KANTAR PUBLIC

Evaluation of UNICEF's Support to Strengthen Immunization Program in India

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Submitted By:

Kantar Public,
A Specialist unit of Hindustan Thompson Associates Private Limited
7th Floor, Tower B, DLF Cyber Park, Phase – III, Udyog Vihar, Sector 20, Gurugram-122016

Submitted To:

UNICEF

UNICEF House, 73 Lodi Estate,

New Delhi 110 003, India

unicef

Authors:

Priyanka Roy (Team Lead), Kantar Public

Dr. Enisha Sarin (Expert), Kantar Public

Priya Patil (Researcher), Kantar Public

Evaluation Manager: Atishay Mathur, Research & Evaluation Specialist, UNICEF

Evaluation Consultant: Dr. Vishal Dev Shastri, Research & Evaluation Consultant, UNICEF

Program Team :

Rija Andriamihantanirina, Health Specialist, UNICEF

Dr. Bhrigu Kapuria, Health Specialist, UNICEF

Dr. Mainak Chatterjee, Health Specialist, UNICEF

Dr. Yashika Negi Immunization Officer, UNICEF

Sheenu Bhadana, Immunization Officer, UNICEF

Jhimly Baruah, Communication for Development Specialist, UNICEF

Sadique Ahmad, Social & Behavior Change Specialist, UNICEF

Evaluation Reference Group (ERG) Members :

Dr. J.K. Das, Retired Director, National Institute of Health and Family Welfare

Dr. Krupal Joshi (Associate Professor, Department of community & Family Medicine, AIIMS RAJKOT)

Dr. Francois Gasse, ex-UNICEF and ex-WHO

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LIST OF ACRONYMS

ADs	Aspirational Districts
AEFI	Adverse Event Following Immunization
AIH	Alliance for Immunization and Health
ANM	Auxiliary Nurse and Midwife
ANMOL	Auxiliary Nurse and Midwife Online
ASHA	Accredited Social Health Activist
AVD	Alternate Vaccine Delivery
AWW	Anganwadi Worker
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy
BCG	Bacillus Calmette–Guérin
BMC	Block Mobilization Coordinator
BMGF	Bill and Melinda Gates Foundation
BRIDGE	Boosting Routine Immunization Demand Generation
BVHA	Bihar Voluntary Health Association
C4D	Communication for Development
CAP	Communication, Advocacy and Partnerships
CAS	Critical Appraisal Skills
CBIRI	Capacity Building Initiative for Routine Immunization
CBO	Community-based Organization
CCO	Cold Chain Officer
CCT	Cold Chain Technician
CES	Coverage Evaluation Survey
CHC	Community Health Centre
cMYP	Comprehensive Multi Year Plan
CPD	Country Programme Document
CPAP	Country Programme Action Plan
CRA	Community Radio Association
CSO	Civil Society Organization
CSSM	Child Survival and Safe Motherhood
DAC	Development Assistance Committee
DIO	District Immunization Officer
DMC	District Mobilization Coordinator
DMO	District Medical Officer
DPT	Diphtheria Pertussis Tetanus
EF	Efficiency
EPI	Expanded Programme on Immunization
eVIN	Electronic Vaccine Intelligence Network
EVM	Effective Vaccine Management
FAQ	Frequently Asked Question
FBO	Faith-based Organization
FLW	Front Line Worker
FIC	Full Immunization Coverage
GAVI	GAVI, the Vaccine Alliance (formerly the GAVI Alliance and the Global Alliance for Vaccination and Immunization)
GIF	Graphics Interchange Format
GoI	Government of India
GVAP	Global Vaccine Action Plan
GMSD	Government Medical Store Depot
HBYC	Home-Based care for Young Children

HMIS	Health Management Information System
HPDs	High Priority District
HRA	High Risk Area
HSS	Health System and Immunization Strengthening
IA 2030	Immunization Agenda 2030
IAP	Indian Academy of Pediatrics
IAPPD	India Action Plan for Pneumonia and Diarrhoea
INAP	India New-born Action Plan
IAG	Immunization Advisory Group
ICO	India Country Office
IDI	In-Depth Interview
IDA	Integrated District Approach
IEAG-MR	India Expert Advisory Group for MR
IEC	Information, Education and Communication
IHAT	Indian Health Action Trust
IMA	Indian Medical Association
IMR	Infant Mortality Rate
IPC	Interpersonal Communication
IPV	Inactivated Poliomyelitis vaccine
IIMC	Indian Institute of Mass Communication
IMI	Intensive Mission Indradhanush
IMI-GSA	Intensive Mission Indradhanush-Gram Swaraj Abhiyan
INR	Indian National Rupee
ITSU	Immunization Technical Support Unit
JC	Joint Commissioner
JKSMS	Jan Kala Sahitya Manch Sanstha
JSI CORE	John Snow Inc.
JWT	J Walter Thompson
KEQ	Key Evaluation Question
KII	Key Informant Interview
KOL	Key Opinion Leader
LODOR	Left Out / Drop Out / Resistant
MCH	Maternal and Child Health
MCP	Mother and Child Protection Card
MCV	Measles Containing Vaccine
MCTS	Mother & Child Tracking System
MDG	Millennium Development Goal
MI	Mission Indradhanush
MIS	Management Information System
MO	Medical Officer
MoHFW	Ministry of Health and Family Welfare
MOM	Minutes of Meeting
MP	Madhya Pradesh
MR	Measles Rubella
Measles-Rubella Quartz	Measles-Rubella Quality Assurance in Real Zone
NCCMIS	National Cold Chain Management of Information Systems
NCCRC	National Cold Chain Resource Centre
NCCVMRC	National Cold Chain & Vaccine Management Resource Centre
NFHS	National Family Health Survey
NGO	Non-Government Organization
NHM	National Health Mission
NIHFW	National Institute of Health and Family Welfare

NIP	National Immunization Programme
NMR	Neonatal Mortality Rate
NRC	National Rehabilitation Centre
NRHM	National Rural Health Mission
NTAGI	National Technical Advisory Group on Immunization
NUHM	National Urban Health Mission
OECD	Organization for Economic Cooperation and Development
OPV	Oral poliomyelitis vaccine
PA	Public Announcement
PCV	Pneumococcal Conjugate Vaccine
PEF	Performance Evaluation Framework
PHC	Primary Health Centre
PIP	Program Implementation Plan
PQS	Performance, Quality and Safety
RBSK	Rashtriya Bal Swasthya Karyakram
RCH	Reproductive and Child Health
RI	Routine Immunization
RISE	Rapid Immunization Skill Enhancement
RJ	Radio Jockey
RMNCH+A	Reproductive, Maternal, Newborn, Child and Adolescent Health
RSoC	Rapid Survey on Children
RVLM	Regional Vaccine and Logistics Manager
RCV	Rotavirus containing vaccine
RVV	Rotavirus Vaccine
RWP	Rolling Work Plan
S4i	Supportive Supervision App and Immunization
SBCC	Social and Behavior Change Communication
SDG	Sustainable Development Goals
SEAR	South-East Asia Region
SEPIO	State Extended Programme on Immunization Officer
SHSB	State Health Society Bihar
SHG	Self Help Group
SIA	Supplementary Immunization Activities
SIHFW	State Institutes of Health and Family Welfare
SJ&MA	Department of Social Justice and Minority Affairs
SMNet	Social Mobilization Network
SNCU	Sick Newborn Care Unit
SRS	Sample Registration Survey
TA/DA	Travel Allowance / Daily Allowance
TCA	Targeted Country Assistance
Td	Tetanus and adult Diphtheria
TNA	Tribal Need Assessment
ToC	Theory of Change
TOR	Terms of Reference
ToT	Training of Trainers
TSU	Technical Support Unit
TV	Television
UIP	Universal Immunization Programme
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNSDF	United Nations Sustainable Development Framework
UNSDCF	United Nations Sustainable Development Cooperation Framework

