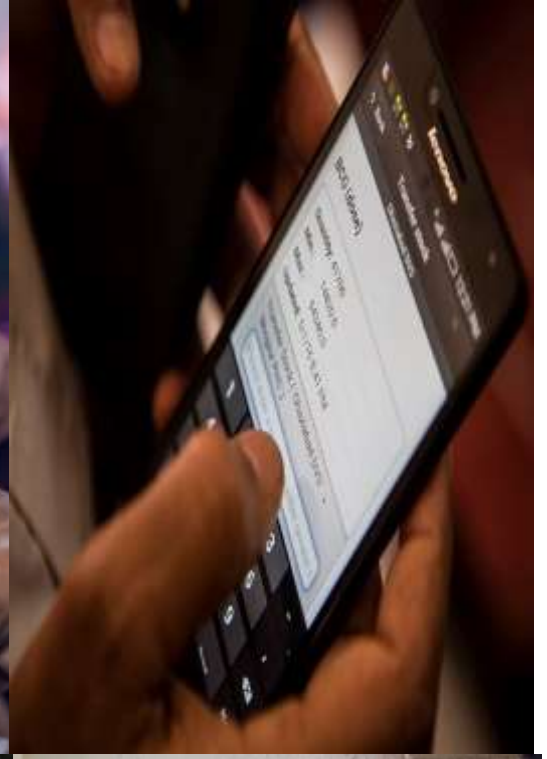

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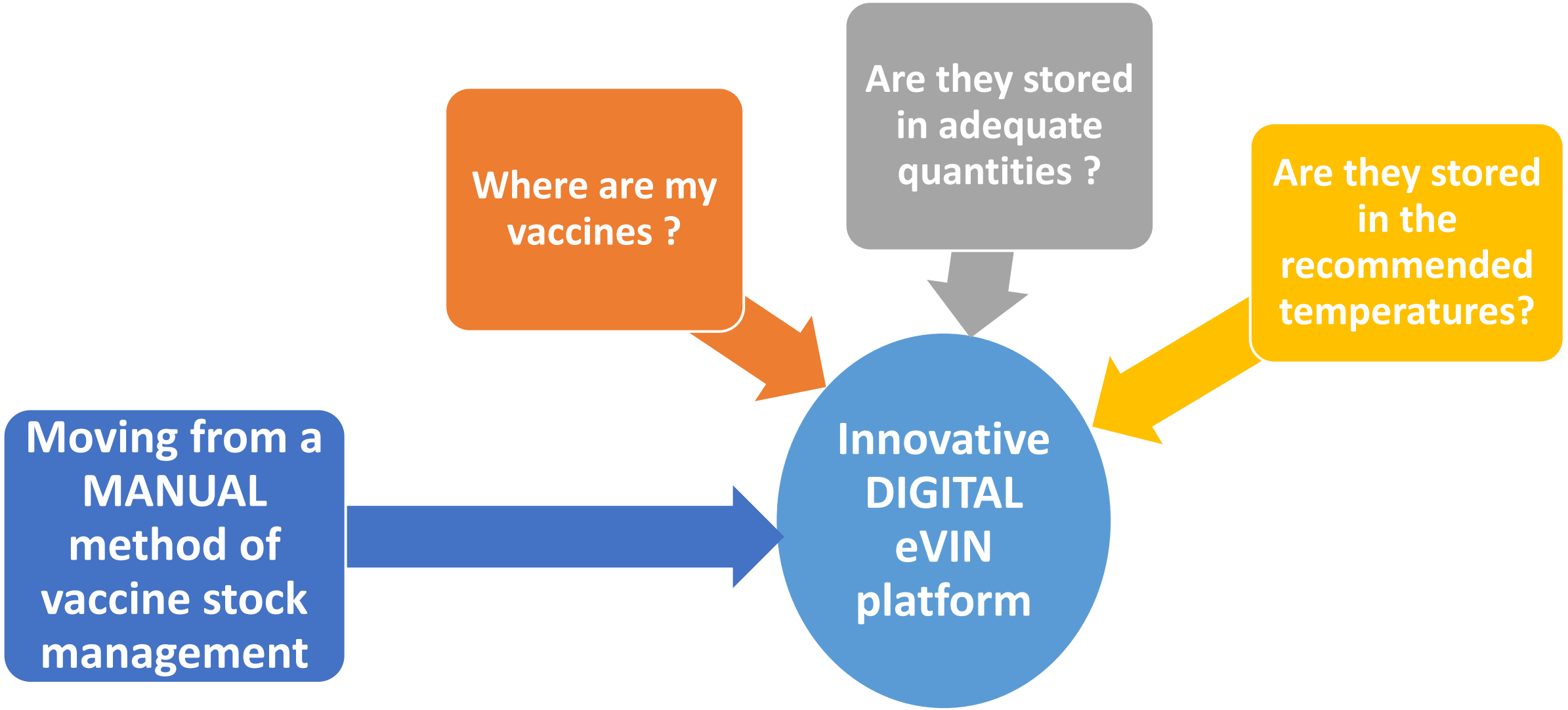
eVIN

ELECTRONIC VACCINE
INTELLIGENCE NETWORK

UNDP

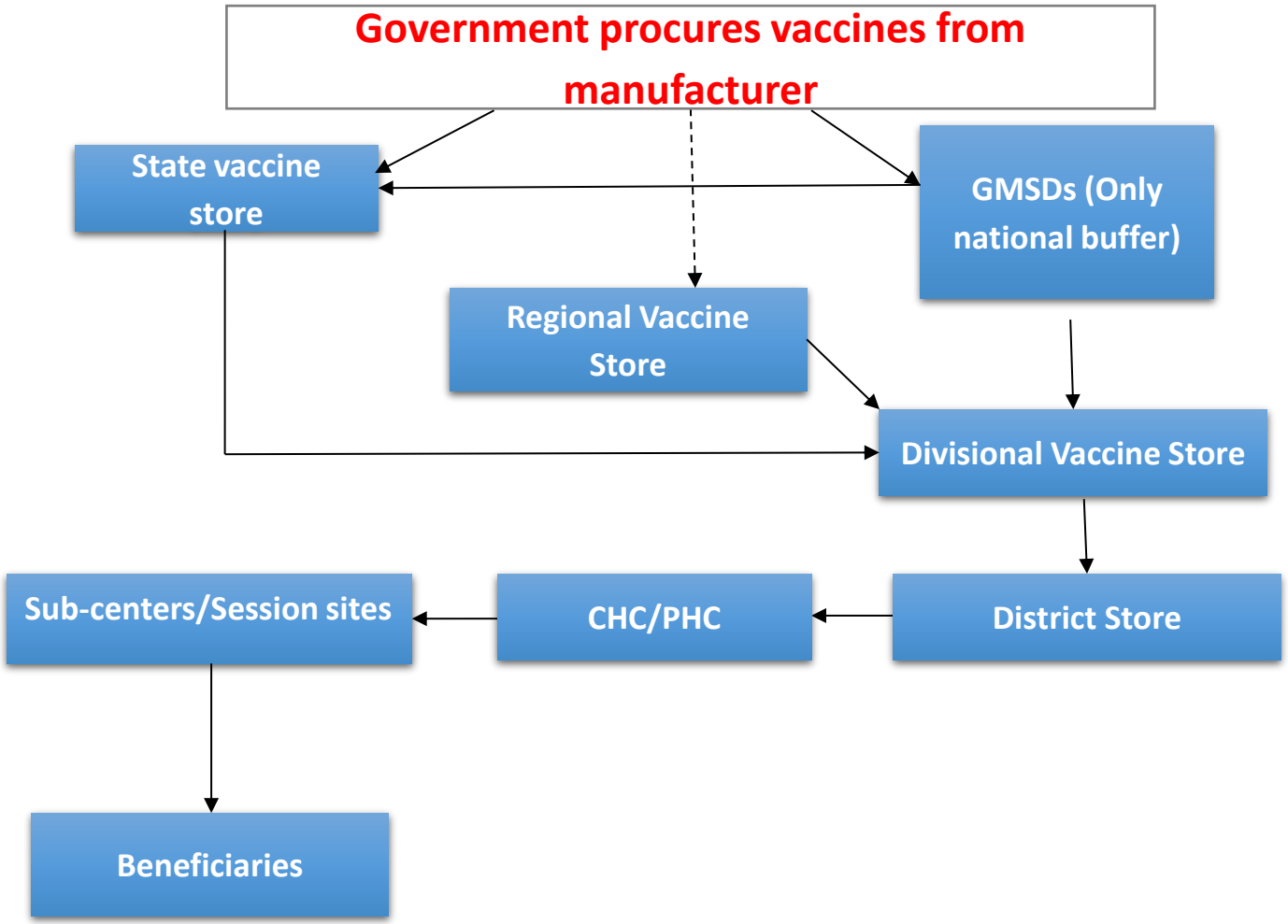
Empowered lives.
Resilient nations.

Fundamental Questions for a Program Manager



Introduction to vaccine logistics management in India

Vaccine Logistics System in the Country



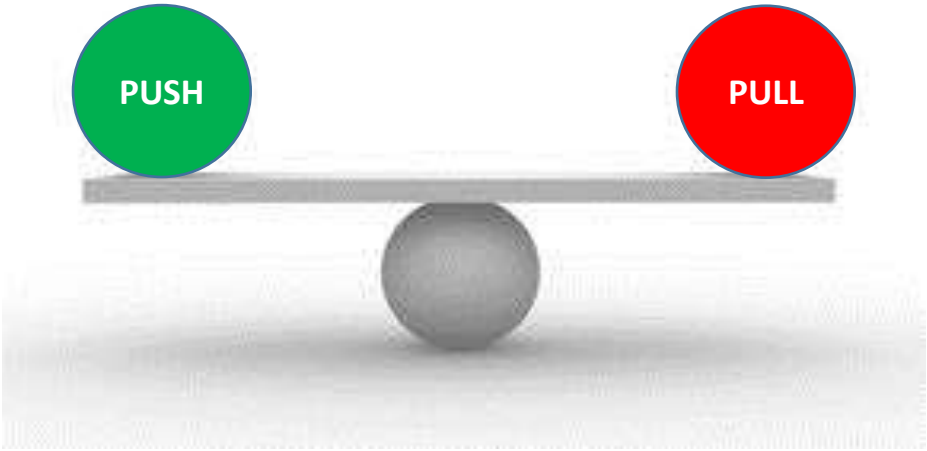
Basis of vaccine supply: Distribution of vaccines from upper nodes to the lower nodes are supplied based on any of the following:

- Monthly targets
- Stock outs
- Low stocks
- Large quantity of stocks received
- Proximity to State/District store
- Low supply from Manufacturer

Vaccine supply mechanism in India

Vaccine push bimonthly to State stores by manufacturers and GMSDs

Supply timeline shared in advance



Vaccine pulled by recepient stores as additional demands and supplied from national buffer at GMSD

Supply chain equilibrium maintained through push pull
Stock oscillates between 1-3 month

Challenges in Vaccine Supply Chain Management

- Manual methods are time consuming, take time to collate and preclude real time knowledge of stock position
- Vaccines have a short shelf life as opposed to medicines
- Not possible to stock large quantities of vaccines – 2 months supply at State/Regional/District level and 1 month at primary health Centre (PHC) level
- There is a constant requirement to prevent stock out or vaccine expiry
- This requires a need for day to day management of vaccine stocks hence the role of human resources is essential
- Defining optimal buffer stock at at all cold chain points is challenging

