

## Salient Strengths and Areas for Improvement: BHAGALPUR

Criteria	Strengths	Areas for Improvement
<b>E2: Temperature</b>	<ul style="list-style-type: none"> <li>• Good knowledge about temperature record, freeze sensitive vaccine, and heat sensitive vaccine.</li> <li>• Temperature log book found at most of the sites.</li> </ul>	<ul style="list-style-type: none"> <li>• Working thermometer is not found in each and every equipment.</li> <li>• Cold chain handler (CCH) not able to read thermometer at some facilities.</li> <li>• Temperature log book not regularly reviewed by Medical Officer-in-Charge (MoIC)/District Immunisation Officer (DIO)/any other district official.</li> <li>• No mention of remarks such as power failure, defrosting, make and model number of cold chain equipment.</li> </ul>
<b>E3: Storage Capacity</b>	<ul style="list-style-type: none"> <li>• All antigens stored in ice lined refrigerator (ILR).</li> <li>• Staff knowledge about emergency vaccine management found satisfactory.</li> </ul>	<ul style="list-style-type: none"> <li>• As per target population, vaccine storage capacity ice lined refrigerator (ILR) found inadequate in most of the site.</li> <li>• Vaccine not stored in proper ILR baskets.</li> <li>• Proper stocking of vaccine in ILR not as per standard operating procedure (SOP).</li> <li>• Vaccine contingency plan not highlighted as per SOP.</li> <li>• No dedicated dry space.</li> </ul>
<b>E4: Building, equipment, transport</b>	<ul style="list-style-type: none"> <li>• Cold Chain equipment found functional in existing building, well protected from rain water.</li> <li>• Floors dry and reasonably levelled.</li> </ul>	<ul style="list-style-type: none"> <li>• Building in majority lacks minimum required standards such as ventilation, cleanliness, safety, free from cracks, seepage, and safe electrical wiring.</li> <li>• Many repairable CCEs and condemned equipment found at all of the sites.</li> <li>• No space for passive containers.</li> <li>• Regular preventive maintenance plan of building and fire extinguisher not found.</li> <li>• Job aids not found in the cold chain store.</li> <li>• Vehicle user manual not followed and vehicle logbook not updated.</li> <li>• Generator backup not found in some stores; stand by generator under-utilized in some store; no sufficient fuel supplies for generator.</li> <li>• Functional voltage stabilizer not found in most of the stores.</li> <li>• Telecommunication link not functional at most of the sites.</li> </ul>
<b>E5: Maintenance</b>	<ul style="list-style-type: none"> <li>• Visual evidence of maintenance of building found at some sites.</li> <li>• Defrosting of ILR found at most sites.</li> </ul>	<ul style="list-style-type: none"> <li>• Planned preventive maintenance of building and equipment not found.</li> <li>• No dedicated person assigned to carry out routine maintenance.</li> <li>• No written planned overhaul programme for</li> </ul>

		<p>vehicle.</p> <ul style="list-style-type: none"> <li>Vehicles not maintained in accordance with the manufacturer's service manual.</li> </ul>
<b>E6: Stock management</b>	<ul style="list-style-type: none"> <li>Ice pack conditioning done during vaccine transportation.</li> <li>Record of all antigens and diluents found in stock register.</li> <li>Name of vaccine manufacturer, batch number, expiry date of antigens found in some site.</li> </ul>	<ul style="list-style-type: none"> <li>Vaccine Stock management system is not up to date.</li> <li>Challan book is not used for every transaction.</li> <li>No effective pre-delivery, or pre-collection, notification system in place.</li> <li>Completed arrival voucher not found for every delivery</li> <li>Physical count of vaccine and diluents does not match with stock register at most of the site.</li> </ul>
<b>E7: Distribution</b>	<ul style="list-style-type: none"> <li>Effective vaccine distribution plan exists in health facilities.</li> <li>Health facilities distributing vaccines to session site through alternate vaccine delivery (AVD) mechanism.</li> <li>Free zed, expired and damaged vaccine not found at most of the sites.</li> </ul>	<ul style="list-style-type: none"> <li>No effective vaccine distribution plan exists at district vaccine store (DVS) and above.</li> <li>No specific dates for delivery and collection of vaccine.</li> <li>Number of short shipments for different antigens and different timings.</li> <li>No accurate knowledge of cold box packing.</li> <li>Open vial not labeled properly at most places.</li> <li>No concept of arrival checks and notification.</li> <li>Vaccine supply often influenced by quantity rather than planning.</li> <li>Haphazard vaccine supplies and distribution system.</li> </ul>
<b>E8: Vaccine management</b>	<ul style="list-style-type: none"> <li>Good knowledge about vaccine vial monitor (VVM).</li> <li>Utilization of diluents and vaccine from same manufacture being practiced.</li> <li>Safety pit found in almost all sites.</li> <li>VVM found in stage 1 at most of sites.</li> </ul>	<ul style="list-style-type: none"> <li>Poor knowledge about shake test.</li> <li>Though multi dose vial policy (MDVP) is implemented, no records found in stock register, no record of vaccine wastage at any level.</li> <li>Knowledge about MDVP is poor.</li> <li>Poor supportive supervision for RI and cold chain.</li> <li>Poor immunization waste management.</li> </ul>
<b>E9: MIS, supportive Functions</b>	<ul style="list-style-type: none"> <li>RI micro plan, analysis of vaccine utilization and wastage rate is used for vaccine forecasting.</li> <li>SOP manuals found satisfactory and guidance in the SOPs follow World Health Organization (WHO) recommendations.</li> </ul>	<ul style="list-style-type: none"> <li>Vaccine distribution routes and job aids not exhibited in most of the facilities.</li> <li>Cold chain equipment inventory not satisfactory.</li> </ul>

## Salient Recommendations: BHAGALPUR

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

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