UPSRLM	Uttar Pradesh State Rural Livelihood Mission
UP	Uttar Pradesh
USD	United States Dollar
UT	Union Territory
VHAI	Voluntary Health Association of India
VHND	Village Health and Nutrition Day
VHSNDs	Village Health, Sanitation, and Nutrition Days
VIWG	Vaccine Introduction Working Group
VPD	Vaccine Preventable Disease
WHO	World Health Organization
WIC	Walk-In Cold Rooms
WIF	Walk-In Freezer Rooms

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EXECUTIVE SUMMARY

The Universal Immunization Programme (UIP) is a critical intervention in Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCH+A) and one of the most extensive public health programmes globally. Therefore, the support of the United Nations Children's Fund (UNICEF) is crucial, along with the other immunization partners such as the Immunization Technical Support Unit (ITSU), World Health Organization (WHO), UNICEF, United Nations Development Programme (UNDP), civil society networks, and other technical partners. In addition, UNICEF extended technical and financial support to the Government of India (hereon referred to as the GoI) to strengthen Routine Immunization (RI) and manage the five critical areas of immunization: coverage and equity, new vaccines introduction, cold chain strengthening, communication and demand generation, and polio transitioning. This evaluation, on the mentioned key areas, assessed UNICEF's contribution to strengthening immunization in India from 2014 to 2019.

UNICEF has worked towards the health system strengthening of immunization programmes in India by:

- Providing technical assistance to reach high-risk and hard-to-reach populations.
- Supporting government in procuring vaccines to enhance steady supply, introducing new vaccines for Vaccine-Preventable Diseases (VPDs), supporting global and regional goals such as polio elimination, and strengthening the cold chain network.
- Generating demand for vaccines by engaging in communication and advocacy initiatives through information-education-communication (IEC) material, media sensitization, and social media engagement.
- Providing technical assistance to the government to strengthen the data use and review system and supportive supervision via effective field monitoring.
- Fostering partnerships for reducing inequities and improving health outcomes by expanding the reach of the immunization programme across the country.
- Enabling strategic partnerships to make the government's immunization efforts more sustainable with organizations such as John Snow Inc. (JSI CORE) Polio Project, Rotary International, Bill, and Melinda Gates Foundation (BMGF), WHO, UNDP, GAVI, the Vaccine Alliance (GAVI), and celebrity ambassadors. In partnership with these organizations, UNICEF supported the Ministry of Health and Family Welfare (MoHFW) plan, design, implement, and monitor activities for protecting children in India from vaccine-preventable diseases.

UNICEF works from its Country Office in New Delhi and 13 state offices. UNICEF's program efforts focused on four states, i.e., Uttar Pradesh (UP), Madhya Pradesh (MP), Bihar, and Rajasthan, with large birth cohorts and low immunization coverage. UNICEF also works in polio focus states and supports strengthening Routine Immunization (RI) by transitioning polio assets.

Evaluation Objective:

The evaluation assessed UNICEF's contribution to strengthening immunization in India from 2014 to 2019. This evaluation serves as:

- Robust evidence of UNICEF's support to the government identifies core areas requiring further attention.
- A base plan for UNICEF's country plan-2022: The insights and learnings from the findings will be utilized to effectively support the government and expand the immunization programme in India by:
- Contributing to knowledge sharing, triggering a dialogue among the stakeholders, and streamlining immunization programs.
- Supporting UNICEF to realign and correct the immunization programme processes for better outcomes via developing new country plans aligned with India's strategic visions.

Methodology:

This evaluation was based on the Organisation for Economic Co-operation and Development's (OECD) Development Assistance Committee (DAC) framework and focussed on five out of the six criteria: relevance, effectiveness, efficiency, sustainability, and coherence, barring impact. A retrospective Theory of Change (ToC) for UNICEF's support of the immunization programme in India from 2014 to pre-COVID19 (end 2019) was also prepared.

Systematic desk review of literature focused on UNICEF's PAN-India support to the country's immunization program. The systematic desk review traced the immunization activities conducted between 2014-2019 in India and understood the background of UIP concerning five critical areas of UNICEF's activities. This was further utilized to build Key Evaluation Questions (KEQs) and strengthen the evaluation matrix to identify key information areas and develop research tools for primary data collection.

The **primary qualitative data were collected** at the national, state, and district levels through in-depth interviews (IDIs). The IDIs involved a deep dive into UNICEF's collaborative actions and partnerships, sustainability of the processes, and innovative approaches. To understand UNICEF's sub-national support for immunization programmes, five states were purposively selected. The four states, Bihar, Uttar Pradesh, Madhya Pradesh, and Rajasthan, were chosen since they contribute to a significant portion of the birth cohort of the country, have weaker health indicators, low immunization coverage, and many polio coverages high-risk areas (HRAs). In addition, these states are priority states for the government and GAVI Health System Strengthening support. These states are also a significant part of UNICEF's support, and resources are focused on these states. Assam was selected as the fifth state since it is the most populous North-Eastern state and presents an equity profile. As a part of the primary data collection, 150 semi-structured IDIs of 45-60 minutes were conducted across the selected states with the stakeholders associated with the UIP in India, such as national-level government representatives, state and district officers, partners at national, state and district level, and UNICEF's staff at state and district level. The information from the IDIs was triangulated with the desk review to answer each evaluation question effectively.

Findings from the assessment of relevance, effectiveness, efficiency, sustainability, and coherence:

1. ***Relevance* of immunization activities undertaken by UNICEF, with the goals and priorities at global, regional, national, state, and individual levels.**

The evaluation indicated that all UNICEF activities at the national, state, and district levels responded to the Sustainable Development Goals (SDGs) –

1. "Increased number of pregnant women and children, especially from the marginalized groups, receive quality immunization by the package of essential services for addressing common childhood illnesses."
2. "All pregnant women, children, and adolescents have equitable access to utilised quality health services and community outreach and facilities with a focus on marginalized groups and girl child."

UNICEF's immunization intervention appears to be well-aligned across global, regional, and country priorities, according to the documents reviewed and IDIs. As evidence suggests, UNICEF contributes to the government's goal of obtaining 90% FIC due to its tight collaboration with the government.

Despite UNICEF's efforts over the years to address the issues mentioned, overall immunization progress has been slow and irregular. While some states (Madhya Pradesh, and Rajasthan, based on NFHS-5 data) have made significant improvements in the last 4-5 years due to national and state government efforts, others (Bihar, Uttar Pradesh, and Assam, based on NFHS-5 data) have not. Even though UNICEF targets state-specific issues, the percentage point for Madhya Pradesh and Rajasthan is substantially greater than for Bihar, Assam, and Uttar Pradesh.