Challenges in Vaccine Supply Chain Management

- Vaccine storage at all levels is linked to the available cold-chain space
- The availability of vaccines is linked to the production capacity of the manufacturer and emergency procurements are challenging
- Vaccine distribution relies on push (National to State level) and pull mechanism (State to National) which is affected by campaigns
- Temperature monitoring for vaccine storage very important (2-8C) including vaccine vial monitor (VVM), temperature loggers
- Challenges of open vial policy to minimize wastage also need to be considered

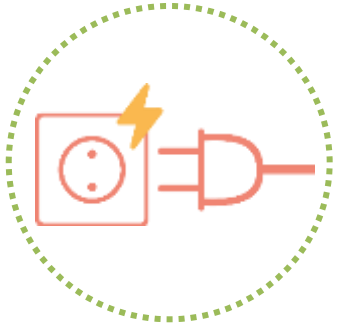
eVIN Pilot

Digitalizing Vaccine Stock Management: System Challenges

Availability of 'Functional' Computer

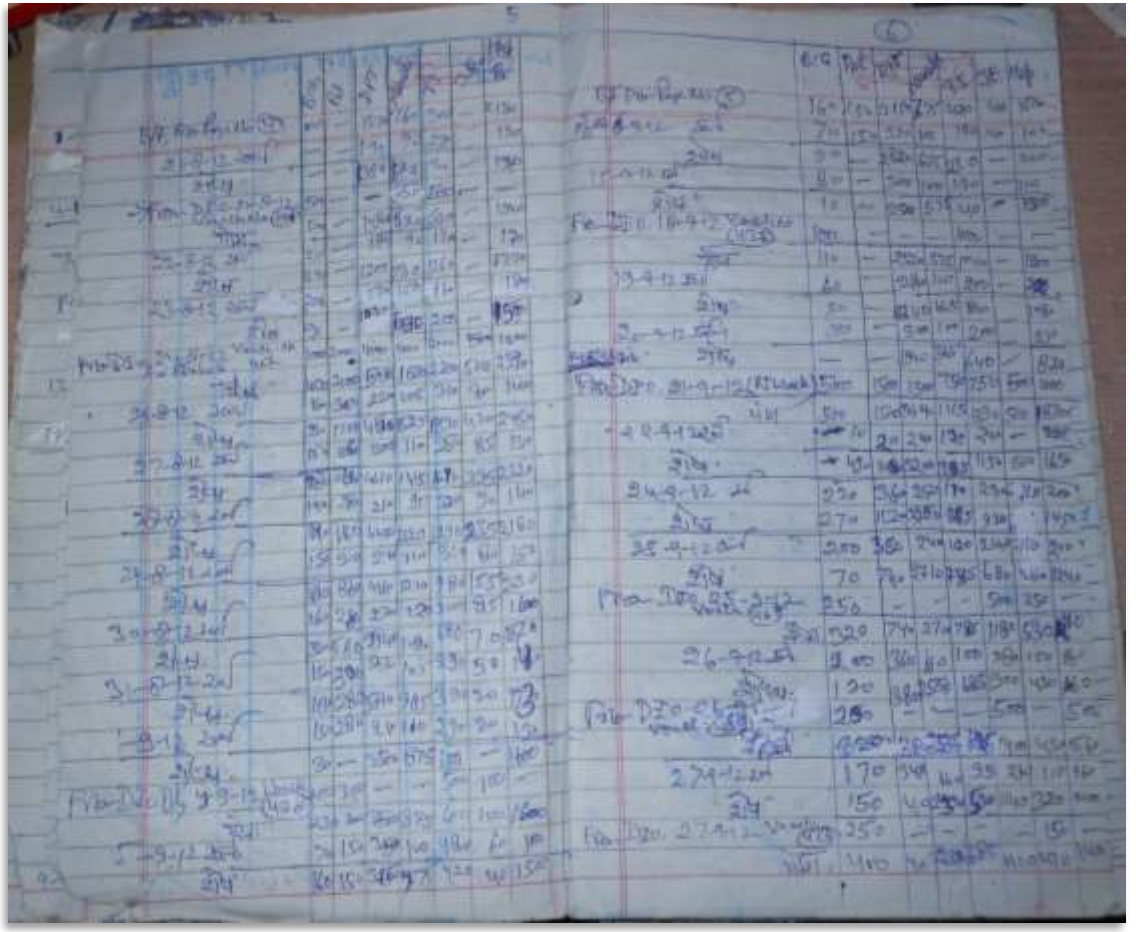
Internet Access

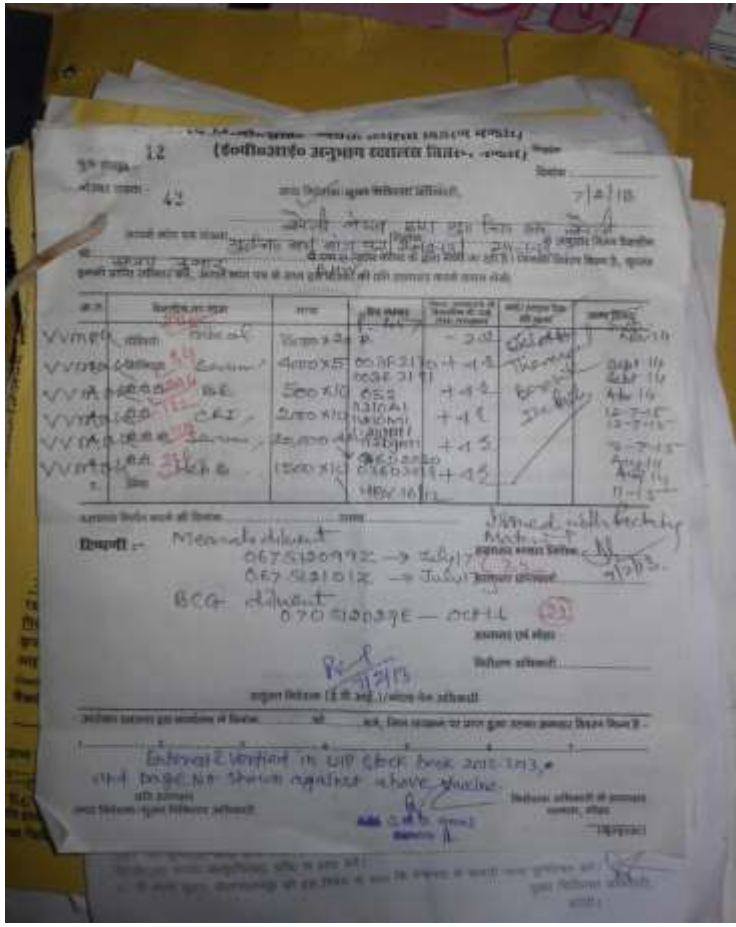
Availability of Data Entry Operator



Electricity Supply

Vaccine Record Keeping in many places: System Challenge





Temperature monitoring in Cold Chain Point: System Challenge

eVIN Solution - System Strengthening & Improving Program Governance

Standardizing stock keeping and distribution procedures

Use of simple mobile based application

Innovative use of technology for temp. monitoring

Cloud-based server for hosting data from all cold chain points

Real time stock and temp visibility

Empowering vaccine logistics manager

eVIN Platform

✓**Replicable, Expandable and Sustainable**

✓Will **not disrupt the existing system of manual documentation** but will support the system with better and uniform registers and format.

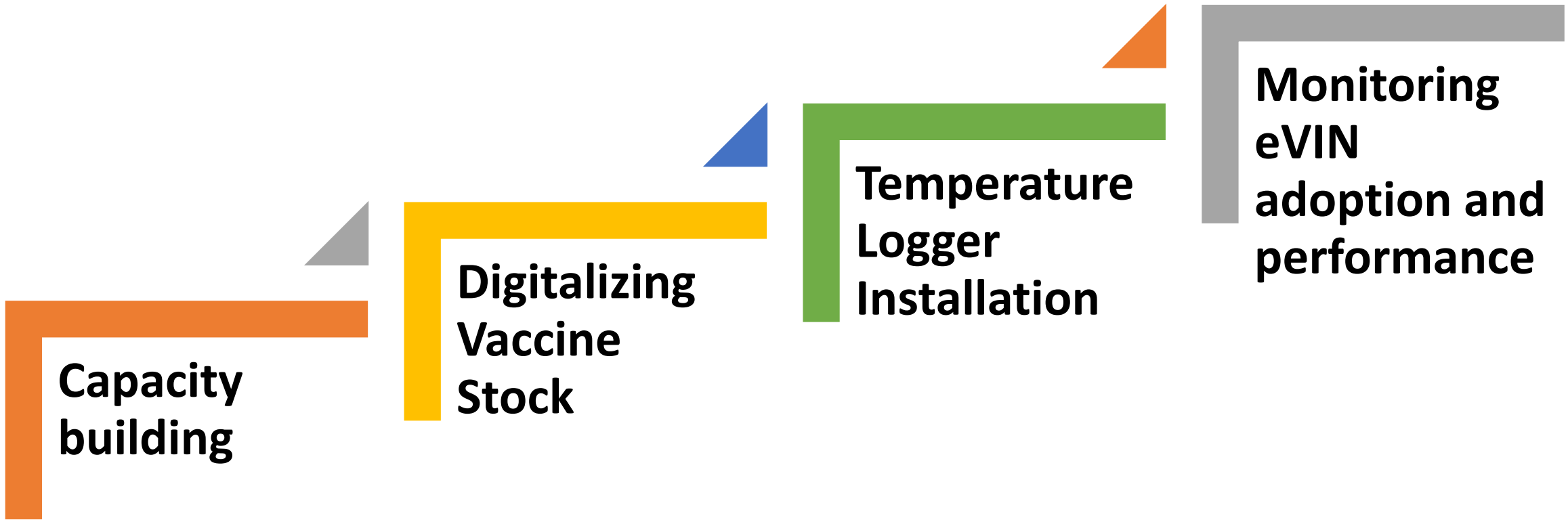
✓Will **support the system by capacity building** rather than taking away the duties and responsibilities

