Improving Efficiency of Vaccination System in Multiple States

Annual Progress Report, Jan-Dec 2020

Project Snapshot

Date:	January 2020
Award ID:	00098752
Output ID:	00101970
Project Title:	Improving efficiency of Vaccination System in multiple states
Project Start Date:	1 January 2018
Project End Date:	31 Dec 2021
Donor:	Gavi, the Vaccine Alliance
Implementing Partner:	UNDP

Project Brief Description and Outputs

UNDP is working closely with Ministry of Health and Family Welfare (MoHFW) for strengthening the health systems in India. Under the Gavi supported Health System Strengthening (HSS) grant, UNDP successfully implemented the Electronic Vaccine Intelligence Network (eVIN) in 12 states of India, during 2014-18. The second round of grant is now supporting the scale-up of eVIN to the remaining 24 states and union territories of India, and eVIN implementation is targeting nine of these states for this year.

UNSDF outcome 3: By 2022, there is improved and more equitable access to, and utilization of, quality affordable health, nutrition, and water and sanitation services.

SP Outcome 3: Countries have strengthened institutions to progressively deliver universal access to basic services.

Project Output 1.3: Improved efficiency and effectiveness in public health systems for service delivery benefitting women and the poor.

Project Results

1.3.1 Improve vaccine and other health commodity logistics system across the country through the scale up of electronic vaccine intelligence network (eVIN).

1.3.2 Strengthen the evidence base for improved policy-making (at all levels) on programmatic areas through a well developed and implemented research interventions

List of focus States/districts: 359 districts of 24 states and UTs

1. Project Background

UNDP introduced the Electronic Vaccine Intelligence Network (eVIN) that has successfully digitized the vaccine and cold chain supply system in support of the Universal Immunization Programme of the Government of India. The project has demonstrated UNDP's capacity to implement large scale projects that have a strong buy-in from the national and state governments. The eVIN platform comprises of cutting-edge technology and a vast network of high-quality human resources working across a large number of districts and states, it represents the application of a powerful theory of change for scalable SDG impact. As per the Independent CPAP Outcome Evaluation Report 2013-17, eVIN represents a good model of integrating technological system to support solutions to a 'systems challenge' in service delivery for last mile impact. The evaluation report also says that eVIN has achieved high positive side effects in terms of better record keeping, promotion of accountable and transparent real-time system and use of MIS in decision making.

Within initial 12 months of its implementation eVIN has had a significant impact on improving the vaccine delivery system in 12 states. Program managers can view the entire supply chain from national to last-mile cold chain point level and track over 300 million vaccine doses and their storage temperature online in real-time for 11,000 health centres. 95% of these health centres now have vaccines available for at least 27 days in a month thus ensuring that every child coming to these centres for immunization gets the service. There has been a 72% reduction in vaccine stock outs across the cold chain points and the average duration for a stock out has reduced from 5 days to 3 days. The project has built capacities and empowered 17,000 government staff dealing in vaccine logistics 50% of whom are women. eVIN has had a significant impact in empowering female vaccine handlers as they got trained and adopted a smarter digital technology to do the daily vaccine stock management in their respective health centres.

Initial learnings from eVIN scale up in 12 states show that there is a strong buy-in and ownership from the state governments for the platform. The smartphone-based digital technology is readily accepted and adopted by the end-user who is government staff thus allowing the eVIN platform to cover of health service delivery from national to block level. This enables collecting relevant data on various other health programs for improved governance.

The eVIN is now being scaled up in all the 28,000 health centres across 36 States/UTs deploying a strong network of human resource in districts and states during this programme cycle. UNDP will expand the eVIN platform into a big data architecture system - with cloud servers, high quality analytics and real-time information dashboards to provide focused contextual information for improving last mile service delivery. Initial learnings from eVIN scale up in 12 states show that there is a strong buy-in and ownership from the state governments for the platform. The smartphone-based digital technology is readily accepted and adopted by the end-user who is government staff thus allowing the eVIN platform to cover of health service delivery from national to block level. This enables collecting relevant data on various other health programs for improved governance.