2. *Effectiveness* of UNICEF's support to the UIP to achieve key outcomes in each of the five key areas of work

UNICEF's cold chain systems strengthening activities, such as technical support for the establishment of the National Cold Chain & Vaccine Management Resource Centre (NCCVMRC), development of Effective Vaccine Management (EVM), and roll-out of the Electronic Vaccine Intelligence Network (eVIN), improved government's efforts in implementation of Routine Immunization.

UNICEF provided infrastructure to the government and added to the capacity building of government officials by managing the rollout of Boosting Routine Immunization Demand Generation (BRIDGE) training and providing technical support in the Health System Strengthening (HSS) 2 states.

UNICEF's efforts were effective, as evidenced by the decreased Infant Mortality Rate (IMR) and increasing percentage of FIC in India. Between 2014 and 2019, UNICEF's support for new vaccine introduction in India via cold chain management and communication to reduce Adverse Event Following Immunization (AEFI) concern has effectively achieved >80% coverage of Measles Containing Vaccine (MCV) and Rotavirus Containing Vaccine (RCV). The increasing capacity of Front Line Workers (FLWs), the establishment of Social and Behavior Change Communication (SBCC) cells, and the usage of Auxiliary Nurse Midwife Online (ANMOL) by Auxiliary Nurse Midwife (ANMs) are all factors that contributed to the rise in coverage.

Despite the high coverage of the recently introduced vaccines, UNICEF has yet to reach its aim of >80% FIC across all states. For example, in Assam and Uttar Pradesh, the FIC is low. There have been a few implementation issues indicating that the intervention's effectiveness could be improved, such as improvement in Mother and Child Protection (MCP) card retention, which

currently stands at 86%. The lack of understanding of the importance of MCP cards among parents must be addressed. There are gaps in Full Immunization Coverage (FIC) of 12-23 months between 2014 and 2019 across states within settings such as religious groups and social-economic categories.

3. *Efficiency* of UNICEF to optimally utilize its human, financial, and time resources to deliver its planned immunization activities in a timely and organized manner

To improve the efficiency of programmes, UNICEF undertook need assessment studies to identify the challenges adding to low immunization coverage among tribal communities. This helped UNICEF bridge the gaps by taking strategic actions, such as supporting 15 states in developing state-specific tribal immunization strategies. As a result, UNICEF achieved its specific targets from the Technical Country Assistance plan (TCA plan) of GAVI, showcasing the success of UNICEF's efforts and programmes. Furthermore, UNICEF supported the development of an online immunization dashboard (Health Information System) at the national and sub-national levels. UNICEF efficiently utilized human and fiscal resources to increase the uptake of new vaccines and to strengthen the cold chain system. UNICEF was able to spend its resources judiciously but was delayed in the development of the tribal strategy for immunization. This indicates a need for better planning and fund utilization to achieve the objectives of the GAVI HSS2 grant and address FIC inequities.

As a result of UNICEF's assistance, the effectiveness of the cold chain system has increased across the country. Among the evaluation states, while Madhya Pradesh and Rajasthan have managed the cold chain system effectively, the same level of performance is not seen in Bihar, Uttar Pradesh, and Assam. Religions and gender continue to have disparities in terms of equity. Although there is little difference in FIC between males and females, IMR statistics imply differently, which suggests otherwise about the efficacy of SBCC tactics. Furthermore, there is a disparity in immunization coverage amongst religions, and there are still targets for immunization dropouts that are yet to be achieved at the state and district levels. National Cold Chain Management of Information Systems (NCCMIS) is used for cold chain data harmonization by just 76% of UNICEF-supported High Priority Districts (HPDs). However, the EVM score, which was found to be below 80% for the five focal states in this evaluation, reflects UNICEF's low efficiency in capacity-building activities. For Assam, Bihar, Rajasthan, and Uttar Pradesh, the EVM score across E1 to E9 criteria is below 80%. Although FIC coverage across Rajasthan has improved, the capacity for EVM is low based on the EVM score.

4. *Sustainability* of UNICEF's efforts to UIP in India while focusing on five key areas of work

UNICEF focused on sustainability and ensured the incorporation of activities through supportive supervision, management of crisis communication, and capacity building. The interventions, such as facilitation and completion of BRIDGE training for master trainers and FLWs, exclude the efforts of UNICEF toward the sustainability of immunization programmes. Similarly, the institutionalization of cold chain resource centres, the NCCMIS, and EVM pioneered by UNICEF are now under government. The evaluation also found that these digitized monitoring systems created by UNICEF have sustained and improved cold chain management. Sustainability and improved capacity are reflected in state government initiatives, such as special efforts and plans designed by state departments based on the knowledge and ability built by UNICEF.

UNICEF's deployment of the Social Mobilization Network (SMNet) has made the Measles-Rubella (MR) campaign effective and efficient. The communication guideline for the Measles-Rubella campaign has built the capacity of government officials. Therefore, while carrying out the intervention, UNICEF also strategizes to disseminate knowledge among the stakeholders. It can be concluded that capacity building is UNICEF's tool for ensuring the sustainability of the programmes and interventions. UNICEF also assures support by providing the required infrastructure, e.g., UNICEF supports the government by ensuring improved cold chain infrastructure at the national, state, and district levels. Hence, UNICEF's efforts have led to infrastructural development that ensures the sustainability of Routine Immunization across the states.

5. *Coherence* in UNICEF's work with external partners around immunization as per global, regional, national, and state priorities; and the internal work of UNICEF around other interventions

The findings from the evaluation highlight that UNICEF works in harmony with government programmes and other partner organizations. UNICEF worked in collaboration with partners and closely with the government to prioritize the needs of the states to ensure higher coverage. As a result, the government provides a clear division of responsibilities among partners. All partners support the government in their areas of expertise per their terms of reference (ToR) and liaise with the government directly for their respective scope of work. In addition, clear communication of UNICEF with other partners during task force meetings and partners' forums facilitated smooth functioning.

The evaluation also found that UNICEF has a scope to better communicate with clearly defined roles and responsibilities of each group, thereby avoiding delays in work caused due to delayed responses among teams. It was observed that sometimes inevitable roadblocks hinder internal coherence, like delays in responding to communication requests owing to the heavy workload on Communication for Development (C4D) teams. UNICEF's regular meetings allowed the internal teams to track work completion status, brainstorm on new interventions and align the organization's work across different domains together, which attributed to UNICEF's internal coherence. Hence, UNICEF's work fits well with internal and external partners because of mutual understanding, mentoring other organizations, and having an entire ToR with the government.

Conclusion

The evaluation found that UNICEF is aligned with global and national priorities. Close coordination with the government has facilitated UNICEF to deliver on the government's priorities. UNICEF also responded to United Nations strategic outcomes, worked to reduce infant mortality, and increased Routine Immunization coverage. To achieve these results across India, UNICEF mitigates the problem at the local level by making the most relevant efforts at the grassroots level.

