

Salient Strengths and Areas for Improvement: PATNA

	Strengths	Areas for Improvement
E2: Temperature	<ul style="list-style-type: none"> Good knowledge about temperature record, freeze sensitive vaccine, heat sensitive vaccine. Temperature log book found at most of the sites. Cold chain handler able to read thermometers. Working thermometer is found at most sites. 	<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 Immunization Officer (DIO)/any other district officer. 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). Knowledge about stocking of vaccine is found good. Ice pack freezing capacity is found to be good. Staff knowledge about emergency vaccine management found satisfactory. 	<ul style="list-style-type: none"> As per the target population, vaccine storage capacity in ILR found inadequate in most of the sites. Vaccine not stored in proper ILR baskets. No vaccine contingency plan as per SOP. No dedicated dry space.
E4: Buildings, equipment, transport	<ul style="list-style-type: none"> Cold chain equipment found functional in existing buildings, well protected from rain water. All floors dry and reasonably levelled. Electrical wiring is satisfactory at most sites. 	<ul style="list-style-type: none"> Buildings in majority lack minimum required standards such as ventilation, cleanliness, safety, free from cracks, and seepage. Many repairable cold chain equipment and condemned equipment found at most of the sites. No space for passive containers. Regular preventive maintenance plan of buildings and fire extinguisher not found. Vehicle user manual not followed, vehicle logbook is not updated. Generator back up is not found in some store and no sufficient reserve supply for generator. Functional voltage stabilizer not found in most of the stores. Telecommunication link is not functional in most of sites.
E5: Maintenance	<ul style="list-style-type: none"> Visual evidence of maintenance of buildings found at some sites. Defrosting of ILR found in most sites 	<ul style="list-style-type: none"> Planned preventive maintenance of buildings and equipment not found. No dedicated person assigned to carry out routine maintenance. No written planned overhaul programme for vehicle. Vehicles not maintained in accordance with the manufacturers service manual.
E6: Stock Management	<ul style="list-style-type: none"> Ice pack conditioning done during vaccine transportation. Record of the antigens and diluent 	<ul style="list-style-type: none"> Though computerized stock control system is installed at DVS, no antivirus, vaccine presentation (vail size) is available.

	<p>found in all stock registers.</p> <ul style="list-style-type: none"> • Name of vaccine manufacturers, batch number, expiry dates, antigens found in most sites. • Computerized stock control system is found in DVS Patna. • Vaccine vial monitor (VVM) status taken into consideration for effective stock management. 	<ul style="list-style-type: none"> • No regular data backup practice being followed. • Challan book is not used for every transaction. • No effective pre-delivery, pre-collection, notification system in place. • Completed arrival voucher not found for any vaccine delivery. • Physical count of vaccines and diluents does not match with the register.
E7: Distribution	<ul style="list-style-type: none"> • Effective vaccine distribution plan exists in health facilities. • Health facilities distributing vaccines to session site alternate vaccine delivery (AVD) mechanism. • Frozen, expired and damaged vaccine not found at most of sites. 	<ul style="list-style-type: none"> • No effective vaccine distribution plan exists at district vaccine store (DVS) and above. • No specific dates of vaccines delivery and collection. • Number of short shipments for different antigens and different timing. • No accurate knowledge of cold box packing. • Open vials not labeled properly at most of the 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 VVM. • Utilization of diluents and vaccines of the same manufacturers 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 records found in stock registers, no records of vaccine wastage at any level. • Knowledge about MDVP is poor. • Poor supportive supervision for routine immunization (RI) and cold chain. • Poor immunization waste management.
E9: MIS, supportive functions	<ul style="list-style-type: none"> • RI microplan, analysis of vaccine utilization and wastage rate is used for vaccine forecasting. • SOP manual found satisfactory and guidance in the SOPs follows World Health Organization (WHO) recommendation. 	<ul style="list-style-type: none"> • Vaccine distribution routes and job aids not posted in most of the sites. • Cold chain equipment inventory not satisfactory.

Salient Recommendations: PATNA

Areas	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 logistics distribution. • Vaccine notification system should be implemented. • Utilization of effective vaccine management (EVM) dashboard for evidence regarding vaccine and logistics management. • Strict adherence to immunization SOPs. • MDVP implementation as per guidelines. • Budgetary provision for vaccine and logistics managers and loading and unloading of vaccine at all level.
Human resource	<ul style="list-style-type: none"> • Dedicated and recognized (ANM/MPW/Pharmacist) cold chain handler (CCH) should be in place. • Each district should have dedicated full time cold chain technician (CCT). • Each district should have dedicated full time DIO. • Vaccines, logistic manager must be placed at regional and district level. • Recognized staff for loading and unloading of vaccines.
Infrastructure	<ul style="list-style-type: none"> • Dedicated dry store to be developed in all the cold chain stores. • Renovation of buildings to meet required standards such as ventilation, cleanliness, safety, free from cracks and safe electrical wirings. • Area to be marked for loading and unloading of vaccine under the shade. • Adequate hand washing facilities must be provided. • Dry store and cold store must be under one roof preferably on ground floor. • Separate RVS is required at Patna.
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 cold chain equipment must be attached to functional voltage stabilizer. • All vaccines stores must have a standby generator. • Each CCE should have functional thermometer and data logger. • Each vaccine store should have tool kit and float assembly. • Ensure cold chain equipment placed on wooden frame. • Speedy disposal of condemned equipment as per Government of India (GoI) guidelines.
Planning and documentation	<ul style="list-style-type: none"> • Planned preventive maintenance of buildings, equipment and vehicles. • Separate temperature log book for every equipment, separate vehicle logbook and generator logbook maintained at all sites. • Effective vaccine distribution plan must be developed and used at every site. • Location of vaccine displayed at equipment and in register. • Maximum –minimum inventory control mechanism must for vaccine and logistics 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 cold chain of all DIO, MO, HW and cold chain handler (CCH) (Pentavalent, MDVP, shake test etc.). • Capacity building of data entry operators in BVLMS, NCCMIS, HMIS and MCTS. • Capacity building of DIO and medical officers in “using immunization data correction”. • Regular refresher training of CCT. • Capacity building of state, regional, district and block level officials for supportive supervision.
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 for 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 vehicle. • Improved immunization waste management practices.
Supporting supervision	<ul style="list-style-type: none"> • Development of supportive supervision micro plan including monitoring matrix at all level. • 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 decision and prioritization. • Involvement of development partners and medical college faculties for supportive supervision.