electronic Vaccine Intelligence Network (eVIN)
ITSU’s Pilot Project in Bareilly & Shahjahanpur District, Uttar Pradesh

Dr Bhrigu Kapuria
Team Lead
Vaccine Logistics & Cold Chain Management
Immunisation Technical Support Unit (ITSU)
MoHFW, GoI & PHFI
India conducts one of the largest Universal Immunization Programs (UIP) in the world

- Targets ~26 million newborns and ~30 million pregnant women each year translating into >300 million doses of vaccines each year

- There are ~27,000 cold chain points in the country; ~750 (3%) located at district and above while remaining 95% below the district level (PHC, CHC, Urban Health Facility, Sub-centers)
Current Vaccine Logistics System in the Country

Distribution of vaccines from upper nodes to the lower nodes are supplied based on any of the following:

- Monthly targets
- Stock outs
- Low stocks
- Large quantity of stocks received
- Proximity to State/District store
- Low supply from Manufacturer
- Stocks of other vaccines
Current scenario of vaccine logistic in the country

- The current vaccine logistic system in the county is highly variable from district to district.

- One of the major reasons for adhoc management at various levels of the supply chain is the limited visibility of stocks at each node - 'A coal mine effect.'

- ITSU conducted a ‘Deep Dive Study’ to understand the end-to-end issues with vaccines (with diluents and syringes) supply chain and root causes for the stock-outs.
Deep Dive Assessment

Identified major root cases:

- Lack of stock visibility
- Lack of Human Resource management
- Poor record keeping of stock and sharing across levels
Q 1
Where are my Vaccines?
Q 2
Are they adequate in quantities?
Q 3
Are they stored under recommended temperatures?
ITSU DESIGNED THE eVIN PROJECT TO ANSWER THESE FUNDAMENTAL QUESTIONS

PEOPLE + PROCESSES + PRODUCT
GUIDING PRINCIPLES OF THE PROJECT

The model should be

- Replicable
- Expandable
- Sustainable

The model will:

- Not disrupt the existing system of manual documentation but will support the system with better and uniform registers and format.
- Will support the system by capacity building rather than taking away the duties and responsibilities.
- Will have highly simplified input methodology and output results.
- Will develop the system to be used by personnel having 10+ education status and very little IT skills.

Based on Built-Operate-Transfer (BOT)
**DISTRICTS PROFILE**
Bareilly & Shahjahanpur

- **Total Population**: 7.4 million
- **Estimated children Below 1 year age**: 0.2 million
- **Estimated Pregnant Mothers in 1 year**: 0.24 million
- **Total number of children & Pregnant mothers targeted for Immunization in 1 year**: 1.1 million
01 HUMAN CHALLENGES

No system to appoint or designate the role of Cold Chain Handler (CCH). Purely ad-hoc (ward boy, x-ray technician)

Inadequate capacity of staff (52% 10+2 education, 67%> 46 years old)

A majority of CCH were never trained in handling a cold chain

Lack of adequate supervisory capacity at district level

02 RECORDING & REPORTING

No standardized documentation procedure

Open vial implementation and documentation as per convenience

No review mechanism for vaccine/syringe consumption

Syringe pushed down without any rational or accountability
03 SUPPLY CHAIN CHALLENGES

Erratic supply of vaccines (or related materials such as syringes or droppers)
Ad hoc pick-ups (quantity or timing) by cold-chain handlers
Ad hoc returns of closed and open vials by ANMs to cold-chain points
Non-functional Vaccine Van

04 INFRASTRUCTURE CHALLENGES

Erratic power supply
Limited Internet bandwidth
Cold-chain handlers are very well intentioned and keen to learn and do better.
<table>
<thead>
<tr>
<th>वैश्वीकरण रिपोर्ट</th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
<th>जीआरआई-सूची <strong>कैरेक्टर</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>ब्रह्म</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>उपरोक्त उपकरण <strong>(सूचीबद्ध सामग्री)</strong>*</td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जी�रआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
<td>जीआरआई-सूची <strong>कैरेक्टर</strong></td>
</tr>
</tbody>
</table>
APPROPRIATE TECHNOLOGY SELECTION

- Availability of ‘Functional’ Computer
- Internet Access
- Availability of Data Entry Operator
- Electricity Supply
- Interpersonal relations between CCH & DEO
- Reduce dependency point for data entry
HOW DOES IT WORK?

District Officials can:

- View real time stock & temp
- Vaccine requirement
- Emergency management
- Consumption patterns
- Route planning
- Stock reallocation

At the end of each session day, CCH enters total vaccine consumed in mobile application.
SIMPLIFIED & CLEARLY DEFINED PROCESSES
मोबाइल को अनलॉक कीजियं (अगर आपका मोबाइल लॉक है तो)

1. पहले मोबाइल का बीच वाला बटन दबाएं
2. फिर स्टार(*) दबाएं
3. आपका फोन अनलॉक हो गया है
INTENSIVE TRAINING
EXPECTED OUTCOMES

**IMPROVED STOCK AVAILABILITY**
through better visibility and standardized procedures

**REAL TIME DATA VISIBILITY**
at all cold chain points along with real time temperature monitoring

**TOOLS AND REPORTS**
reports to facilitate decision making in vaccine logistics management

**STRENGTHENED HEALTH SYSTEM**
through Human Resource, Capacity Building and Leveraging technology

**REPLICABLE MODEL**
for state/Nation-wide scale up
The reporting rates for both the districts – Bareilly and Shahjahanpur are seen consistently between 80% - 90%. 
Is the data reported on time?

Shahjahanpur Reporting Timeliness

- 89.5% Within 24 Hrs
- 24-48 Hrs

Session Dates
Is the data reported on time?

Shahjahanpur Reporting Timeliness

- 89.5% Within 24 Hrs
- 24-48 Hrs

Session Dates
Both the districts have consistently reported above 80% of complete data in reporting the utilisation/net consumption of all the vaccines, diluents and droppers.
BAREILLY: 70-80% of cold chain points reported stock out in initial months which has now dropped significantly.
The average number of days reporting stock outs per month has steadily reduced from 4 days to 1 day since the launch of eVIN.
User-friendly technology, when married to human resources – with a defined supportive supervision plan and standardized procedures results in high adoption rates and high data quality, as evidenced by the eVIN pilot.
The concept of eVIN model has been adopted by the Ministry of Health, Government of India for the UIP.

eVIN model is being deployed in 3 major Indian states with a combined population of 345 million under Gavi-Health System Strengthening grant.

The eVIN pilot will continue to explore and add other dimensions of vaccine and cold chain management.
THANK YOU

Immunization Technical Support Unit
Ministry of Health and Family Welfare