UNICEF's Rolling Work Plans (RWPs) for each state are examples of planning relevant activities to resolve immunization-related issues at the state level by serving the five key work areas. At the same time, boat clinics in Assam are one example of where UNICEF supported the government in mitigating the problem at the local level. UNICEF's approach to tackling the issues at the local level in partnership with local nongovernmental organizations (NGOs) that engage communities. This helps UNICEF and the government mitigate the most relevant problems of immunization

coverage. This microplanning and supportive supervision of UNICEF solve the problems most efficiently.

According to the documents reviewed and IDIs, UNICEF's immunization intervention appears to be well-aligned across global, regional, and national priorities. As evidenced, UNICEF contributes to the government's goal of obtaining 90% FIC at the national level due to its tight collaboration with the government. Despite UNICEF's efforts to address the issues mentioned over the years, overall immunization progress has been slow and irregular. Even though coverage has improved across the country, there is variation in coverage among states, evidenced by wide variation in percentage points. In addition, equity gaps among religion and social categories continue to exist, indicating the need for increased efforts to close these gaps.

To increase Routine Immunization coverage, UNICEF targeted community demand and improved service quality. Although the chain system has been reinforced in comparison to the past, there is a pressing need to increase the capacity of the cold chain system to fill coverage gaps as the population grows. The dropout rate has decreased, and timely reporting of AEFI cases has increased, indicating that UNICEF's efforts have been successful.

UNICEF's partnership and mid-media initiatives have successfully increased UNICEF's coverage efforts. UNICEF created communication plans to minimize vaccine apprehension, particularly for new vaccine rollouts and government initiatives to increase Routine Immunization coverage. UNICEF programmes like ANMOL and BRIDGE have helped FLWs enhance their ability to promote immunization. UNICEF improved infrastructure, created dedicated resource centres, and supplied toolkits to train cold chain personnel, monitor cold chain management, and offer travel allowances for cold chain personnel to visit other locations.

Even though UNICEF transformed all cold chain points at the state level and focused heavily on areas with disadvantaged populations, as evidenced by the data from the National EVM Assessment, 2018, there is still a need to improve the infrastructure and capacity of the cold chain system across the states to bring the quality up to global standards.

Recommendation

1. Relevance

- **Need for disaggregation of indicators based on social groups and gender:** In the absence of clear annual milestones, measuring the programme progress was challenging for policymakers and in terms of additional yearly resource allocation. Thus, it would be strategic to target FIC coverage for all socio-economic groups and genders with specific targets, including those living in urban poor communities and migrants. This will facilitate a guided approach for achieving equity in FIC along with easier monitoring and assess the sufficiency of comprehensive improvement in the situation.
  Targets should be set on these parameters in UNICEF's results Framework, Country Programme Document (CPD), and Country Programme Action Plan (CPAP) for a guided approach to achieving equity.

- **Requirement for customized SBCC for different religious groups:** The data suggests the FIC among children of Muslim communities has increased but is lower than the FIC

among children of Hindu communities. UNICEF and states' several SBCC and IEC activities

Although UNICEF and state governments have set up SBCC cells, these should invest more in IEC and communication tools with targeted messaging for parents from different religious communities. UNICEF should consider instituting robust monitoring mechanisms similar to polio eradication programmes in specific resistant communities. A strong sustained campaign such as SMNet may also benefit the children in these areas.

- **Need to focus on urban FIC:** To achieve a high growth rate of FIC among children of urban areas, UNICEF and partners should support state governments, in the identification of the issues impacting immunization coverage, including barriers, and in developing state-specific relevant strategies, especially for urban slums, kiln sites, construction sites, and any other HRAs. Hence, a localized and contextualized approach to strengthening immunization would be optimal.

- **Need for exploring FIC variation causes:**
  UNICEF and partners should undertake evaluative studies to document success and failure stories to identify the factors or drivers affecting the change. For example, success factors and case studies can be identified in good-performing states such as Madhya Pradesh. These learnings could be utilized and replicated in states where FIC growth is slow.

2. Effectiveness

- **Need to promote knowledge sharing among states:** Lessons from the relatively better states can be replicated in the other states that are lagging. Through an evidence-based study, UNICEF and stakeholders should identify the factors or interventions that led to improved coverage in states such as Madhya Pradesh and Rajasthan, which led to improvement. It would be critical to assess the impact of an integrated approach (by integrating immunization in other RMNCH+A interventions) on immunization intervention and the extent of its contribution to the positive change, and to what extent it addressed equity issues.

- **Need to strengthen local healthcare services:** Owing to the lack of robust evidence about children from urban poor and migrant families, it is challenging to assess the focus of UNICEF's intervention in terms of equity. It would be strategic for UNICEF to advocate for improving immunization coverage amongst the poor and migrant families in urban areas. This might require better coordination with local governments like the panchayat or local urban bodies and effective monitoring of the demand and supply situation, and investing in strengthening the local-level health services.

- **Vaccine uptake and full immunization through targeted SBCC:** There is a high rate of Bacillus Calmette–Guérin (BCG) vaccine compliance (more than 90%), whereas the overall FIC is as low as 76%. Immunization dates among parents (especially from vulnerable families) or poor MCP (vaccination) card maintenance.
  Although the retention of MCP cards has increased, UNICEF should promote the importance of vaccination cards for tracking immunization and educate parents about the

benefits of full immunization over partial immunization to ensure a child's health. UNICEF may support the government by undertaking capacity-building of ANM, Accredited Social Health Activist (ASHA), and other local-level advocacy systems with the support of SBCC cells. This training should focus on ensuring full immunization of children enrolled into the system at birth by the frontline health workers.

3. Efficiency

Need to increase digital monitoring of cold chain systems for increasing FIC in underserved areas: To achieve the targets, UNICEF and its partners should identify more organizations at the grassroots level. These should include Urban Local Bodies and Panchayats that can influence the communities, remove resistance, mitigate the fear of AEFI, and help UNICEF and the government achieve their goals. Also, it would be important to strongly highlight the association of immunization with the survival of the child, including morbidity and overall welfare.

Out of the total, only 76% of the UNICEF-supported HPDs utilize NCCMIS for cold chain data harmonization. Therefore, to improve the coverage, UNICEF should support state governments in enhancing digital monitoring across districts to ensure. That would entail capacity building for maintaining a cold chain, strong, robust monitoring, and quick feedback, possibly through digital systems (and dashboards) to the local administration for effective and efficient steps.

4. Sustainability

- **SBCC for community engagement with local organizations and leaders:** SBCC cells have contributed to the improved immunization coverage; however, similar targeted strategies should be adopted to address the resistance towards immunization, retention of children in the immunization programme, and improved felt need among specific communities for closing equity gaps.
  To bring a sustainable change in the behaviour and attitude of the community, it is necessary to enhance community engagement and the local governance system. Therefore, UNICEF and stakeholders should continue to support the SBCC strategies across states to include more regional and local community-based influencers, activists, and religious leaders. With UNICEF's support, SBCC strategies will continue to support the intensification of immunization coverage via the engagement of SBCC cells in states.

- **Devising a strategy for sustainable knowledge within the government system:** It is suggested that UNICEF plan and implement continuous periodic workshops based on standard modules, monthly periodicals with case studies, and other UIP-specific knowledge development activities. This could facilitate sustainable human resource performance and knowledge retention within the government immunization system for improved FIC. UNICEF and other stakeholders should continue to support with knowledge and expertise in planning, strategizing, and implementation by providing experts that have global and national experience.