✓Will have highly **simplified input methodology and output** results

✓System can be operated by personnel having **10+ education status and very little IT skills**

eVIN Scale up: Stages of Implementation

Steps in Rolling-Out eVIN



eVIN Training

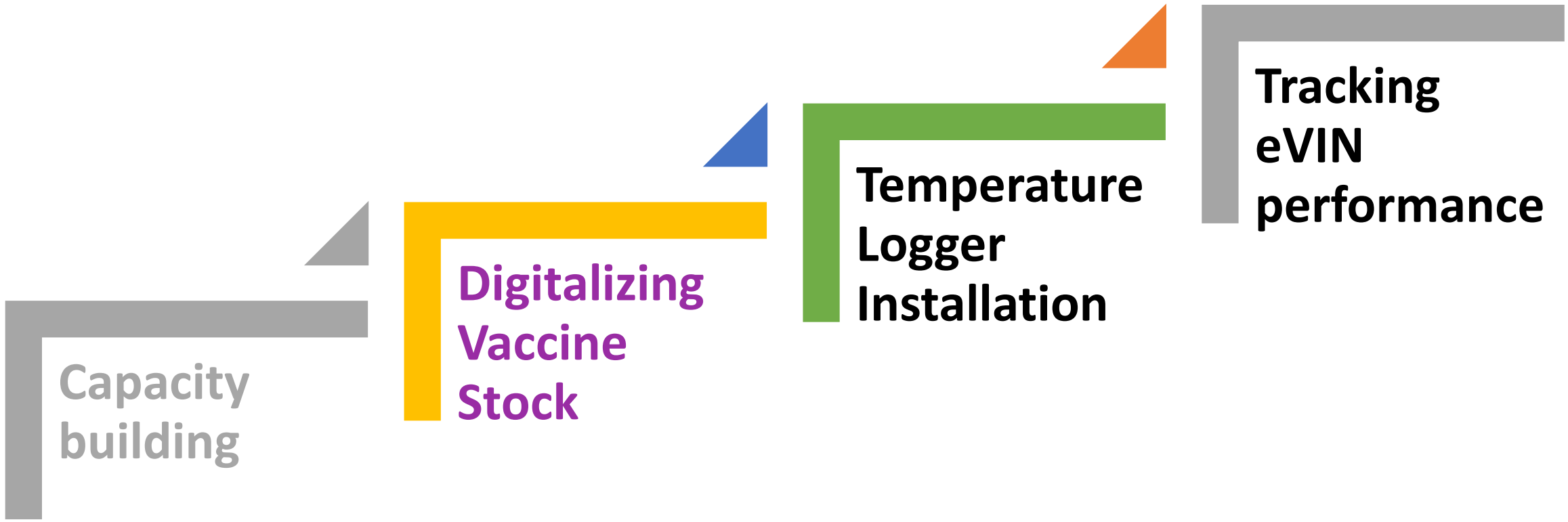
Training to date

- 3 States - Uttar Pradesh, Rajasthan & Madhya Pradesh 4 GMSD's
- 4476 cold chain points
- 7127 cold chain staff trained

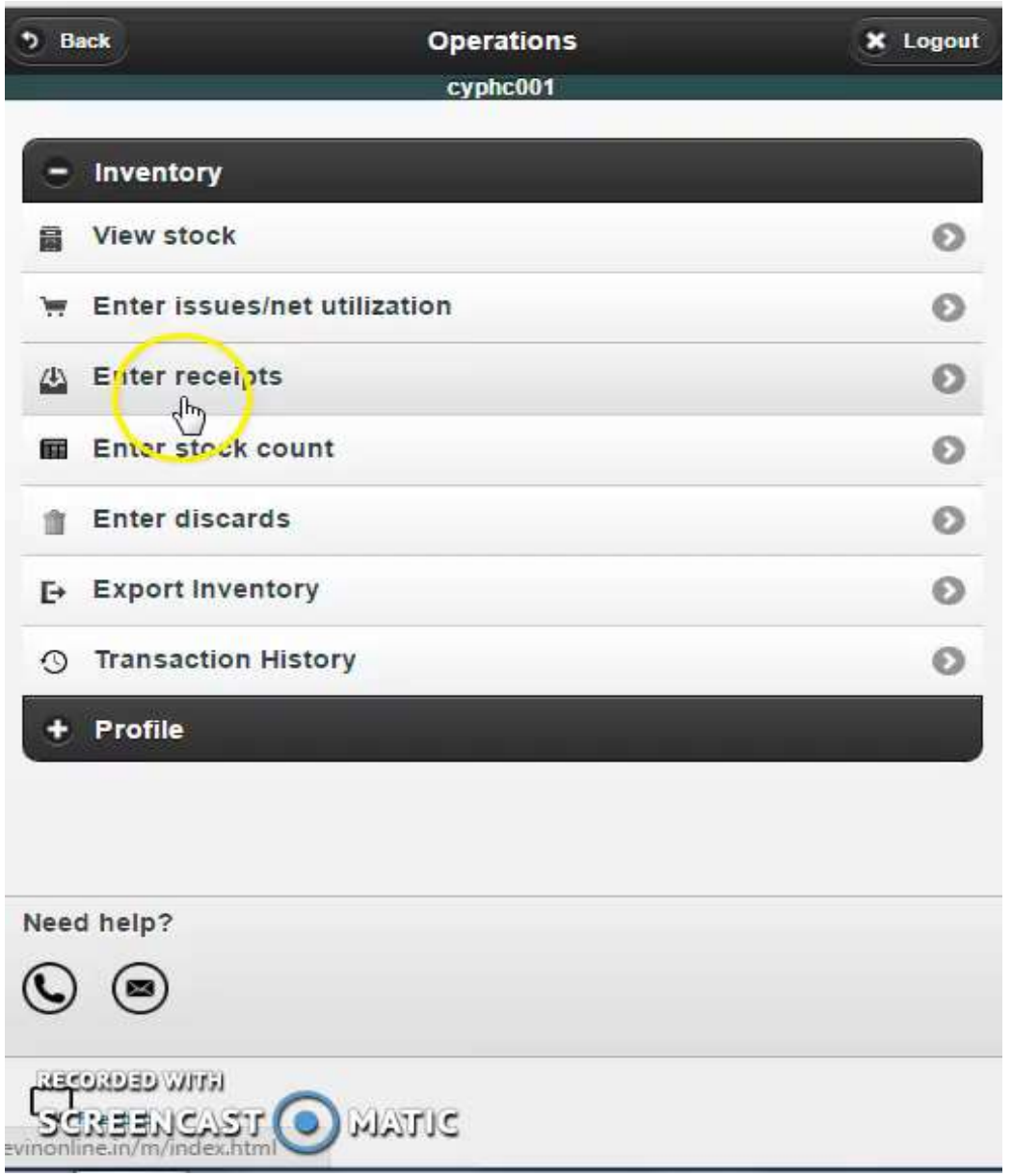
Jul-Dec 2016

- 9 States – Assam, Nagaland, Manipur, Bihar, Jharkhand, Chhattisgarh, Odisha, Gujarat and Himachal Pradesh
- 6000 cold chain points
- 10,000 cold chain staff to be trained

Steps in Rolling-Out eVIN

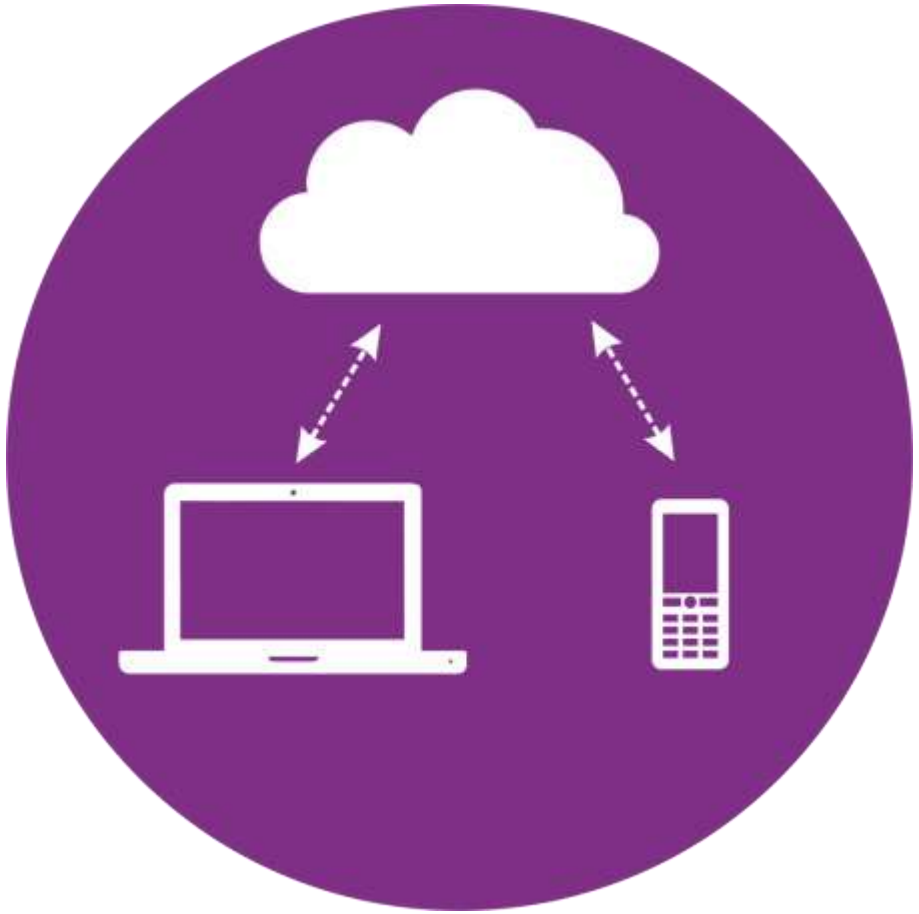


Digitalizing Vaccine Stock Keeping through Smartphone

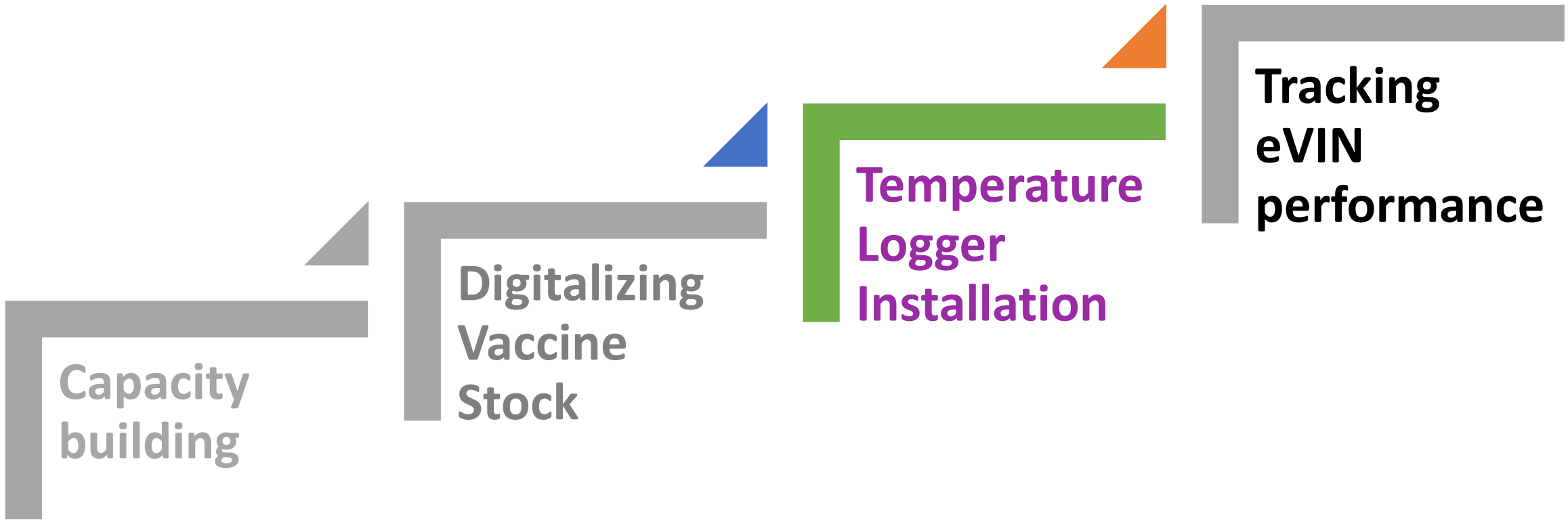


Collating Vaccine Stock data: eVIN Technology

eVIN data gets automatically captured in eVIN cloud server and can be viewed in real time at District, State and National level



