Salient Strengths and Areas for Improvement: ARWAL

Criteria	Strength	Areas for Improvement
E2: Temperature	• Good knowledge about temperature record, freeze sensitive vaccine, and heat sensitive vaccine. • Working thermometer was found in all equipment of the facilities. • Temperature logbook found at most sites.	• Cold chain handler (CCH) not able to read thermometer properly in some facilities. • Temperature logbook not regularly reviewed by Medical Officer-in-Charge (MoIC)/District Immunisation Officer (DIO)/any other district official. • No mentions of remarks such as power failure, defrosting, make and model number of cold chain equipment (CCE).
E3: Storage Capacity	• All antigens stored in ILR. • Staff knowledge about emergency vaccine management found satisfactory.	• As per target population, vaccine storage capacity in ice lined refrigerator (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	• CCE found functional in existing buildings, well protected from rainwater. • Floors dry and reasonably levelled.	• 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 logbook not updated. • Functional voltage stabilizers not found in some of the stores. • Telecommunication links not functional at some sites.
E5: Maintenance	• Visual evidence of maintenance of building found at some sites. • Defrosting of IRL found at most site.	• 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	• Ice pack conditioning done during vaccine transportation. • Record of all antigens and diluents found in stock register. • Name of vaccine	• 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). • No regular data backup practice being followed. • Challan book is not used for every transaction. • No pre-delivery, or pre-collection, notification system in

	manufacturer, batch number, expiry date of antigens found in some sites.	place. • Completed arrival voucher not found for every delivery. • Physical count of vaccine and diluent does not match with stock register at most of the sites.
E7: Distribution	• Effective vaccine distribution plan exists for health facilities. • Health facilities distributing vaccines to session sites through AVD mechanism. • Frozen, expired, and damaged vaccines not found at most of the sites.	• 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	• 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 I at most of the sites.	• Poor knowledge and practice of shake test. • Though multi dose vial policy (MDVP) is implemented, no records found in stock register, no record of vaccine wastage at any level. • Knowledge about MDVP is poor. • Poor supportive supervision for routine immunisation (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. • Standard operating procedure (SOP) manuals found satisfactory and guidance in in the SOPs follow World Health Organization (WHO) recommendations.	• Vaccine distribution route and job aids not exhibited in most of the facilities. • CCE inventory not satisfactory.

Salient Recommendations: ARWAL

Area	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. • Vaccine notification system should be implemented. • Utilization of effective vaccine management (EVM) dashboard for evidence based decisions regarding vaccine and logistics management. • Utilization of BVLMS dashboard for vaccine and logistics distribution. • 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	• Dedicated and well recognized (ANM/MPW/Pharmacist) Cold chain handler (CCH) must be in place. • Each district should have dedicated full time CCT. • Each district should have dedicated full time DIO. • Vaccine logistic manager must be placed at regional and district level. • Recognized staff for loading and unloading of vaccine.
Infrastructure	• Dedicated dry store to be developed in all vaccine 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 vaccines 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	• 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 stand-by generator. • All CCE should have functional thermometer/data logger. • Each vaccine store should have tool kit and vaccine float assembly. • Ensure levelling and placement of equipment on wooden platform. • Speedy disposal of condemned equipment as per government of India (GoI) guidelines.
Planning and Documentation	• Planned preventive maintenance of buildings, equipment, and vehicles. • Separate temperature log book for every equipment, generator log book, and vehicle log book 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) practiced 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 child tracking system (MCTS). • Capacity building of DIO and MO 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	• Strengthened sector (weekly) meetings and monthly meetings at block and district level specifically for routine immunization (RI). • Regular quarterly meetings 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 vaccine of standard vaccine emergency preparedness plan. • Display of current vaccine stock position at all sites. • Regular preventive maintenance of all CCE, Buildings, and Vehicles. • Improved immunization waste management practices.
Supportive supervision	• 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 decisions and prioritization. • Involvement of development partners and medical college faculties for supportive supervision.