5. Coherence

While the government plays a significant role in coordination among partner organizations, it would be advisable to strengthen an internal mechanism of all stakeholders and initiate lesson-learning processes. UNICEF should create and administer partner surveys to identify gaps, good practices, and areas for improvement related to coherence. The results could be made accessible to partners with the goal of improving coherence. The other platform for such coordination could be through United Nations Sustainable Development Cooperation Framework (UNSDCF), so far as UN agencies are concerned.

UNICEF and stakeholders should continue to monitor the implementation and coverage through periodic surveys. UNICEF should support the government in strengthening the Health Management Information System (HMIS) for generating high-quality reports based on accurate data from the state and sub-state-level, which could be ensured by continuous capacity building of the health workforce for accurate data capturing.

To avoid delays and reduce duplication of activities, better coordination during developing RWPs and continuous monitoring of progress on outcomes is recommended.

Lesson Learned

1. **Coverage and equity: Targeted strategies accelerate the closure of immunization equity gaps**

UNICEF's targeted strategies, such as SBCC Gender Strategy Framework and partnerships with media agencies, were observed to be effective with the mass dissemination of information to promote gender equity. This indicates the high effectiveness of mass media in overcoming social barriers and encouraging immunization. In urban areas, the public engagement strategies of UNICEF, such as Teeku Talk, need to be planned better with frequent engagement sessions. This could increase the reach of the interventions and therefore boost FIC.

The needs assessment of UNICEF to identify challenges in tribal areas has contributed to a better knowledge of challenges faced among these communities and the development of state-specific tribal strategies to address the coverage and equity gaps. Therefore, this can be concluded that similar studies could be leveraged to address the FIC gaps prevalent among religious groups, wealth quintiles, and urban areas.

2. **Communication and demand generation: SBCC strategies enhance the demand for immunization**

UNICEF developed communication plans to reduce vaccine hesitancy, especially for new vaccine rollouts and government campaigns to intensify Routine Immunization coverage. UNICEF interventions such as ANMOL and BRIDGE have added to the improved capacity of FLWs to promote immunization.

The SBCC strategy has also contributed to changing the population's attitude toward the benefits of child immunization with improved knowledge. The decrease in dropouts and increase in timely reporting of AEFI cases suggest that UNICEF's efforts have been effective.

3. **Cold chain strengthening: Capacity building of cold chain management staff and improved infrastructure strengthen the cold chain system**

UNICEF works to provide better infrastructure, dedicated resource centres, toolkits to train cold chain staff, monitor cold chain management, and provide travel allowances for cold chain staff to visit other points. These efforts of UNICEF were dedicated to improving the vaccine supply and increasing FIC. During the Coverage Evaluation Survey (CES 2018), it was learned that the unavailability of vaccines was the least reported barrier to immunization. Also, the improved FIC across different geographies and social groups indicates that the current cold chain strengthening strategy has increased FIC coverage.

4. New vaccine introductions: Strategic AEFI communication promotes the uptake of new vaccines

For the Measles-Rubella vaccine roll-out, UNICEF played a crucial role in AEFI mitigation through communication with community stakeholders, opinion leaders, religious leaders, media, and journalists. The protocol to deal with AEFI instances was ensured by the release of operational guidelines developed with the support of UNICEF and released by the government. Efforts of UNICEF, such as forming Media Core Groups at the state level, were an effective action plan to communicate the crisis, tackle rumours and fake news and reduce the fear of AEFI among parents.

5. Polio Transitioning: SMNet coordinators drive community mobilization for improved immunization coverage

UNICEF pioneered community mobilization for advocacy during the polio campaign through a vast network of SMNet coordinators. With the support of SMNet mobilizers, UNICEF reached lakhs of households across states to inform parents about Routine Immunization. SMNet mobilization is a good example of leveraging existing resources and knowledge for improved immunization coverage.

SECTION 1. INTRODUCTION

A. BACKGROUND AND INTRODUCTION

Immunization – A global perspective

Immunization is proven and one of the most cost-effective child survival interventions, which has made a considerable contribution to global health.[1] It provides direct and adequate protection against preventable morbidity and mortality. **Worldwide, an estimated 20% of all deaths amongst children younger than five years of age are preventable by currently available and licensed vaccines**.[2] The benefits of immunization range from eradicating smallpox to the near elimination of polio and significant reductions in common disease occurrence, such as diphtheria, tetanus, pertussis, measles, and rubella. Over the years, various attempts were made to strengthen National Immunization Programmes (NIPs) via – improving the immunization coverage rates across the world, shaping the vaccine markets, designing Regional Vaccine Action Plans, introducing new life-saving vaccines, improving vaccine price transparency, and establishing a global immunization monitoring and evaluation framework.

Despite the continuous efforts, challenges remain which hamper the delivery of immunization services leading to a lack of access to immunization and other health services. **For example, in 2019, 14 million infants did not receive an initial dose of the diphtheria pertussis tetanus (DPT) vaccine. An additional 5.7 million were partially vaccinated.**[3] While some of these challenges are related to the supply-side (ineffective vaccines management, under investments), others are related to the demand side (low coverage pockets within countries, demand barriers) or are natural (disease barriers, geographical inequities). Thus, to ensure sustainable and universal delivery of immunization services, NIPs across the world continuously adapt by revising and updating their immunization policies and strategies.

United Nations Children's Fund **(UNICEF) reached almost half of the world's children with life-saving vaccines in 2019.**[4] UNICEF's role in global immunization ensures that children can access efficient, safe, and sustainable immunization services. To ensure this, UNICEF engages communities to create vaccine demand, forms partnerships and alliances to harness support for immunization, facilitates the introduction of new vaccines, and develops capacities of national and local health systems by training health workers, forecasts vaccine demands, procuring and distributing vaccines to developing countries and keeps vaccines safe through cold chain logistics. Additionally, UNICEF also contributes to the preparation of essential documents, which include, but are not limited to, "**UNICEF Immunization Roadmap (2018-2030)**" and "**Guidance note on cold chain logistics and vaccine management during polio Supplementary Immunization Activities (SIA)."**

A framework was endorsed and approved by 194 member states of the World Health Assembly in May 2012 in the form of the Global Vaccine Action Plan (GVAP) 2011-2020.

[1] WHO, UNICEF, World Bank (2009) *State of the world's vaccines and immunization, 3rd edition* Geneva: World Health Organization.
[2] Lahariya, C. (2015, June 8). *Ideas for India: Human Development.* Retrieved from Ideas for India: https://www.ideasforindia.in/topics/human-development/indias-national-immunisation-programme-moving-from-policy-to-action.html
[3] World Health Organization. (2020, July 15). *WHO: Immunization Coverage*. Retrieved from WHO: https://www.who.int/news-room/fact-sheets/detail/immunization-coverage
[4] UNICEF. (2019). *UNICEF: Immunization Programme*. Retrieved from UNICEF: https://www.unicef.org/immunization

The aim of GVAP is to prevent millions of deaths by 2020 through more equitable access to existing vaccines for people in all communities. Developing the plan brought together multiple stakeholders involved in immunization, including governments and elected officials, health professionals, academia, manufacturers, global agencies, development partners, civil society, media, and the private sector, to define the immunization needs of the community collectively. The GVAP was developed under the auspices of the **Decade of Vaccines Collaboration leadership, which is composed of UNICEF, among other global agencies** like the Bill and Melinda Gates Foundation (BMGF), GAVI, the Vaccine Alliance (GAVI), US National Institute of Allergy and Infectious Diseases the World Health Organization (WHO). The role of these global agencies encompasses advocating for and providing technical support to promote country ownership of immunization, funding the provision of vaccines, and immunization-related activities.