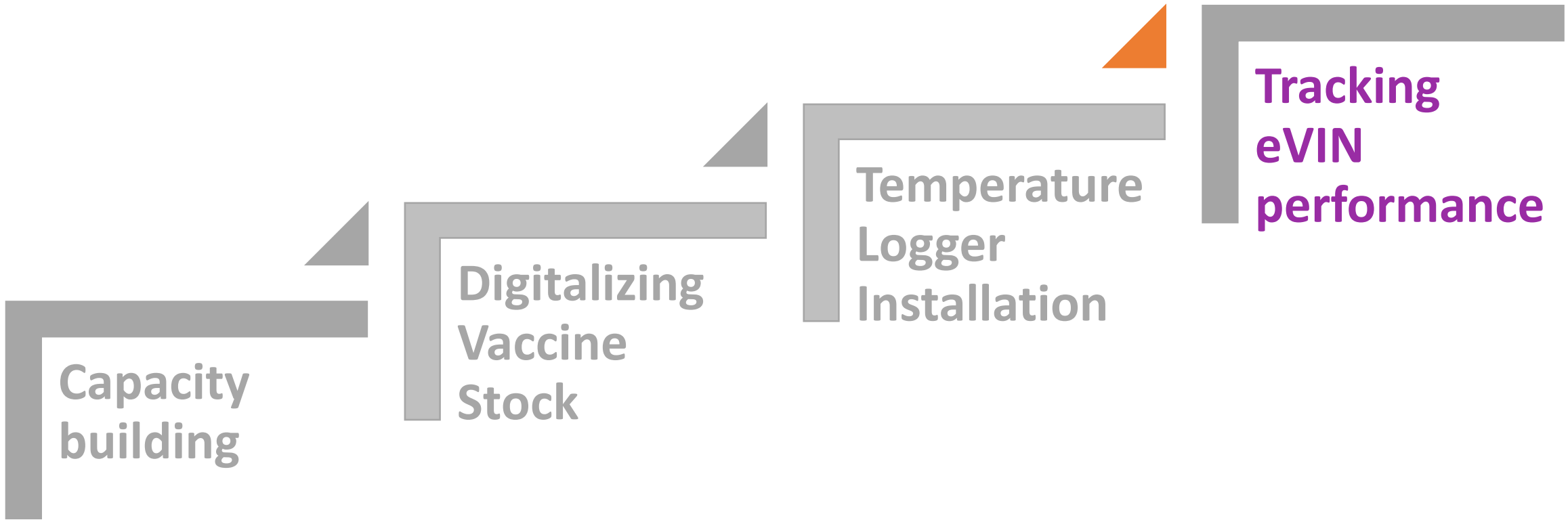
Steps in Rolling-Out eVIN



Remote Temperature Monitoring

- A low cost, SIM-based remote temperature monitoring system, with 4 sensors
- Sensor unit collects temperature data every 10 minutes and updates eVIN server every 30 minutes
- Three types of alarms- **device, SMS and email** sent immediately to any 5 concerned authorities upon sensing temperature breach
- 3600 temperature loggers have been installed till date
- Installation to be completed for all vaccine storing equipment by August, 2016 in UP, MP and Rajasthan

