



Electronic vaccine logistics system to improve vaccine coverage in India

The Ministry of Health and Family Welfare is currently rolling out an innovative electronic vaccine intelligence network called eVIN across twelve states in India. eVIN aims to support the Government of India's Universal Immunization Programme by providing real-time information on vaccine stocks and flows, and storage temperatures across all cold chain points in these states. The technological innovation is implemented by the United Nations Development Programme (UNDP) with financial support from Gavi-The Vaccine Alliance.

Beginning in October 2015, eVIN has been rolled out in 371 districts of Assam, Bihar, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Manipur, Nagaland, Odisha, Rajasthan and Uttar Pradesh. With this, eVIN will support better vaccine logistics management at more than 10,500 cold chain points reaching out to nearly 60 percent of children under the age of two in the country. Nearly 17,000 government staff including vaccine store managers and cold chain handlers have been trained on mobile and Web-based eVIN application while nearly 13,000 temperature loggers have been installed.

eVIN aims to strengthen the evidence base for improved policy-making in vaccine delivery, procurement and planning for new antigens in India, home to the world's largest birth cohort of over 27 million.

Integrated solution to vaccine management

eVIN provides an integrated solution to address widespread inequities in vaccine coverage by supporting state governments in overcoming constraints of infrastructure, monitoring and management information systems and human resources, often resulting in overstocking and stock-outs of vaccines in storage centres.

The integrated solution combines:

- **Technology:** to facilitate evidence-based decision-making by making available online real-time information on vaccine stocks and storage temperature through the eVIN application software and temperature loggers;

- **Governance:** to ensure efficient vaccine logistics management by systemizing record keeping through standardizing stock and distribution registers; identifying gaps and improving clarity on vaccine cold chain network; drawing attention to infrastructure upgrades; developing standard operating procedures; and encouraging good practices;
- **Human Resources:** to empower the state cold chain network by building the capacities of government cold chain handlers; and deploying vaccine and cold chain managers in every district for constant support to estimate vaccine requirements, supervise cold chain handlers and coordinate with cold chain technicians across the district.

How does eVIN work?

All cold chain handlers are provided smart phones with the eVIN application which allows for the digitization of vaccine inventories. As a routine task, every cold chain handler enters the net utilization for each vaccine in the standardized registers at the end of every immunization day. This is simultaneously updated in the eVIN application and uploaded on a cloud server which can then be viewed by programme managers at district, state and national level through online dashboards. In addition to providing real-time information on vaccine stocks, the system also helps to track storage temperature of vaccines. SIM-enabled temperature loggers attached to the cold chain equipment capture temperature information through a digital sensor placed in the refrigerator. Temperature data is recorded and updated at an interval of every sixty minutes on the server via General Packet Radio Service (GPRS). In case of temperature breach, the logger alarms and sends email and SMS alerts to responsible cold chain technicians and managers.

eVIN empowers the cold chain handlers by building technical capacities and providing a robust decision-making tool for cold chain managers through a complete overview of vaccine replenishment times, supply and consumption patterns.

By streamlining the vaccine flow network, eVIN is a powerful contribution to strengthening health systems and ensures equity through easy and timely availability of vaccines to all children.



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