Immunization in the Indian context

Improving maternal and child health and survival is central to achieving India's health goals. The **Ministry of Health and Family Welfare** (MoHFW) in the year 2013, following the "Call to Action Summit," launched Reproductive, Maternal, Newborn Child plus Adolescent Health (RMNCH+A) to influence the interventions for reducing maternal and child morbidity and mortality.[5] One of the **critical interventions of RMNCH+A encompasses the Universal Immunization Programme (UIP)**. Launched in 1978 as the Expanded Programme on Immunization (EPI), it was renamed UIP in 1985, when its reach was expanded beyond urban areas, and the plan was to implement it in a phased manner to cover all districts in the country. In 1992, it became part of the Child Survival and Safe Motherhood (CSSM) programme, and in 1997, it was included in the ambit of the Reproductive and Child Health (RCH) programme. Since the National Rural Health Mission (NRHM) launch in 2005, UIP has always been integral to the government's efforts to improve maternal and child health.

UIP has been one of India's most significant public health success stories. **UIP is one of the most extensive public health programmes globally,** targeting close to **27 million new-borns** each year with all primary doses and approximately **100 million children of 1-5 years of age** with booster doses of UIP vaccines. In addition, **30 million pregnant mothers** have been targeted for tetanus toxoid (TT) vaccination annually. To vaccinate a cohort of 157 million beneficiaries, approximately ~**10 million immunization sessions are conducted annually**; the majority are at the village level.[6] The Full Immunization Coverage (FIC) for children aged 12-23 months has increased to 75.5% in the urban areas; however, it was 76.8% in the rural areas as per the NFHS-5 survey.

Such a large-scale beneficiaries' cohort targeted in India covers the country's geographical vastness, which is home to a socially and culturally diverse population. The ability of UIP to reach this cohort and provide free-of-cost immunization services against 12 VPDs (10 nationally and 2 sub-nationally) is attributable to strategic planning, focused communication activities, procurement of vaccines, management of logistics and cold chain, deployment of a large and

[5] Ministry of Health and Family Welfare, GoI. *National Health Mission. Accessible at: nhm.gov.in* ~
[6] MoHFW, India. (2014). *MoHFW: Universal Immunization Program.* Retrieved from MoHFW:https://main.mohfw.gov.in/sites/default/files/5628564789562315.pdf

complex delivery system, capacity building of immunization service delivery partners, establishment of an effective surveillance system, and continuous monitoring and evaluation.

In line with achieving the target of SDG 3, of reducing the under-5 mortality rate to 25 per 1000 live births by 2030, the UIP is very dynamic. Over the years, the immunization programme has witnessed multiple interventions aligned with the global immunization priorities and aligned with the GVAP. Some of the interventions which have led to UIP's evolution are:

- **Conceptualization of NRHM in 2005 and National Urban Health Mission (NUHM) in 2013, later subsumed in National Health Mission (NHM) in 2017,** which has supported the programme in yearly planning and assigned financial support for specific activities to the states.

- Establishment of an Immunization Technical Support Unit **(ITSU)** in 2012 to serve as a think tank and provide techno-managerial support to MoHFW for scaling up the UIP, enabling system strengthening, and supporting the implementation of the Multi-Year Strategic Plan for Immunization. The launch of **Mission Indradhanush (MI)** in December 2014 was followed by **Intensified Mission Indradhanush (IMI)** in October 2017 in identified districts and blocks.[7]

- **Introduction of new vaccines**: pentavalent vaccine, rotavirus vaccine (RVV), inactivated polio vaccine (IPV), Measles-Rubella vaccine, Pneumococcal Conjugate Vaccine (PCV), tetanus and adult diphtheria (Td) vaccine.

- Development of an **actionable roadmap and other complementary documents** (like – training manuals, operational guidelines, Comprehensive Multi-Year Plan (cMYPs)) for achieving full immunization.

- **Strengthening immunization infrastructure** via vaccine logistics and management and cold chain development and maintenance.

- **Strategic communication and demand generation activities** have a 360° approach via the capacity development in Social and Behaviour Change Communication (SBCC) for immunization. For example, deploying an enabling environment via SBCC cells, developing community behaviour-centred IEC material, effective mass media social media strategies, and need-based capacity building of stakeholders. In addition to this, IMI, the use of Auxiliary Nurse Midwife Online (ANMOL), community engagement via mid-media like mobile media vans, and promotions by celebrities were among other demand generation interventions.

- Build a **strong network of immunization partners** like academic institutions, foundations, NGOs, intergovernmental organizations, and the private sector in the country to facilitate various immunization activities and strengthen the country's health systems.

While a timeline of activities with respect to immunization in India from 2014 to 2019 is mapped in ANNEXURE C: Immunization Timeline in the Indian Context; **noteworthy achievements from the year 2014 to 2019 include**:

- India was removed from the list of polio-endemic countries in 2012 after the last polio case in India was reported on 13th January 2011. Subsequently, South-East Asia Region (SEAR) was announced **polio-free** in 2014.

[7] NHP India. (2018, June 18). *NHP: Mission Indradhanush*. Retrieved from NHP: https://www.nhp.gov.in/mission-indradhanush1_pg

- The government of India (GoI) has been closely working with WHO, UNICEF, CGPP (The Core Group Polio Project), Rotary International, other civil society organizations (CSOs), community-based organizations (CBOs) for a seamless transition of polio-related activities and learnings. The **switch from the trivalent oral polio vaccine to the bivalent oral polio vaccine** on 25 April 2016 is an essential milestone in polio eradication.

- India became one of the first countries in Asia to **introduce the rotavirus vaccine** in March 2016.[8] The vaccine was launched in a phased manner under UIP, beginning with four states (Haryana, Andhra Pradesh, Odisha, and Himachal Pradesh) and is now provided pan country.

