

Salient Strengths and Areas for Improvement: KAIMUR

Criteria	Strength	Areas for Improvement
E2: Temperature	<ul style="list-style-type: none"> Working thermometer was found in all equipment of the facilities. Temperature log book found at most of the sites. Good knowledge about temperature record, freeze sensitive vaccine, and heat sensitive vaccine. 	<ul style="list-style-type: none"> Cold chain handler (CCH) not able to read thermometer properly in some facilities. Temperature log book not regularly reviewed by Medical Officer-in-Charge (MoIC)/District Immunisation Officer (DIO)/any other district official. No mention of remarks such as power failure, defrosting, make and model number of cold chain equipment.
E3: Storage Capacity	<ul style="list-style-type: none"> All antigens stored in ice lined refrigerator (ILR). Staff knowledge about emergency vaccine management found satisfactory. 	<ul style="list-style-type: none"> As per target population vaccine storage capacity in ILR found inadequate in most of the sites. Vaccine not stored in proper ILR baskets. Proper stocking of vaccine in ILR not as per standard operating procedure (SOP). Vaccine contingency plan not highlighted as per SOP. No dedicated dry space.
E4: Buildings, equipment, transport	<ul style="list-style-type: none"> Cold chain equipment (CCE) found functional in existing buildings and well protected from rainwater. Floor dry and reasonably levelled. 	<ul style="list-style-type: none"> Buildings in majority lack minimum required standards such as ventilation, cleanliness, safety, free from cracks, seepage, and safe electrical wiring. Many repairable CCE and condemned equipment found at some sites. No space for passive containers. Regular preventive maintenance plan of buildings and fire extinguisher not found. Vehicle user manual followed but log book not updated. Functional voltage stabilizers not found in some of the stores. Telecommunication links not functional in some sites.
E5: Maintenance	<ul style="list-style-type: none"> Visual evidence of maintenance of building found at some sites. Defrosting of ILR found at most sites. 	<ul style="list-style-type: none"> Planned preventive maintenance of building and equipment not found. No dedicated person assigned to carry out routine maintenance. No written planned overhaul programme for vehicles. Vehicles not maintained in accordance with manufacturers service manual.
E6: Stock Management	<ul style="list-style-type: none"> Ice pack conditioning done during vaccine transportation. Record of all antigens and diluents found in stock register. Name of vaccine manufacturer, batch number, expiry date of antigens found in some sites. 	<ul style="list-style-type: none"> Though computerized stock control system is installed at district vaccine store (DVS), stock management is not up to date, no anti-virus, and vaccine presentation (vial size) is available. No regular data backup practice being followed. Challan book is not used for every transaction. No pre-delivery, or pre-collection, notification system in place. Completed arrival voucher not found for every delivery.

		<ul style="list-style-type: none"> Physical count of vaccine and diluent does not match with stock register at most of the sites.
E7: Distribution	<ul style="list-style-type: none"> Effective vaccine distribution plan exists for health facilities. Health facilities distributing vaccines to session sites through alternate vaccine delivery (AVD) mechanism. Frozen, expired, and damaged vaccines not found at most of the sites. 	<ul style="list-style-type: none"> No effective vaccine distribution plan exists at DVS and above. No specific dates for delivery and collection of vaccines. Number of short shipments for different antigens and different timings. No accurate knowledge of cold box packing. Open vials not labeled properly at most places. No concept of vaccine arrival checks and notification Vaccine supply often influenced by quantity in stock rather than planning. Haphazard vaccine supply and distribution system.
E8: Vaccine management	<ul style="list-style-type: none"> Good knowledge about vaccine vial monitor (VVM). Utilization of diluent and vaccine from same manufacturer being practiced. Safety pit found in almost all sites. VVM found in stage 1 at most of the sites. 	<ul style="list-style-type: none"> Poor knowledge and practice of shake test. Though multi dose vial policy (MDVP) is implemented, no record in stock register, no record of vaccine wastage at any level. Knowledge about MDVP is poor. Poor supportive supervision for RI and cold chain. Poor immunization waste management.
E9: MIS, Supportive functions	<ul style="list-style-type: none"> RI micro plan, analysis of vaccine utilization and wastage rate is used for vaccine forecasting. SOP manuals found satisfactory and guidance in the SOPs follow World Health Organization (WHO) recommendations. 	<ul style="list-style-type: none"> Vaccine distribution route and job aids not exhibited in most of the facilities. CCE inventory is not satisfactory.