The project is working on the following key areas in health sector with a focus on system strengthening as part of supporting national programs of the health ministries -

- Supply chain management for vaccines and other health commodities – drugs, equipment through eVIN
- Strengthen the evidence base for improved policy-making (at all levels) on programmatic areas through a well developed and implemented research interventions

2. Project Performance and Results

2.1. Contribution towards Country Programme Outcome

CPD Outcome 3: By 2022, there is improved and more equitable access to, and utilization of, quality affordable health, nutrition, and water and sanitation services.			
Indicator 3.1: Percentage children under five years of age who are stunted.	Baseline: 38.7%. (year 2018)	Target(s): 27.9% (year 2022)	**Achievement(s):** Country DHS is awaited
CPD Output 1.3: Improved efficiency and effectiveness in public health systems for service delivery benefitting women and the poor.			
Indicator 1.3.1: Number of states covered through health systems strengthening benefitting women and the poor	Baseline: 12 (year 2017)	Target(s): 36 (year 2022)	**Achievement(s):** 36 (year 2020)
Means of Verification: Secondary database assessment through Government records and reports of National and State Government and UNDP. **Risk:** Delays in updation of Government records			
Description of output level/outcome level <u>results achieved</u> in 2019: During HSS-I eVIN has been rolled out in all 371 districts of 12 states of India. For HSS-II, UNDP was mandated to scale-up eVIN to remaining 24 States and Union Territories of India, to optimize and strengthen the vaccine supply chain management practices. During 2020, eVIN became functional in all 732 districts across 36 states and UTs.			

2.2. Progress towards Project Results/Outputs

Project Output 1.3: Improved efficiency and effectiveness in public health systems for service delivery benefitting women and the poor.			
Output result 1.3.1 Improve vaccine and other health commodity logistics system across the country through the scale up of electronic vaccine intelligence network (eVIN).			
Indicator(s)	**Baseline**	**Target 2020**	**Achievement(s)**
No. of states and UTs with eVIN reflected in state PIP	NIL	20	12
No. of states maintaining eVIN adherence rate > 90%		100%	97.1%
Number and percent Cold Chain Handler trained on eVIN		17,000	28,437 (167%)
Number and percent of cold chain points in the target districts which have gone-live with eVIN		17,000	17,663 (103%)
Percent of target cold chain equipment have a digital temperature logger installed		20,000	9,994 (50%)

Output result 1.3.2 Strengthen the evidence base for improved policy-making on programmatic areas through a well developed and implemented research interventions, by establishing an effective platform for various stakeholders to work together in the area of research and immunization.			
Proportion of laboratory confirmed cases of CRS	NIL	15%	9.7%
Proportion of laboratory confirmed cases of pneumococcal disease		5%	0.01% *anticipated proportion of laboratory-confirmed cases of pneumococcal disease is expected to be around 5%*
No. of suspect CRS cases reported through sentinel sites		tbc	270
No. of suspect pneumococcal disease cases reported through sentinel sites		tbc	994

Description of project output level <u>results achieved</u> in 2020:

<u>National level</u>

- eVIN became fully operational in entire India, covering all the 28,522 CCPs across 36 states and UTs.
- UNDP built capacity of nearly 48 thousand CCHs through 1314 batches of trainings.
- 24,120 temperature loggers have been installed.

<u>HSS-II States</u>

- Among HSS-II states, vaccine stocks became live on eVIN across 359 districts of all 25 states and union territories (UTs).
- So far, UNDP trained nearly 28.5 thousand cold chain handlers (CCHs) and alternate CCHs and eVIN became live at nearly 17.6 thousand cold chain points (CCPs).
- So far, 9,994 next-gen temperature loggers have been installed in nine HSS-II states and UT and eVIN team conitnue to suport in their monitoring.
- eVIN team is continuing to handhold CCHs and supported in maintaining eVIN.