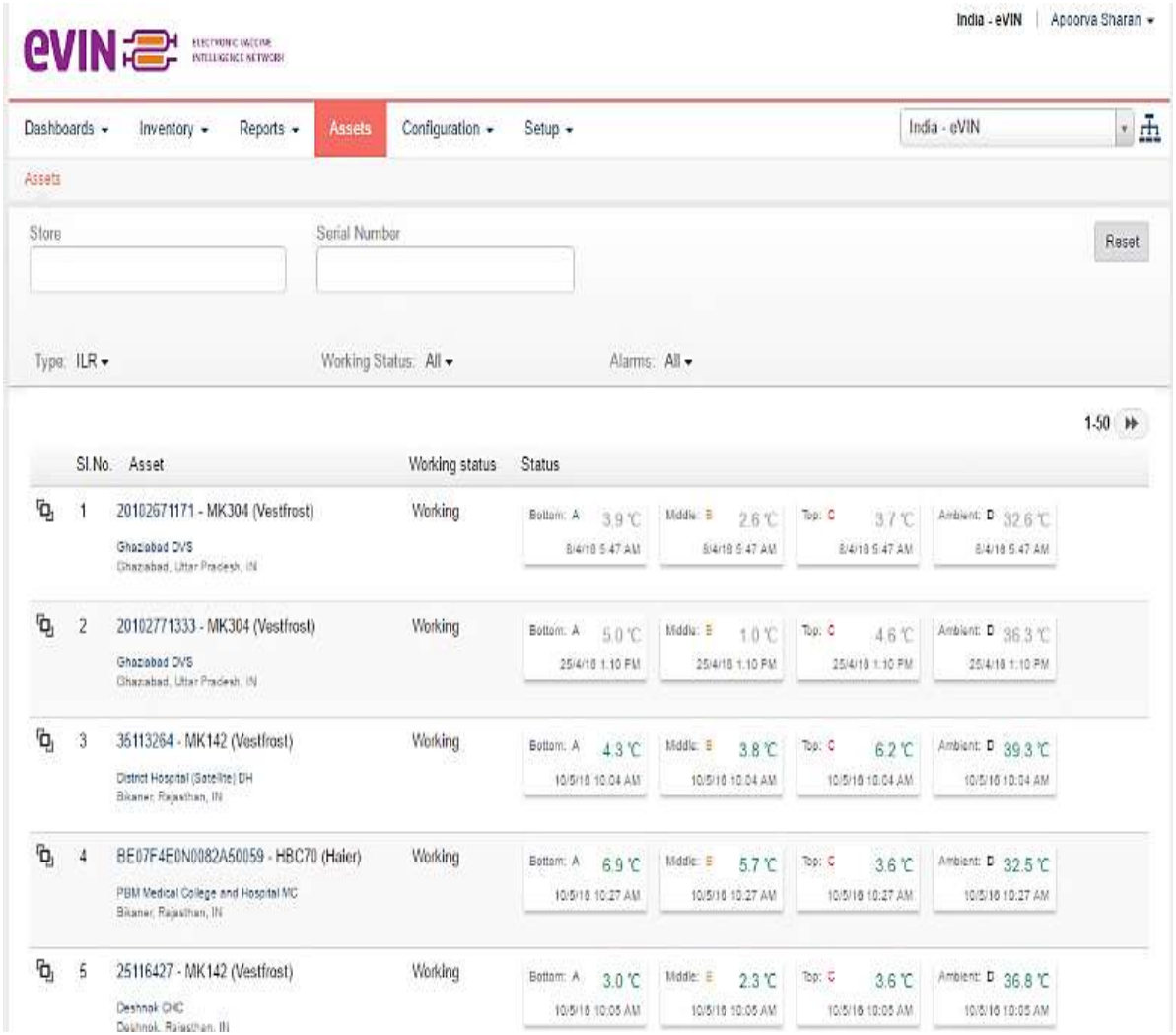
Steps in Rolling-Out eVIN

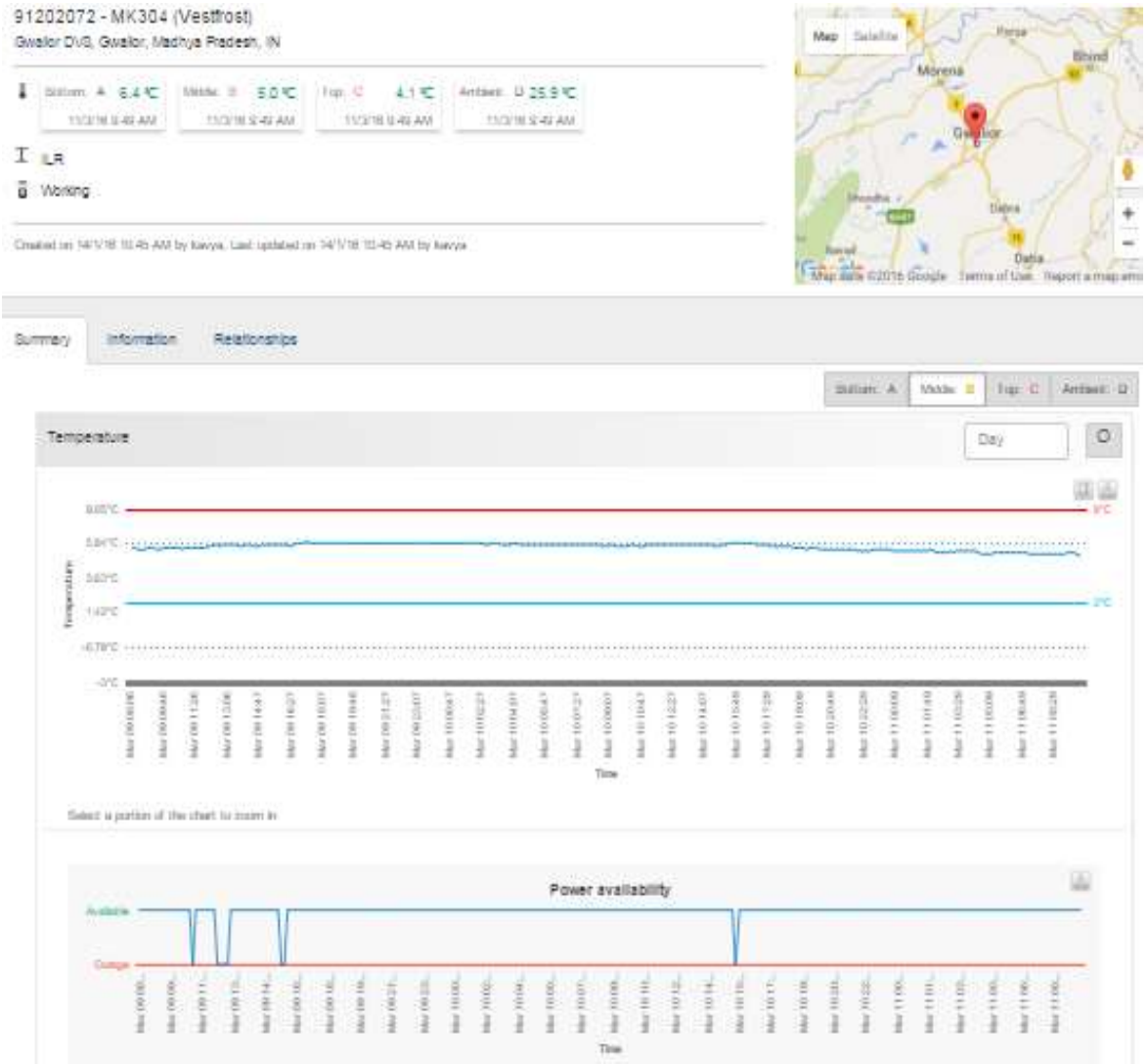


Real-time vaccine stock monitoring

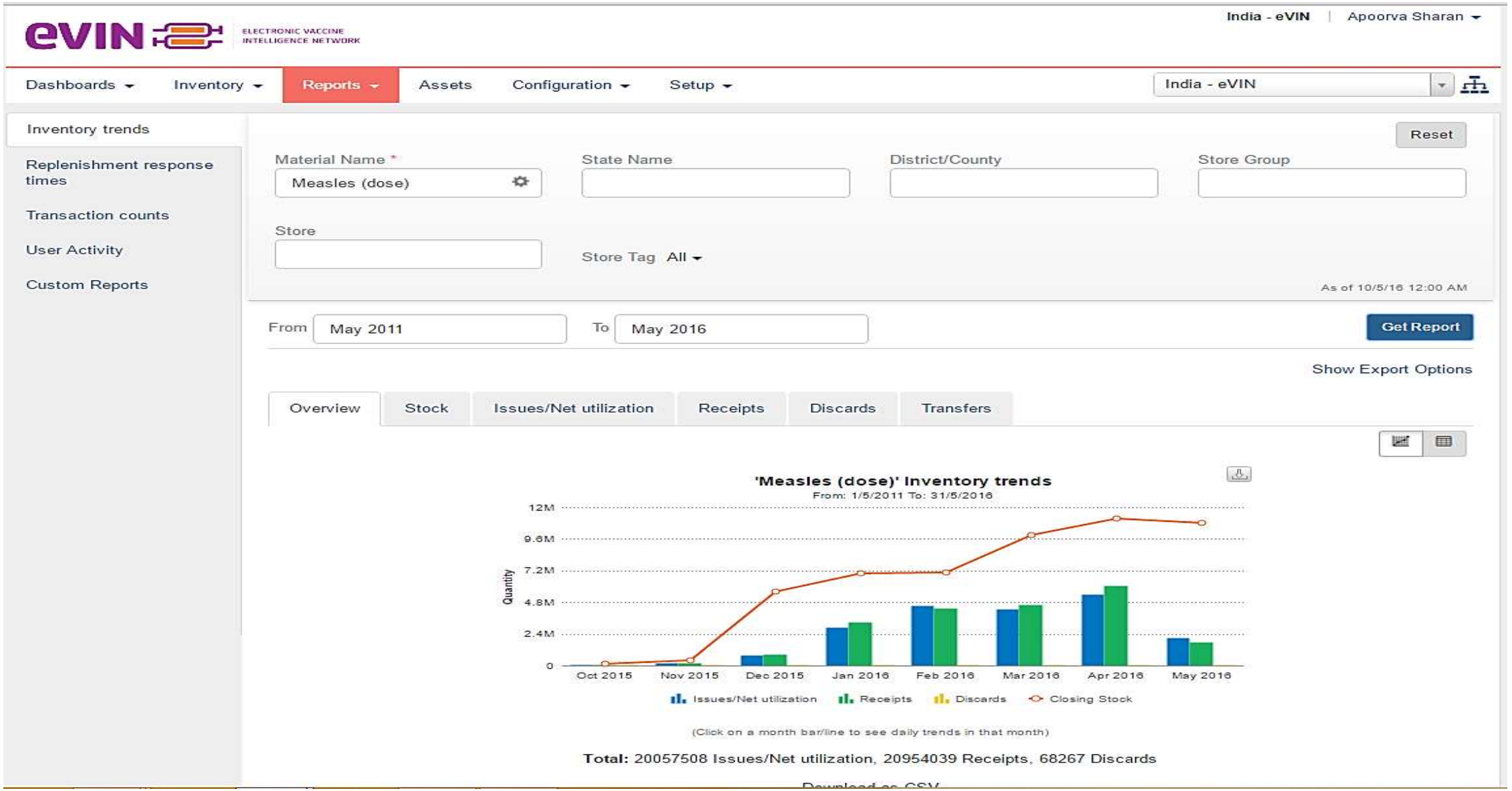
Sl.No.	Store	BCG (dose)	BCG diluent (dose)	DPT (dose)	Hepatitis B (dose)	IPV (dose)	JE (dose)	JE diluent (dose)	Measles (dose)	Measles diluent (dose)	OPV (d
1	Allahabad DVS Allahabad, Allahabad, Uttar	17,000	11,040	9,820	58,430	11,600	30,110	16,110	5,210	5,710	14,82
2	Baharia Baharia, Allahabad, Uttar	150	170	3,500	2,000	2,000	1,000	1,000	500	500	4,50
3	Chaka Chaka, Allahabad, Uttar	3,450	3,450	5,060	9,710	990	1,620	1,620	2,520	2,520	4,22
4	Dhanupur Dhanupur, Allahabad, Uttar	3,120	3,120	750	760	0	1,510	1,510	720	720	0
5	Dufferin Allahabad, Allahabad, Uttar	1,770	1,770	90	780	510	1,645	1,645	510	510	1,18
6	ESIC Naini Allahabad, Allahabad, Uttar	350	350	120	140	10	0	0	0	0	150
7	Handia Handia, Allahabad, Uttar	5,960	5,960	3,260	9,660	1,010	5,755	5,755	1,860	1,860	4,50
8	Holagarh Holagarh, Allahabad, Uttar	7,190	7,190	2,132	1,080	0	2,490	2,490	100	100	0
9	Jasra Jasra, Allahabad, Uttar	3,370	3,370	2,160	3,400	1,230	1,760	1,760	2,400	2,400	1,50
10	K.N.M.H. Allahabad, Allahabad, Uttar	1,320	1,320	1,210	920	216	870	870	765	765	1,04
11	Karchhana Karchhana, Allahabad, Uttar	3,060	3,060	2,000	1,630	1,260	1,820	1,820	500	500	500
12	Kaudhiyara Kaudhiyara, Allahabad, Uttar	4,050	4,050	2,770	3,370	530	1,665	1,665	775	775	500
13	Kaurihar Kaurihar, Allahabad, Uttar	4,760	4,760	4,400	1,950	880	2,250	2,250	860	860	1,04

Real time temperature, asset and power monitoring

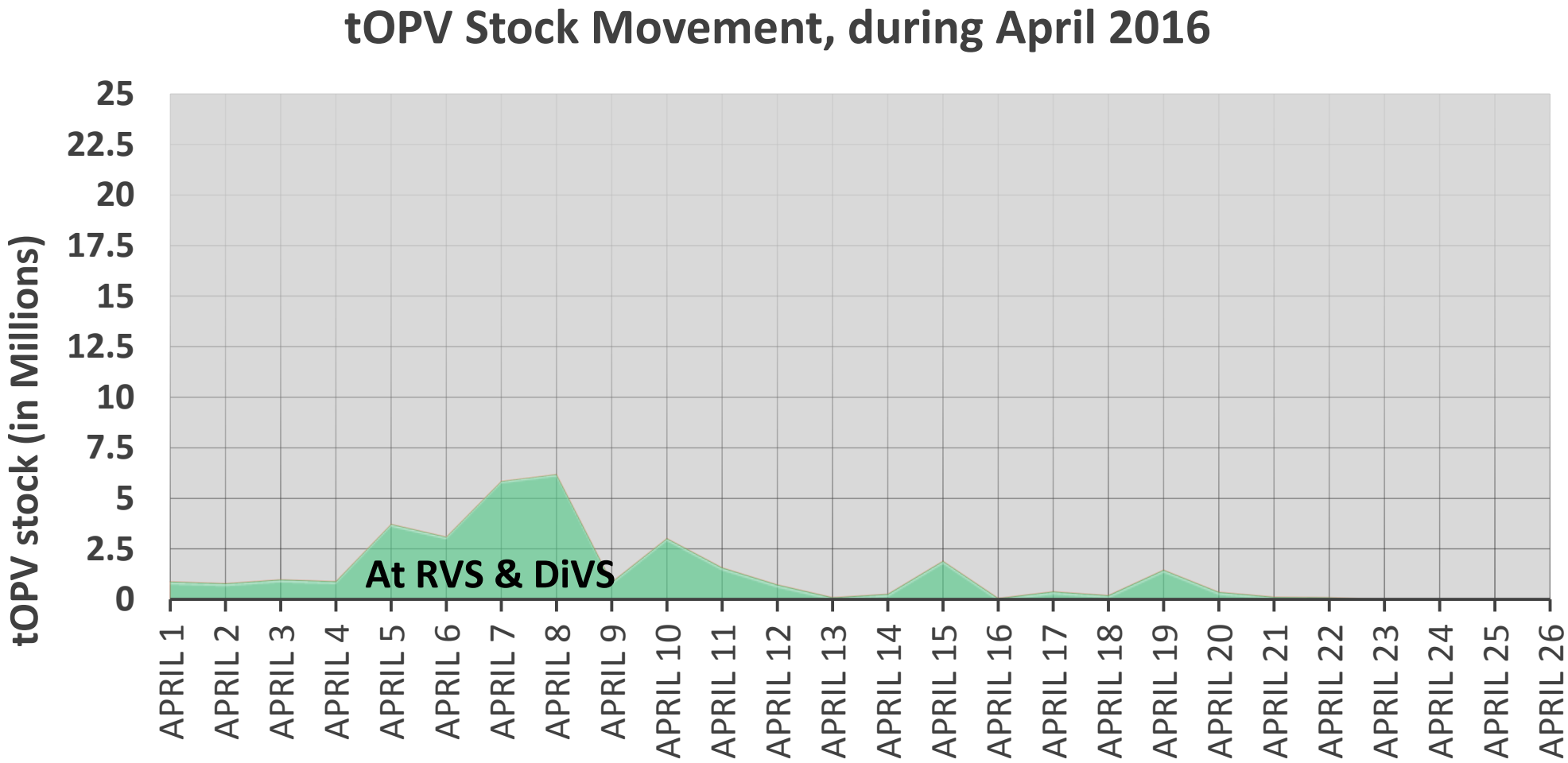




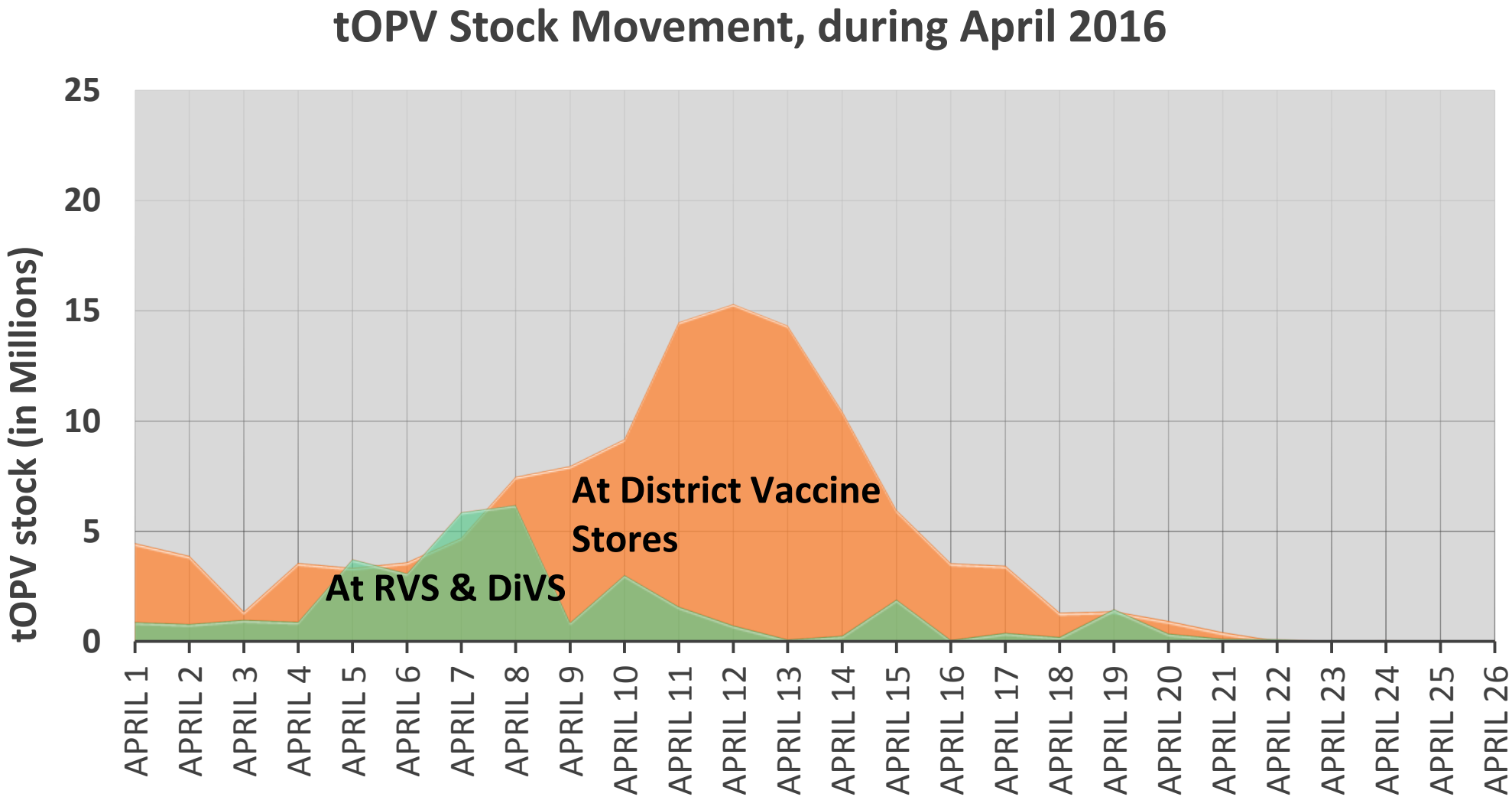
Enhanced forecasting, stocking and replenishment