- India was successful in **eliminating maternal and neonatal tetanus** in 2015. This further improved coverage of the DPT3 vaccines to 83%.[9]

- In April 2017, GAVI approved USD 100 million for Health System and Immunization Strengthening (HSS2) during 2017-21. This budget was utilized to improve India's quality and level of immunization coverage. It has also facilitated India's capacity to prepare for the adoption of new antigens by catalysing the development of immunization programmes for better performance.[10]

- Launch of Roadmap for achieving 90% FIC in India, where critical partners, including WHO, UNICEF, UNDP, and ITSU, assessed the crucial components of the self-assessment checklists to be utilized by the state and district programme managers.[11]

These achievements involved meticulous microplanning, capacity building of the health workforce, monitoring, communication activities, and accountability at all levels in contributing to HSS. The key immunization activities undertaken during this period are categorized based on key areas and summarized below:

- **Immunization activities under Coverage and Equity**
  - Data from the NFHS indicate that the coverage has increased from 43.5% in NFHS-3 (2005-2006) to 62% in NFHS-4 (2015-2016), with a 2% increase each year among children aged 12-23 months.[12] Even though new vaccines have been introduced over the years and lessons learned were documented to inform the way forward for strengthening immunization programmes, the progress made in FIC during 2005-06 to 2015-16 was slow as compared to the increase during 2015-16 and 2019-2021. This change is indicated by the increase in coverage to 76.6% as per NFHS-5 (2019-2021).
  - **Mission Indradhanush -** a multi-phase drive, was launched in December 2014 to boost Routine Immunization and fill the immunization equity gaps.
  - **Mission Indradhanush** was followed by the launch of **IMI** in October 2017 to further focus on identified high-risk populations in traditionally low coverage areas with insufficient health services.
  - Launch of **IMI 2.0** in December 2019 to ensure reaching the unreached with all available vaccines and accelerate the coverage of children and pregnant women in the identified districts and blocks.[13]

[8] Immunization Division, MoHFW. (2019). *Operational Guidelines: Introduction of Rotavirus Vaccine in the Universal Immunization Programme.* MoHFW.
[9] WHO Media Centre. (2016, April 21). *WHO Media Centre: News Releases*. Retrieved from WHO: https://apps.who.int/mediacentre/news/releases/2016/world-immunization-week/en/index.html
[10] GAVI. (2017, April). Application Form for India: Health System Strengthening (HSS) Support in 2016. *GAVI HSS Application Form*. India: GAVI.
[11] MoHFW, India. (2019). *Roadmap for achiecving 90% full immunization coverage in India: A guidance document for the states.* MoHFW.
[12] MoHFW, India. (2018). *Universal Immunization Programme: Comprehensive Multi-Year Plan 2018-22.* MoHFW, India
[13] NHP India. (2018, June 18). *NHP: Mission Indradhanush*. Retrieved from NHP: https://www.nhp.gov.in/mission-indradhanush1_pg

- **IMI CES** was conducted to assess the campaign's impact on FIC in the selected 190 IMI districts. The survey indicated that there were 18.5% points increase in FIC in the 190 identified districts compared to that in the NFHS-4 survey.
- Concurrent monitoring sessions and house visits by officials were ensured by developing the **Supportive Supervision App and Immunization (S4i) dashboard.**
- Launch of **ANMOL in 6 states in 2017 -** provided tablet with the required tools to help monitor, capture all immunization session data, and receive updated training materials.
- Multiple guidelines and reference documents were developed to support the improved immunization coverage, including the ones given below:
  - National guidance documents and strategies - **Roadmap for achieving 90% full immunization coverage in India**
  - Operational guidelines like the **Operational Guidelines for IMI Immunization Handbook for Health workers strengthen immunization systems to reach every child.**

- The GoI also undertook supplementary immunization activities to improve coverage and ensure equity. Also, Mission Indradhanush was further launched in villages, and Union Territories (UTs) identified under the **Gram Swaraj Abhiyan** to improve its reach.
- GAVI approved and provided cash support for the HSS programme.

- **Immunization activities under New Vaccine Introduction**
  - During 2014-19, GAVI supported the introduction of the Measles-Rubella vaccine, rotavirus vaccine, pneumococcal conjugate vaccine, and IPV under the New Vaccines Support. In addition, UNICEF, with support from GAVI, helped India procure new vaccines.
  - National scale-up of pentavalent vaccine and introduction of Td vaccine was done.
  - Operational guidelines and reference documents, including the following, were prepared, finalized, and disseminated:
    - New vaccine operational guidelines, including **Operational guidelines for the introduction of IPV**, **measles-rubella, PCV, tetanus, adult diphtheria (Td) and RVV**
    - IEC material, communication & training package- **Guidelines on initial management of anaphylaxis using injection Adrenaline by Auxiliary Nurse and Midwife (ANMs)**
  - Technical committees and expert advisories, including the **India Expert Advisory Group for Measles-Rubella**, **National Taskforce on Measles and Rubella, and Vaccine Introduction Working Group (VIWG), were** formulated to provide technical assistance for the implementation/introduction of new vaccines.

- **Immunization activities under Cold Chain Strengthening**
  - **National Cold Chain and Vaccine Management Resource Centre** (NCCVMRC), Delhi, was inaugurated in 2015 after its establishment in 2013, and **National Cold Chain Resource Centre** (NCCRC) in Pune.
  - Assessments, including **the National EVM Assessment** of Immunization supply chain and **Techno-economic assessment of** Electronic Vaccine Intelligence Network **(eVIN), Vaccine Wastage Supply,** provided learning and guided the improvement of the cold chain supply.
  - Vaccine management activities, including EVM development by WHO-UNICEF and rollout of **eVIN.**

- Capacity building of Cold Chain Handlers and technicians, Programme Managers, and cold chain equipment manufacturers through **training and workshops.**
- Development and implementation of various capacity-building courses for Cold Chain Handlers, Cold Chain Technicians (CCTs), and Programme Managers, including a **Module for Cold Chain Handlers Handbook, a Training module on repair and maintenance of Walk-In Cold Rooms (WIC) and Freezer Rooms (WIF), a Training package for Training on Vaccine & Cold Chain Management.**
- Development of guiding documents like the **National Cold Chain & Vaccine Logistics Action Plan.**

- **Immunization activities under Communication & Demand generation**
  - **Celebrities,** including Amitabh Bachchan, Madhuri Dixit, Kareena Kapoor Khan, and Virendra Sehwag, led advocacy activities for different campaigns Routine immunizations and different campaigns.
  - Multiple media (print, digital, radio, television (TV), and social media) engagement activities were designed and executed– workshops with top-tier dailies, media sensitization workshops for new vaccines, panel discussions and talk shows on TV news channels, the release of publications on vaccine safety by trusted stakeholders in local vernaculars, involve Radio Jockey (RJ) to air key messages & jingles, disseminate information through WhatsApp in the form of Cartoons and GIFs (Graphics Interchange Format).
  - **’‘Radio4Child'** provided capacity building for RJ on immunization and child protection. Radio4Child awards creative and innovative RJs who played a vital role in disseminating messages about immunization.
  - **Content development for social media and website**: Audio-visuals, messages to counter rumours, special package for schools concerning Measles-Rubella, special package for involving private doctors, rural medical practitioners, non-qualified doctors, and AYUSH[14] practitioners.
  - Development of communication planning tools, formats for Routine Immunization and campaigns, and resource material **like Rashtriya Bal Swasthya Karyakram (RBSK).**
  - Development of FAQs, leaflets, guidelines & tool kits, handbooks, certificates, posters, banners & hoardings, miking & announcements, short audio-visual clips & sound bites) for Routine Immunization, Mission Indradhanush, Measles-Rubella campaign, rotavirus, polio campaigns, and engaging with religious leaders.
  - IPC skill training of Front Line Workers (FLWs) for BRIDGE and capacity building of health journalists through the **Critical Appraisal Skills (CAS) course for media**.

