the 1st Cold Chain Community Meet (CC-CM) convened industry stakeholders to discuss opportunities for strengthening India's pharmaceutical cold chain framework.

The discussions resulted in recommendations focused on:

- Regulatory improvements
- Manufacturer accountability
- Vendor qualification and certification
- Workforce training and competency development across all stakeholders
- Hospital and retail compliance
- End-to-end audit and certification frameworks
- Strengthening Good Storage and Distribution Practices (GSDP)

This White Paper presents the collective recommendations emerging from the discussions and serves as a roadmap for future industry and regulatory action.



About NAB-CCM

The National Accreditation Body for Cold Chain Management (NAB-CCM) is dedicated to advancing excellence in cold chain management through training, certification, accreditation, research, stakeholder engagement and industry collaboration.

NAB-CCM works closely with industry, academia, government agencies, healthcare institutions and solution providers to establish best practices and improve standards across cold chain sectors.

Its mission is to promote quality, compliance and patient safety through competency development and standardization initiatives.

About the Cold Chain Community Meet (CC-CM).

The Cold Chain Community Meet (CC-CM) serves as a knowledge-sharing and stakeholder engagement platform focused on advancing cold chain practices across healthcare, pharmaceuticals, food and allied sectors.

The 1st edition of CC-CM brought together representatives from:

- Regulatory authorities
- Pharmaceutical manufacturers
- Healthcare institutions
- Logistics and warehousing providers
- Technology solution providers
- Academic institutions
- Industry associations
- Cold chain professionals

The event facilitated meaningful discussions aimed at identifying practical solutions to current industry challenges and strengthening pharmaceutical cold chain governance.

Current Challenges in Pharmaceutical Cold Chain Management

The participants identified several key challenges currently affecting the pharmaceutical cold chain ecosystem:

Challenge 1

Inconsistent storage practices across supply chain stakeholders.

Challenge 2

Limited awareness among frontline handlers, pharmacists and retail personnel.

Challenge 3

Lack of standardized competency assessment mechanisms.

Challenge 4

Variability in monitoring and reporting of temperature excursions.

Challenge 5

Inadequate qualification and validation of service providers.

Challenge 6

Limited oversight of storage practices at retail and hospital levels.

Challenge 7

Absence of standardized certification frameworks covering the entire cold chain ecosystem.

Challenge 8

Challenges in maintaining end-to-end product integrity throughout distribution.

Addressing these challenges requires coordinated efforts among regulators, industry, academia and service providers.

Key Recommendations and Consensus Points

Recommendations

The revised guidelines should include the storage and distribution guidelines that would be practical, simplified and easily implementable across organizations of varying sizes and capabilities.

The stakeholders may consider developing a comprehensive good storage and distribution practices guidelines similar to the existing 2024 draft guidelines which should focus on storage and transportation at every level in the supply chain ecosystem, like drivers, logistic providers, warehouse personnel, wholesalers, retailers, healthcare practitioners, care givers and patients etc.

Greater emphasis should be placed on Good Storage and Distribution Practices (GSDP), recognizing storage as a critical determinant of product quality and patient safety.

Dedicated implementation guidance documents and brochures should accompany future guideline revisions.

The feasibility of introducing temperature excursion indicators, labels or color-coded systems on cold chain products should be evaluated.

Defined Goods Receipt Note (GRN) procedures should be incorporated to verify product receipt within prescribed temperature conditions.

Manufacturer Accountability

Manufacturers should remain accountable for maintaining prescribed temperature conditions throughout the supply chain until products reach the end user.

Manufacturers should engage only qualified and validated transporters, warehouses and service providers capable of handling temperature-sensitive products.

Manufacturers should establish and communicate clear monitoring, detection, reporting and escalation protocols for temperature excursions.

Manufacturers should implement end-to-end product lifecycle management systems to ensure product integrity throughout storage and distribution.

Monitoring of Vendor Validation should be conducted periodically and corrective actions should be implemented in a timely manner.

Training and Capacity Building

NAB-CCM in collaboration with Industry and Academia to create structured awareness and competency development programs for pharmacists, hospital personnel, retail staff and frontline handlers.

Dr. DY Patil University (School of Pharmacy) to extend technical support to NAB-CCM in developing and delivering structured training and certification programs, through its institutional collaboration mechanism or various Teachers Associations e.g. APTI

NAB-CCM should initiate a Train-the-Trainer (TTT) program to accelerate awareness and capability building across the country.

NAB-CCM may collaborate with AIOCD and State Pharmacy Councils to strengthen pharmacist competency in cold chain management.

Regulatory Authorities may facilitate engagement with industry associations such as IDMA to support broader adoption of training and certification initiatives.

NAB-CCM to conduct structured physical training programs across the country

Certification and Compliance Framework

NAB-CCM should establish a vendor certification framework aligned with GSDP principles to assist manufacturers in identifying qualified service providers.

A standardized end-to-end certification and audit framework should be developed covering manufacturers, transporters, warehouses, wholesalers, retailers, hospitals and cold chain solution providers.

NAB-CCM should constitute a multi-stakeholder expert committee to periodically review and strengthen cold chain guidelines and certification frameworks.

A mandatory certification or licensing mechanism may be considered for retail and wholesale pharmaceutical establishments and responsible personnel handling temperature-sensitive medicinal products.

Regular monitoring, assessment and audits of hospital pharmacy storage facilities should be established to ensure compliance with storage and temperature control requirements.

Proposed Roadmap

To achieve sustainable improvements in pharmaceutical cold chain management, stakeholders may consider a phased implementation roadmap:

Phase 1

Awareness, training, competency development and guideline simplification.

Phase 2

Vendor qualification, certification programs and implementation of standardized monitoring procedures.

Phase 3

Industry-wide adoption of certification frameworks, audit systems and enhanced compliance requirements.

Phase 4

Continuous improvement through periodic reviews, regulatory updates and technology-driven monitoring solutions.

Conclusion

The pharmaceutical cold chain is a critical component of healthcare delivery and patient safety.

Ensuring the quality and efficacy of temperature-sensitive medicines requires coordinated action across the entire supply chain.

The recommendations emerging from the 1st Cold Chain Community Meet provide a practical framework for strengthening governance, enhancing compliance, improving workforce competency and promoting end-to-end accountability.

NAB-CCM remains committed to supporting these objectives through training, certification, stakeholder engagement, research and collaboration with regulators, academia and industry partners.

Together, these efforts can contribute significantly to building a safer, more reliable and globally benchmarked pharmaceutical cold chain ecosystem for India.

Acknowledgements

NAB-CCM extends its sincere appreciation to all delegates, regulators, industry leaders, academicians, healthcare professionals, logistics providers and technology partners who contributed to the success of the 1st Cold Chain Community Meet (CC-CM).

Special thanks are extended to [Dr. Santosh Indraksha – Deputy Drug Controller CDSCO Mumbai, Dr. D Y Patil University \(School of Pharmacy\)](#), industry associations, sponsors and all participating organizations for their valuable support and contributions.

Issued By:

National Accreditation Body for Cold Chain Management (NAB-CCM)

Date of Release: June 2026

Document Type: White Paper

Title: Strengthening Pharmaceutical Cold Chain Management in India -
Recommendations Emerging from the 1st Cold Chain Community Meet (CC-CM)

Photo Gallery.





NAB-CCM

National Accreditation Body for Cold Chain
Management

Strengthening
Pharmaceutical Cold Chain
Management in India