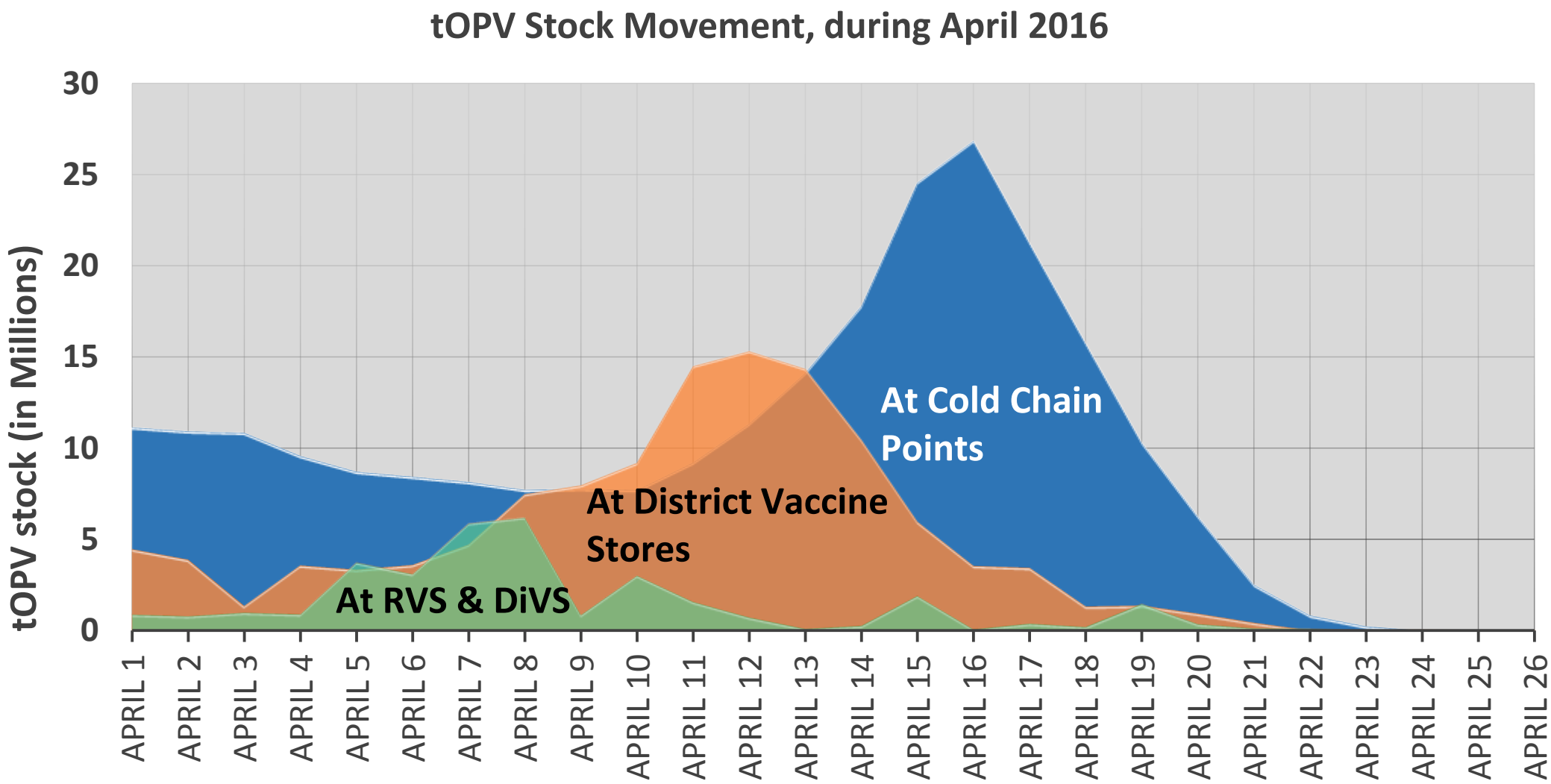
Monitoring programme performance



Monitoring programme performance



Monitoring programme performance

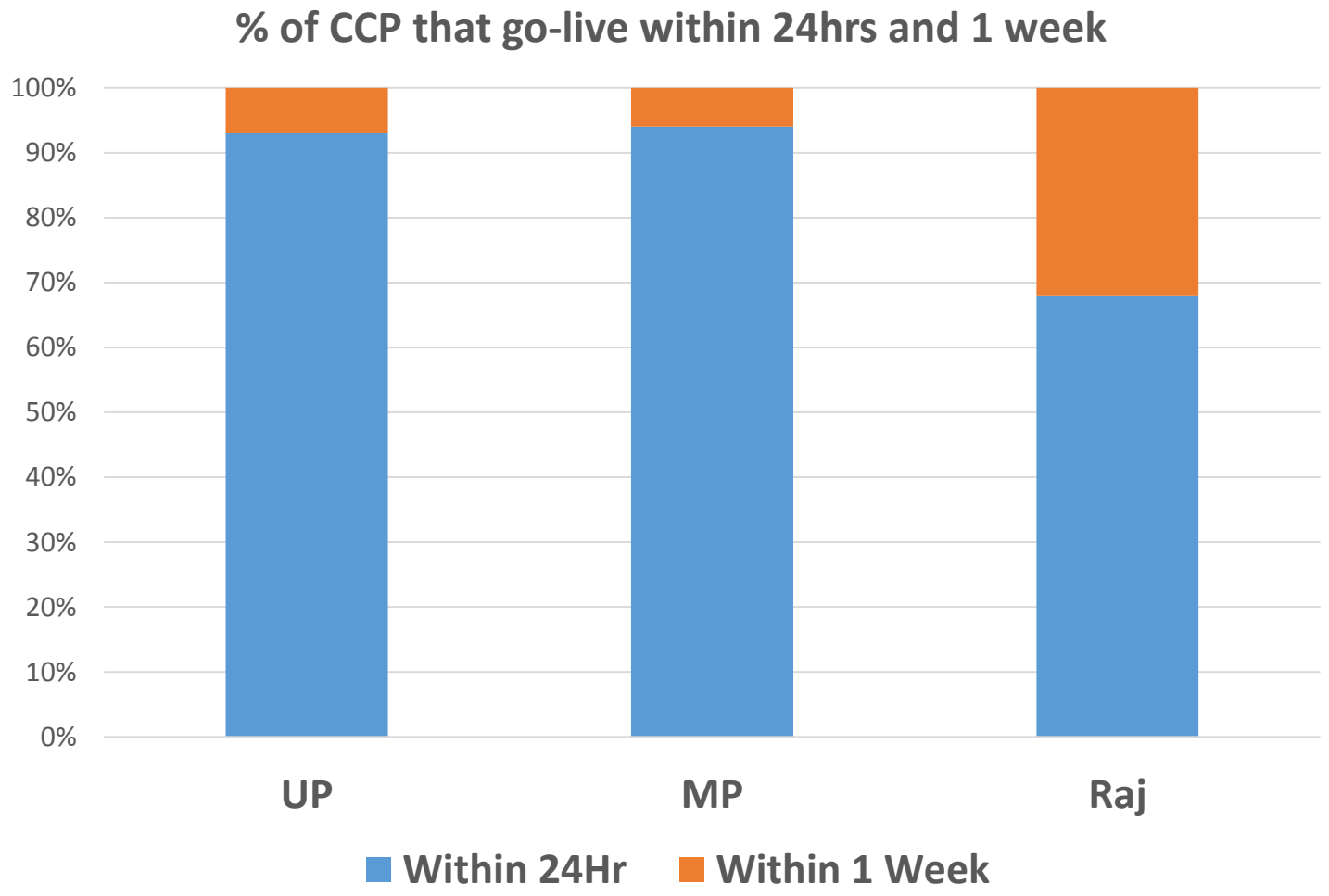


Early eVIN Success in 3 States

High Adoption Rates

- All centres ‘go-live’ within a week of training the vaccine handlers

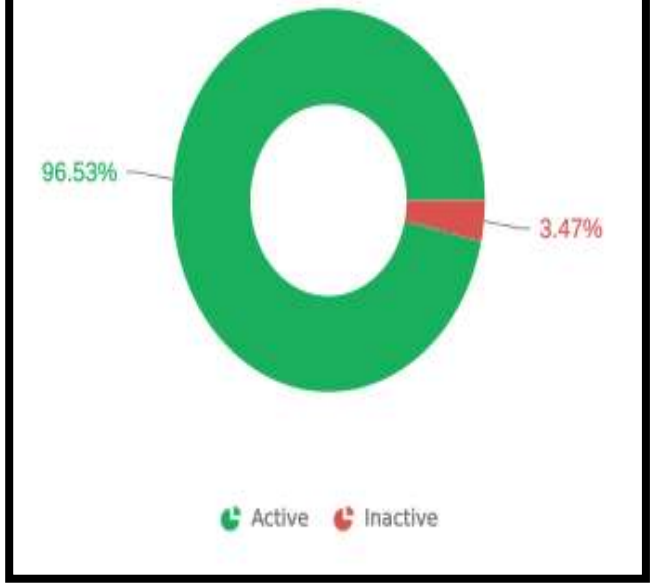
- eVIN trainings have had **100% attendance** of cold chain handlers so far



