Salient Strengths and Areas for Improvement: BEGUSARAI

Criteria	Strengths	Areas for Improvement
E2: Temperature	• Good knowledge about temperature record, freeze sensitive vaccine, heat sensitive vaccine. • Temperature logbook found at most of the sites.	• Working thermometer is not found in each and every equipment. • 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	• All antigens stored in ice lined refrigerator (ILR). • Staff knowledge about emergency vaccine found satisfactory.	• As per target population, vaccine storage capacity in ILR found inadequate in most of the sites. • Vaccine not stored in proper ILR baskets. • Vaccine contingency plans not highlighted as per standard operating procedure (SOP). • No dedicated dry space. • Knowledge about stocking of vaccine in ILR is not good.
E4: Buildings, equipment, transport	• Cold chain equipment (CCE) found functional in existing buildings, well protected from rain water. • Floors dry and reasonably levelled.	• Buildings in majority lack minimum required standards such as ventilation, cleanliness, safety, free from cracks, seepages and safe electrical wiring. • Cold chain equipment and condemned equipment found at most of the sites. • No space for passive containers. • Regular preventive maintenance plans of buildings and fire extinguisher not found. • Vehicle user manual is not followed and vehicle log book is not updated. • Generator backup not found in some stores. • No sufficient reserve supply of fuel for generator. • Functional voltage stabilizer is not found in most of the stores. • Telecommunication is not functional at most of the sites.
E5: Maintenance	• Visual evidence of maintenance is found at some sites. • Defrosting of ILR found at most sites.	• Planned preventive maintenance of buildings and equipment are not found. • No dedicated persons assigned to carry out routine maintenance. • No written planned overhaul programme. • Vehicles not maintained in accordance with the manufacturer's service manual.
E6: Stock Management	• Ice pack conditioning done during vaccine transportation. • Record of antigens and diluents	• Though computerized stock control system is installed at district vaccine store (DVS), stock management is not up to date, no antivirus,

	are found in all stock register. • Name of vaccine manufacturers, batch number, and expiry dates of antigens is found in most sites. • Vaccine vial monitor (VVM) status is taken into consideration for effective management system.	and vaccine presentation (vial size) is available. • No regular data backup practice being followed. • Challan book is not used for every transaction. • No effective pre-delivery or pre- collection, notification system in place. • Completed arrival voucher not found for any delivery. • Physical count of vaccines and diluents are not matched with the register in most of the sites.
E7: Distribution	• Effective vaccine distribution plan exists in health facility. • Health facilities distributing vaccines to session site through alternate vaccine delivery (AVD) mechanism. • Frozen and damaged vaccines are not found most of the sites.	• No effective vaccine distribution plans exists at DVS and above. • No specific dates of vaccines delivery or collection. • 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 and notifications. • Vaccine supply often influenced by quantity rather than planning. • Haphazard vaccine supply and distribution system.
E8: Vaccine management	• Good knowledge about VVM. • Utilization of diluent and vaccines of the same manufactures being practiced. • Safety pit found in almost all sites. • VVM found in stage 1 at most sites. • Multi dose vial policy (MDVP) practiced as per the guidelines at most sites.	• Poor knowledge and practice of shake test. • No record of vaccine wastage at any level. • Knowledge of MDVP is poor. • Poor supportive supervision for RI and cold chain. • Poor immunization waste management.
E9: MIS, Supportive functions	• 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 Organisation (WHO) recommendations.	• Vaccine distribution route and job aids not exhibited in most of the facilities. • Cold chain equipment inventory is not satisfactory.

Salient Recommendations: BEGUSARAI

Areas	Recommendations
Management policy	• 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. • Strict adherence to immunization SOPs. • Vaccine notification system should be implemented. • Utilization of effective vaccine management (EVM) dashboard for evidence based decision regarding vaccine and logistics management. • MDVP implementation as per guidelines. • Budgetary provisions for vaccine logistics manager at region and district for loading and unloading of vaccines at all levels.
Human resource	• Dedicated and well recognized ANM/MPW/pharmacists /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 logistic manager must be place at regional level. • Recognized staff for loading and unloading of vaccines.
Infrastructure	• Dedicated dry store to be developed in all cold chain stores. • Renovation of buildings to meet required standards such as ventilations, cleanliness, safety, free from cracks ad safe electrical wiring. • Area to be marked for loading and unloading of vaccines under any shades. • Adequate hand washing facilities should be provided. • Dry store and cold store must be under one roof preferably on ground floor.
Equipment	• Additional ILR and deep freezer must be supplied at all levels to meet the storage capacity. • All cold chain equipment must be attached to functional voltage stabilizer. • All vaccine stores must have a standby generator. • All cold chain equipment should have functional thermometer/data logger. • Written plan for preventive maintenance at all levels. • Each vaccine store should have tool kit and vaccine float assembly. • Ensure cold chain equipment is placed on wooden frame. • Speedy disposal of condemned equipment as per government of India (GoI) guidelines.
Planning and documentation	• Plan preventive maintenance of buildings, equipment, and vehicles. • Separate temperature log book, generator log book, vehicle log book should be maintained at all sites. • Effective vaccines distribution plan must be developed and used at every site. • Location of vaccines must be 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 updated regularly. • National cold chain management information system (NCCMIS) must be updated regularly.

Capacity building	• 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). • Capacity building of DIO and medical officers in using immunization data for action. • Regular refreshments training of CCTs. • Capacity building of state, regional and block level officials for supportive supervision.
Improvement in practice	• Strengthen sector (weekly) meetings and monthly meetings at block and district level especially routine immunization. • Regular and quarterly meeting of RI at divisional and state level. • Knowledge and practice of shake test, conditioning of ice pack and packing cold box, use of thermometers and mdvp (multi dose vial policy). • Regular defrosting and physical verification of stock. • Efficient use of vaccines to minimize wastage. • Use of challan for vaccine distribution and vouchers for issue of vaccines. • Development and display of standard vaccine emergency preparedness plan. • Display of current vaccine stock position at all sites. • Regular preventive maintenance of all cold chain equipment, buildings and vehicles. • Improve immunization waste management practices.
Supportive supervision	• Development of supportive supervision micro plans 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 technology 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.