Salient Recommendations: KAIMUR

Area	Recommendations
Management Policy	<ul style="list-style-type: none"> Bihar vaccine and logistics management system (BVLMS) should be scaled up. Regular on the job training or refresher training for stock management and stock update. Utilization of BVLMS dashboard for vaccine and logistic distribution. Vaccine notification system should be implemented. Utilization of effective vaccine management (EVM) dashboard for evidence based decision regarding vaccine and logistics management. Strict adherence to immunization SOPs. MDVP implementation as per guideline. Budgetary provision for vaccine logistics manager at regional and district level and for loading and unloading of vaccine at all levels.
Human Resource	<ul style="list-style-type: none"> Dedicated and well recognized (ANM/MPW/pharmacist) and cold chain handler (CCH) must be in place. Each district should have dedicated full time cold chain technician (CCT). Each district should have dedicated full time DIO. Vaccine logistics manager must be placed at regional and district level. Recognized staff for loading and unloading of vaccine.
Infrastructure	<ul style="list-style-type: none"> Dedicated dry store to be developed in all cold chain stores. Renovation of all building to meet required standards such as ventilation, cleanliness, safety, free from cracks and safe electrical wiring. Area to be marked for loading and unloading of vaccine under shade. Adequate hand washing facilities must be provided. Dry store and cold store must be under one roof and preferably on ground floor.
Equipment	<ul style="list-style-type: none"> Additional ILR and deep freezer (DF) must be supplied at all levels to meet the storage capacity. All CCE must be attached to functional voltage stabilizer. All vaccine stores must have a standby generator. All CCE should have functional thermometer/data logger. Each vaccine store should have tool kit and vaccine float assembly. Ensure equipment is placed on wooden frame. Speedy disposal of condemned equipment as per government of India (GoI) guideline.
Planning & Documentation	<ul style="list-style-type: none"> Plan preventive maintenance of building and vehicles. Separate temperature log book for every equipment, generator log book and vehicle log book to be maintained at all sites. Effective vaccine distribution plan must be developed and used. Location of vaccine displayed at equipment and in register. Maximum- minimum inventory control mechanism for vaccine logistic management. Earliest-expiry-first-out (EEFO)/First-in-first-out (FIFO) practice for vaccine distribution. BVLMS must be update regularly. National cold chain management information system (NCCMIS) must be updated regularly.
Capacity Building	<ul style="list-style-type: none"> Refresher training on RI and CC of all DIO, Medical Officer (MO), Health Worker (HW) and CCH (Pentavalent, MDVP, Shake test etc.). Capacity building of data entry operators in BVLMS, NCCMIS, Health management information system (HMIS) and Mother and child tracking system (MCTS).

	<ul style="list-style-type: none"> • Capacity building of DIOs and MOs in using Immunization data for action. • Regular refresher training of CCTs. • Capacity building of state/regional/district/block level official for supportive supervision of RI.
Improvement in practice	<ul style="list-style-type: none"> • Strengthened sector meetings (weekly) and monthly meeting at block and district level specifically for routine immunization. • Regular quarterly meeting for RI at divisional and state level. • Knowledge and practice of shake test, conditioning of ice pack, packing of cold box, use of thermometer and MDVP. • Regular defrosting and physical verification of stock. • Efficient use of vaccine to minimize wastage. • Use of challan for vaccine distribution and vouchers for issue of vaccine. • Development and display of standard vaccine emergency preparedness plan. • Display of current vaccine stock position at all sites. • Regular preventive maintenance of all CCE, building and vehicles. • Improve immunization waste management practices.
Supportive Supervision	<ul style="list-style-type: none"> • Development of supportive supervision micro plan including monitoring matrix at all levels. • Recognition of supervisors for supportive supervision at all levels. • Mobility support to supervisor. • Monitor coverage of RI using coverage monitoring chart. • Use of android based technologies for supportive supervision. • Use of NCCMIS, BVLMS, EVM and supportive supervision dashboard for evidence based decisions and prioritization. • Involvement of development partners and medical college faculties for supportive supervision.