Overall Output Status (mark the output on the scale of 1 to 5 as per the following criteria):

Exemplary (5)	**High (4)**	Satisfactory (3)	Poor (2)	Inadequate (1)
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Means of Verification: eVIN dashboard release by MoHFW

During the year 2020, nearly **50 million vaccine transactions** were made on eVIN mobile application, by cold chain staff as 28 thousand public health facilities use eVIN for real-time data of vaccine temperatures, stocks & flows. So far, 12 states successfully transitioned to government funding. Through continuous

advocacy, eVIN initiative mobilized USD 2.5 million government funding to support implementation in 12 states, in rest of the states the programme is supported by the Gavi, the Vaccine Alliance with total grant of USD 40 million (2018-21) in phase-II. Funds mobilized from government are indicator of ensuring sustainability of eVIN in these states. In the next two years, all 36 states and UTs will get fully transitioned to government funding.

COVID Response

The current year was affected by the COVID pandemic and restricted physical movement, during initial month. The UNDP technical team was constantly connected with the field team through digital medium, in building their capacity and guiding them. During later part of year 2020, the technical and field team were fully mobile and supported the development and testing of new software development. As a result, the vaccine logistic management in India remained unaffected during pandemic and even became better.

During the COVID pandemic, eVIN platform is upgraded for tracking supply chain of COVID materials and patients across 8 states and ensured adequate and timely supply. eVIN field teams have supported the state governments in managing the COVID health response while ensuring uninterrupted immunization services.

UNDP eVIN team supported capacity building, media advocacy, and community outreach for addressing stigma and discrimination associated with COVID-19, reaching 2,500 District Health Officials, 70,000 youth Volunteers and 100,000 frontline health workers. Webinars and expert dialogues on stigma, discrimination and mental health have reached 25,000 viewers on Facebook LIVE and messages challenging stigma and promoting COVID-19 appropriate behaviour have generated 9 million impressions on social media.

Building on the success of eVIN, UNDP has been entrusted with the responsibility to develop CoWIN for managing the supply chain of COVID vaccine in entire India.

Partnerships

The work around eVIN has various implementing partners including UN agencies (UNDP, UNICEF and WHO), a few other development partners, who have worked under with the Ministry of health to complement the national immunization programme. Ensuring close coordination among various partners and clarity on roles and responsibilities has worked well.

Replication beyond India

UNDP India is supporting the expansion of eVIN in Indonesia since 2018 onwards. During the year 2019, discussions were initiated to support eVIN implementation in Afghanistan, Malawi and Sudan for logistic management of health commodities.

In the current year 2020, eVIN roll-out has been initiated in Afghanistan and Malawi by respective UNDP Country Offices. Both the countries have completed the baseline assessments and Malawi has also started the eVIN trainings.

UNDP India is providing these Country Offices, end-to-end technical support and guidance including proposal development, budget planning, implementation planning, key process mapping, designing and monitoring the baseline data collection, technical inputs on design of software and web-interface, designing training material and training the master trainers, handholding support and facilitation during training of front-line-workers and managers.

2.3. State Specific eVIN Results

States		Districts Live on eVIN	CCPs Live on eVIN	CCHs Trained	CCEs Operational with TL
Total	**36**	**733**	**28521**	**47766**	**24120**
Assam	State	33	755	1543	868
Bihar	State	38	661	1542	1146
Chhattisgarh	State	28	623	1242	758
Gujarat	State	33	2242	2272	2504
Jharkhand	State	24	251	680	460
Madhya Pradesh	State	52	1204	3301	1711
Manipur	State	16	126	353	153
Nagaland	State	12	119	324	129
Odisha	State	30	1193	2361	1360
Rajasthan	State	33	2386	2745	2431
Uttar Pradesh	State	75	1298	2966	2606
Andhra Pradesh	State	13	1676	3348	1807
DNH & DD	UT	3	21	42	26
Goa	State	2	40	118	53
Himachal Pradesh	State	12	386	836	426
Karnataka	State	30	2853	3988	2459
Maharashtra	State	36	3217	5738	3568
Telangana	State	33	899	1809	1037
Tripura	State	8	154	300	178
Uttarakhand	State	13	317	618	440