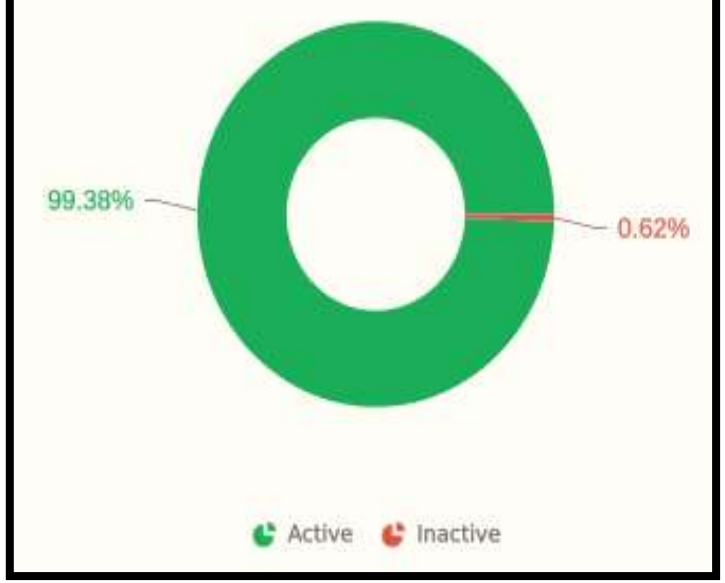
High Adherence Rates

Most cold chain points are updating their vaccine data on eVIN regularly

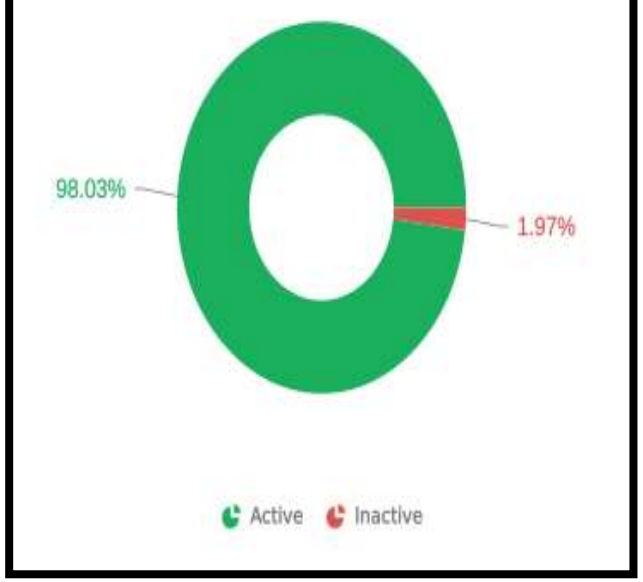
Rajasthan



Madhya Pradesh

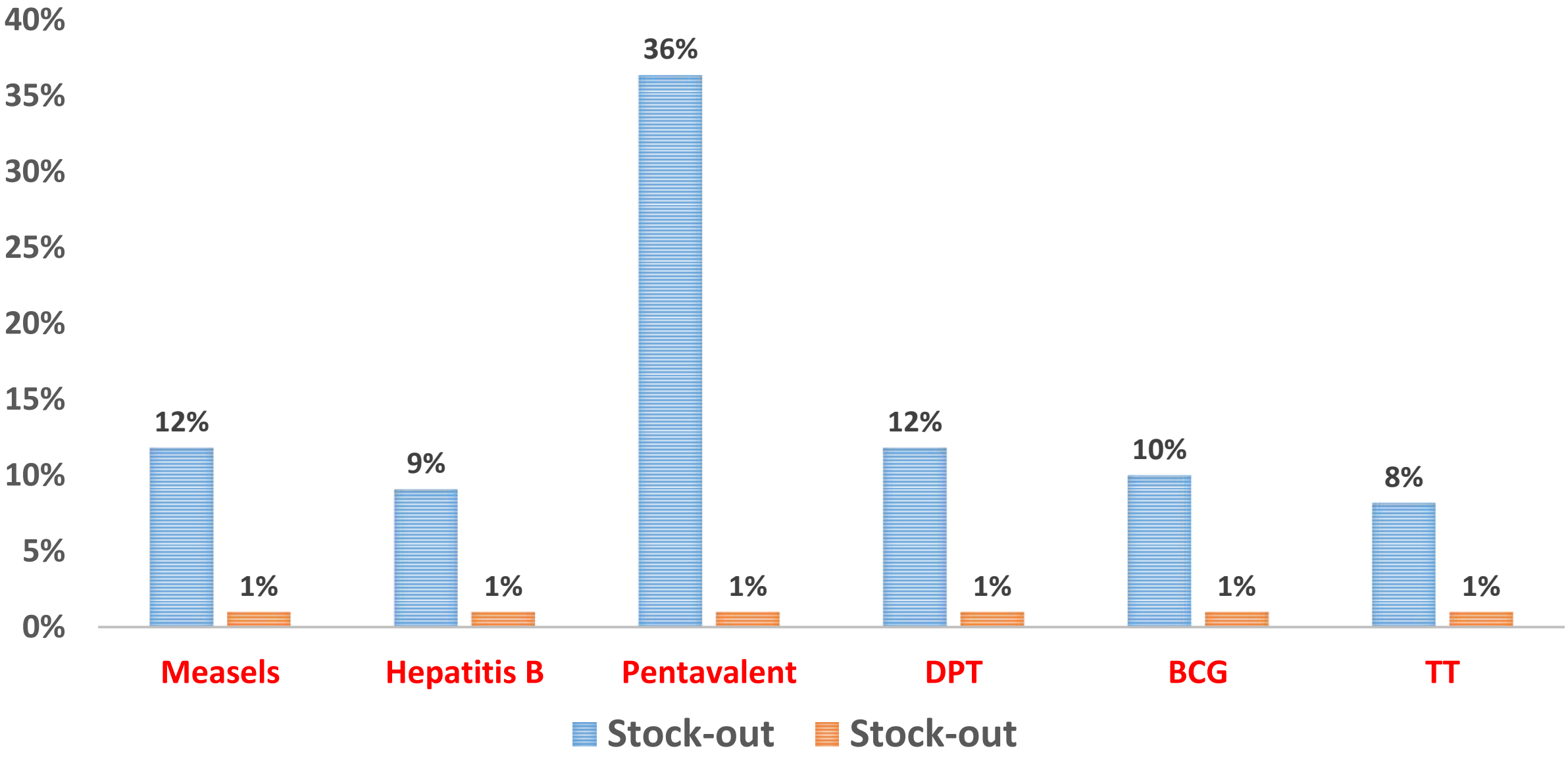


Uttar Pradesh

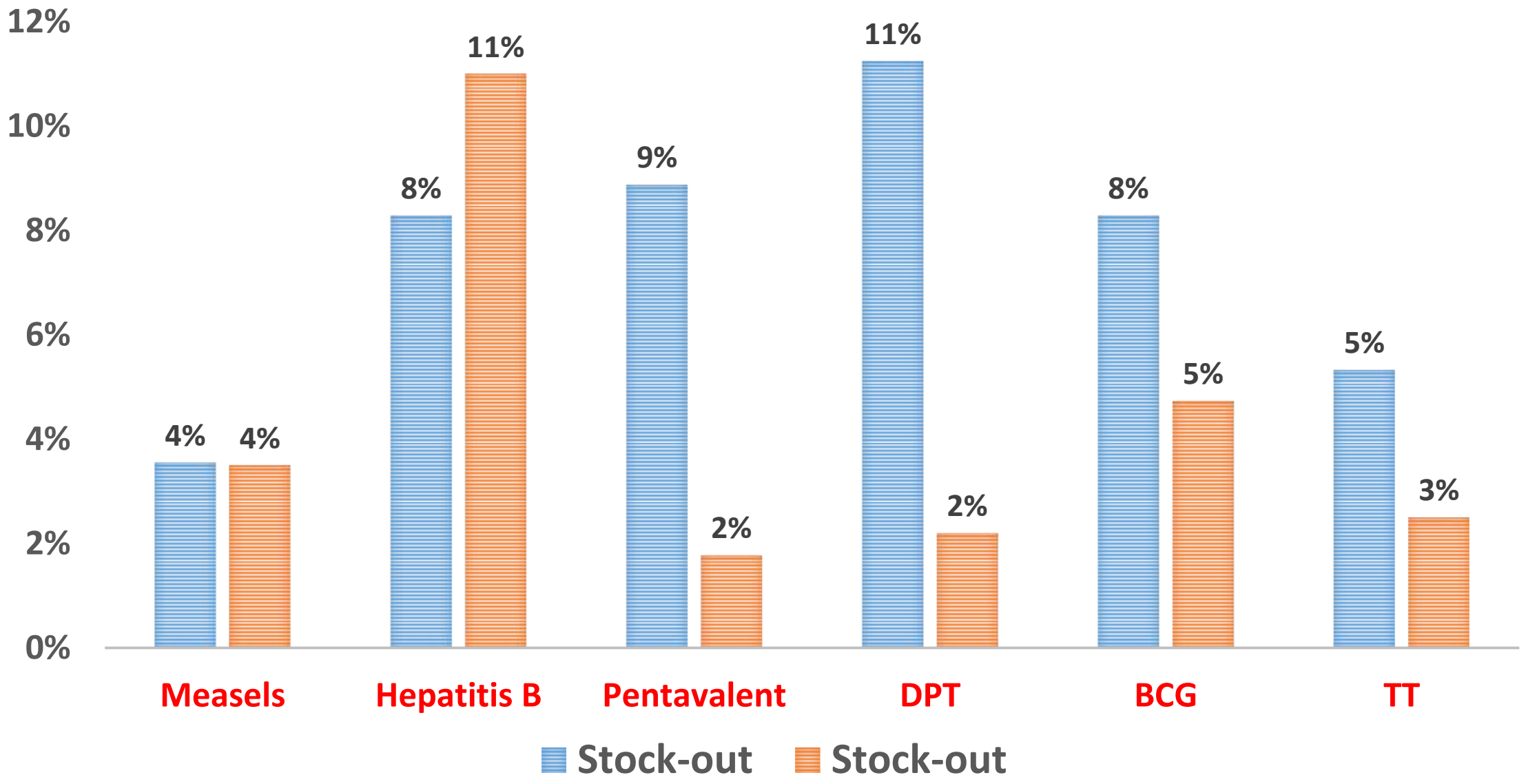


A simplified model with mobile enablement has been the key to success

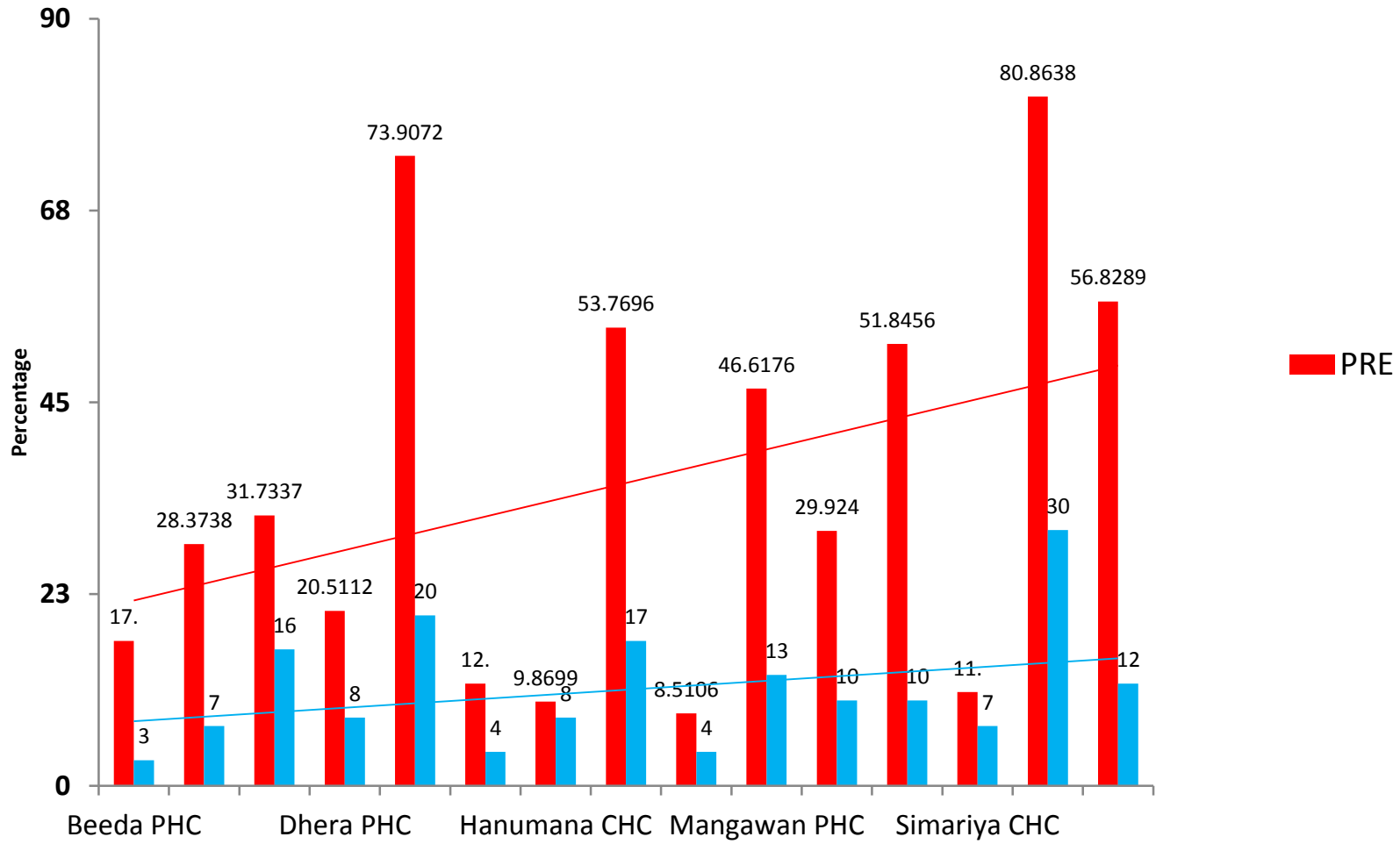
Vaccine Stock out: Uttar Pradesh



Vaccine Stock out: Rajasthan



Pentavalent Wastage – Madhya Pradesh



Post eVIN Vaccine wastage prevention for Rewa district (Oct 2015 -March 2016)

	Wastage prevented (Doses)	**Cost saved (INR)**
BCG	47307	70,960
DPT	35042	45,554
Measles	36379	3,83,599
Pentavalent	**37170**	**48,32,100**

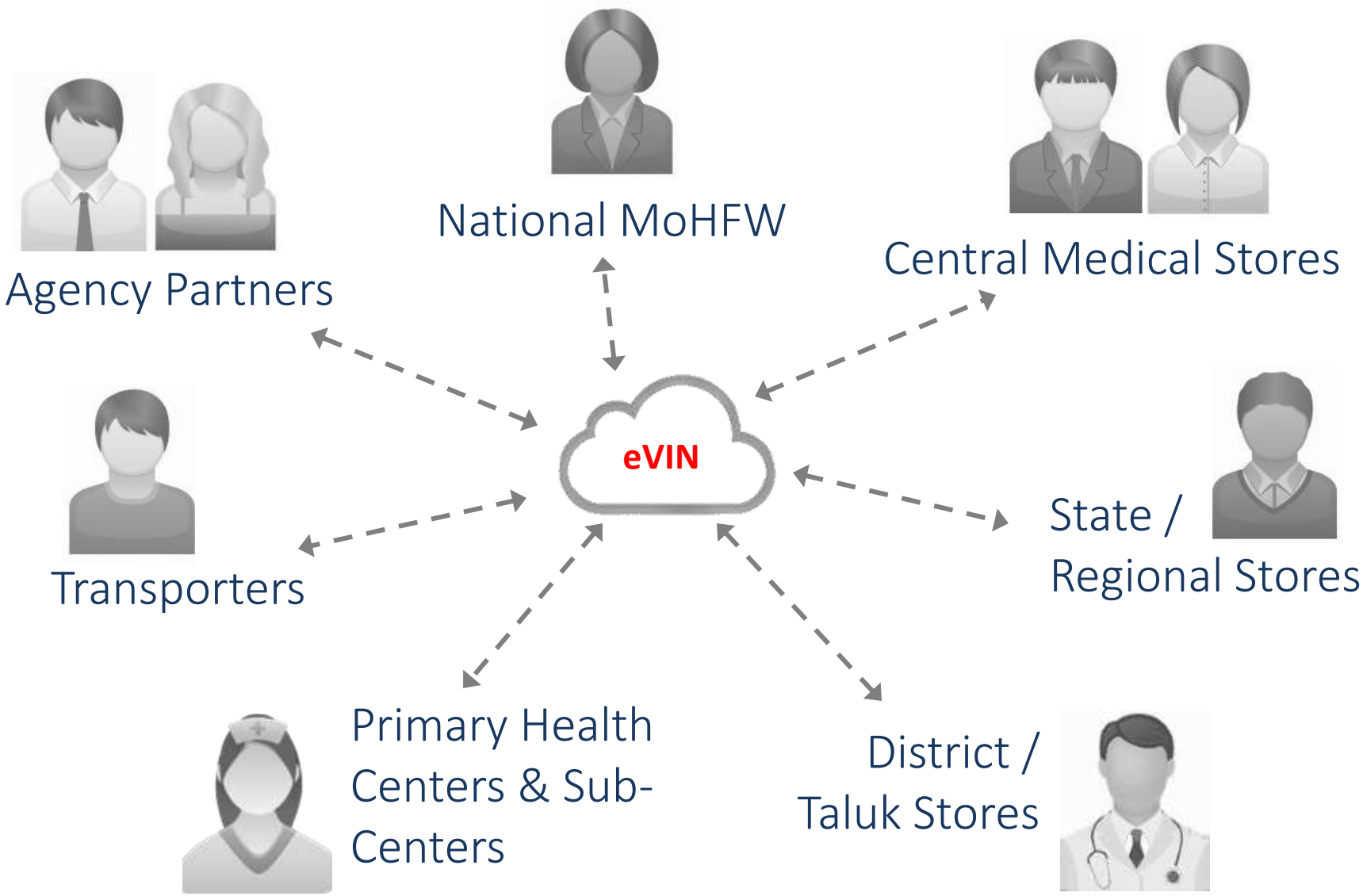
Early eVIN benefits

- Monthly physical stock count now being done in most cold chain points (CCP)
- Streamlined distribution of vaccines from district stores to CCP due to real time stock visibility on eVIN
- Greater ownership of the eVIN by state immunization officers leading to visible improvements in cold chain facilities
- Enhanced clarity on the vaccine flow and cold chain network in all the three states from state to cold chain point level