States		Districts Live on eVIN	CCPs Live on eVIN	CCHs Trained	CCEs Operational with TL
Andaman & Nicobar Islands	UT	3	37	60	0
Arunachal Pradesh	State	25	193	283	0
Chandigarh	UT	1	55	59	0
Delhi	UT	11	614	620	0
Haryana	State	22	686	1984	0
Jammu & Kashmir	UT	20	585	669	0
Kerala	State	14	1256	2523	0
Ladakh	UT	2	28	54	0
Lakshadweep	UT	1	11	20	0
Meghalaya	State	11	184	363	0
Mizoram	State	9	83	200	0
Puducherry	UT	4	55	122	0
Punjab	State	22	729	851	0
Sikkim	State	4	40	40	0
Tamil Nadu	State	37	2609	2811	0
West Bengal	State	23	935	981	0
GMSD			4	9	37

3. Project risks and issues

a. Updated Project Risks and Actions

Project Risk 1: The Covid-19 pandemic and the social and economic crises has impacted life and work globally

Actions taken: *Development and execution of the crisis management and business continuity plan*

Project Risk 2: Unanticipated requirement in eVIN scale up plan

Actions taken: *Risk will be identified well in advance and its funding options will be discussed with MoHFW*

b. Updated Project Issues and Actions

Project Issue 1: GCS fund disbursement to UNDP may get delayed

Actions taken: *CO will fund critical activities from its project funds and reimburse the same when GCS is received*

Project Issue 2: Retention of high quality and trained human resource:

Actions taken: *HR team will be engaged to work on steps for retaining the service contract staff as best as possible to prevent large scale turnover*

4. Lessons Learned

Implementation of eVIN completed in all states and UTs. The project strengthened the cold chain and vaccine logistics management system of government of India by training and empowering government cold chain staff.

Using the system strengthening approach, keeping long term sustainability and scalability in mind, eVIN has demonstrated that low-cost, smart technology combined with the regular handholding and supervision, can create a transformative service that truly ensures no one is left behind.

The eVIN platform built with bottom-up approach, enabled users at the periphery of the network to communicate and transact in real-time. The platform helped to equip MoHFW to make informed decisions to achieve efficiencies in the immunization supply chains. It offered novels ways of monitoring entire immunization supply chains. eVIN also enabled remote monitoring of storage conditions using an "Internet of Things" (IoT) approach, where temperature sensors with transmitters installed inside vaccine refrigerators can send information on storage temperatures inside the cold-chain equipment.

eVIN has aimed to provide an integrated solution to address widespread inequities in services provision by supporting national/state governments through capacity building, monitoring and hand-holding of human resources and providing innovative solutions. The integrated approach of combining and strengthening people, processes and technology has contributed to improved and informed decision making on one hand and provided enough data base for policy and planning. This has led to greater transparency and accountability across the health system making every health worker feel engaged and responsible.

eVIN has emerged as an information system that is replicable and implemented using available electricity, internet and mobile phone infrastructure. It follows all the UNDP's innovation principles. The anchoring of the eVIN in national health Programme and capacity strengthening of key government health functionaries at the state and district level ensured success and sustainability of the initiative and applying the indigenously developed technology innovation (eVIN) to other health areas.

5. The Way Forward/ Key Priorities for 2021

eVIN is now scaled-up to all 36 states and union territories of India and has empower nearly 48 thousand government immunization staff, to track nearly 650 million vaccine doses, annually. In the year 2021, UNDP plans to continue supporting the eVIN (skill upgradation and logger maintenance/replacement) in all the states.

One of the key agenda is to rollout the CoWIN and handhold the process and capacity of health workers in managing it. The year 2021 and coming years will fully utilize the eVIN and CoWIN for routine immunization and COVID immunization.