- More open vials are now getting returned from session sites contributing to reduced vaccine wastage
- Positive local media coverage in several districts

Importance of Real Time Stock Management under Universal Immunization Program

Coordinating the value chain

Optimized decision making, Accountability and HR Performance across organizations



Importance of real-time stock management under UIP

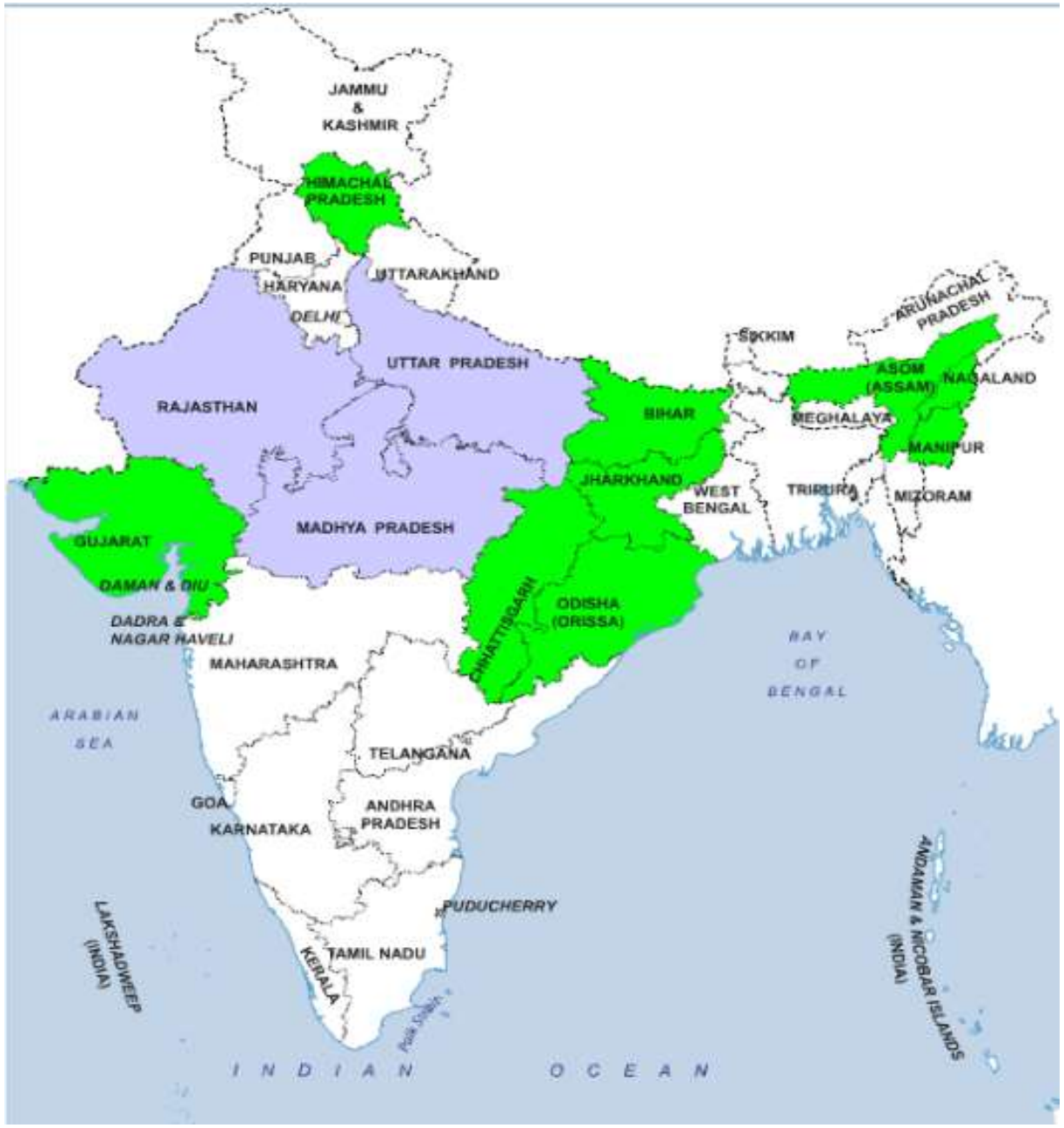
- Reduces vaccine wastage due to systemic issues- e.g. expiry dates, poor temperature control, not following open vial policy.
- Newer vaccines are expensive, thus eVIN helps save costs
- Improves stock distribution pattern across the vaccine pipeline which is essential to maintain the availability of the right quantity of vaccine as session sites
- Provides the basis to manage the supply side of vaccines, perform course corrections or ensure accountability from those further down the chain.
- Improves accountability and performance.

eVIN Scale up Plan

Phase 1 (2015-16)
MP, UP and Rajasthan – **March 2016**

Bihar, Chhattisgarh, Gujarat, Jharkhand, Odisha, Assam, Manipur, Nagaland and Himachal Pradesh – **December 2016**

11,000 Cold Chain Points in 376 districts



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