- **Immunization activities under Polio Transitioning**
  - **Replicating SMNet strategies** and **deploying SMNet Network** strengthen Routine Immunization and introduce new vaccines by creating awareness and demand generation.
  - Support in the development and adaptation of SMNet communication material.
  - **Evaluation of the Social Mobilization Network (SMNet)** was done to determine its impact on various immunization activities

[14] A healthcare practitioner who practices Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy based health (AYUSH) treatments. It is an alternative healthcare system recognized by the government and is also managed by the Ministry of AYUSH, GoI.

The UIP is a government-owned, led, and managed intervention. While the government fully delivers the field-level implementation of UIP and provision of vaccines delivers the field level implementation of UIP and provision of vaccines delivers the field level implementation of UIP and provision vaccines, **various core immunization partners, including ITSU, WHO, UNICEF, UNDP, BMGF, Indian Health Action Trust (IHAT), Care India, civil society networks, and other technical and donor partners support the UIP** by providing focused technical support. Each partner plays a different role and complements adequate planning, designing, implementing, and monitoring of various activities to achieve the overall objective of protecting every child from vaccine-preventable diseases. Being one of the most structured programmes of MoHFW, the division of responsibilities among partners concerning contributing towards UIP by managing different thematic areas of immunization is very clear.

Over the years, UNICEF has supported the development of various community-level services, including immunization. UNICEF's catalytic support towards immunization helps identify and prioritize children who have missed out on their vaccination and bring them life-saving care.

In India, UNICEF operates through its Country Office in New Delhi and 13 field offices. It has worked closely with the government and a broad range of partners (John Snow Inc. (JSI), CORE Polio Project, PATH, Rotary International, BMGF, National Institute of Health and Family Welfare (NIHFW), GAVI, WHO, UNDP, celebrities, and goodwill ambassadors) at the national and state level to improve health outcomes, reduce inequities and expand the UIP's reach efficiently and effectively. In addition, **UNICEF is the technical partner of MoHFW and is involved in providing quality technical assistance concerning immunization.**

At the national level, UNICEF works with the national Government and is a part of MoHFW's think tank ITSU (established in 2012), a different core group created by the ministry. UNICEF assists MoHFW in the development of policies; strategizing and designing UIP interventions (MI, IMI); developing communication strategies and building communication packages for different media (tools, guidelines, messaging, templates); undertaking monitoring and evaluation activities; supporting media management; undertaking advocacy activities for immunization and others. UNICEF has undertaken assessment surveys and evaluations to identify gaps and needs. UNICEF has partnered with multiple partners at the national level to address the equity gaps and demand generation.

At the state level, UNICEF works with the state governments to provide technical assistance for supporting respective state priorities. Primary activities undertaken by UNICEF at the state level involve – assistance in policy and planning; capacity building of different stakeholders; compilation of data on state progress, UNICEF monitoring tools, and supportive supervision data for the government; assessment of state immunization performance as directed by MoHFW; contextualization of communication package built at the national level as per state priorities; planning, support in implementation and assessment of Effective Vaccine Management (EVM); setting up of SBCC cells. UNICEF has taken steps to address state-specific needs, develop RWPs, and extend support in developing strategies to close these gaps in immunization coverage across gender, religion, and geographical clusters.

At the district level, UNICEF is a part of district taskforce meetings chaired by the District Collector and attended by various partners for streamlining immunization activities and working around any causes of concern. Furthermore, UNICEF officials trained at the state level act as master trainers for district-level officials. In addition to this, UNICEF also collaborates with international NGOs for technical and financial support, local NGOs for the implementation of programmes, and CSOs at the district level. However, UNICEF's significant support is through technical assistance at the state level, with some focused district-level technical assistance as part of the overall RMNCH+A framework. To increase immunization coverage, UNICEF has built capacities of FLWs to reduce fear of Adverse Event Following Immunization (AEFI) and boost knowledge of child immunization. The capacity building of cold chain staff has facilitated the supply of vaccines at the district level and in the High Risk Area (HRAs).

The support provided by UNICEF to MoHFW in carrying out different immunization activities is comprehensively categorized into five key areas listed below:

Table 1: Key areas of UNICEF activities in immunization

1	Coverage and Equity	Improving coverage and equity to reach out to every child with vaccines, cover all left-out and drop-out children under immunization, and reach the marginalized population
2	New vaccines introduction	Leveraging new vaccines introduction as an opportunity to protect children from new VPDs and strengthen the Routine Immunization system
3	Cold chain strengthening	Providing technical support in cold chain strengthening to build upon the immunization supply chain
4	Communication and demand generation	Improving communication and demand generation via advocacy at the highest level and dissemination of immunization programme messages
5	Polio Transitioning	Supporting polio transitioning through SMNet, which focuses on strengthening Routine Immunization

1. Coverage and Equity:

- Conducting national-level surveys to monitor immunization coverage (CES 2009, Rapid Survey on Children (RSoC) 2013-14, along with funding and advisory support for various rounds of NFHS (NFHS-1 to NFHS-5).
- Facilitating the development of the government-led HSS model of supervision, Supportive Supervision for Immunization (S4i), by developing and testing tools/apps and capacity building of stakeholders on S4i.
- Supporting ANMOL by procuring tablets with the required tools and conducting training of trainers (ToTs) and workshops for ANMOL.
- Undertaking national and state assessments and compiling ground-level data for MoHFW
- Providing technical support in the development of multiple guidelines and reference documents that were developed to support the improved immunization coverage, including the ones given below:
    - National guidance documents and strategies - Roadmap for achieving 90% full immunization coverage in India

- Operational guidelines like Operational Guidelines for IMI revised Immunization Handbook for Medical officers (MO) and Health workers strengthen immunization systems to reach every child.

2. New Vaccines Introduction:

- Participating in the National Technical Advisory Group on Immunization (NTAGI) and other technical committees and expert advisories, including India Expert Advisory Group for Measles-Rubella (IEAG-MR), National Taskforce on Measles and Rubella, Vaccine Introduction Working Group (VIWG) for providing technical assistance to MoHFW for the implementation/introduction of new vaccines.
- Acting as the lead partner for communication to the MoHFW for the Measles-Rubella campaign – developing a complete communication package for the introduction of Measles-Rubella in India, social mobilization and advocacy activities, development of IEC and operational guidelines, communication and training package, media strategy, and social media management, facilitation of all Measles-Rubella State level ToTs, development of content for social media
- Providing technical support for the development of operational guidelines and reference documents, including the following were prepared, finalized, and disseminated:
  - New vaccine operational guidelines, including Operational guidelines for the introduction of IPV, Measles-Rubella, PCV, tetanus and adult diphtheria (Td), and rotavirus.
  - IEC material, communication & training package- Guidelines on initial management of anaphylaxis using injection Adrenaline by ANMs.

3. Cold Chain Strengthening:

- Provision of technical support to establish national resource centers for cold chain logistics: NCCVMRC in Delhi and NCCRC in Pune.
- Vaccine management activities, including support in the development of EVM and roll out of eVIN.
- Taking a lead role in assessments including the National EVM Assessment of Immunization supply chain and Techno-economic assessment of eVIN, Vaccine Wastage Study provided learning and guided the improvement of the cold and supply chain system.
- Support MoHFW in the development of the National Cold Chain Management Information System (NCCMIS).
- Capacity building of Cold Chain Handlers and Technicians, Programme Managers, and cold chain equipment manufacturers through training and workshops.
- Development and implementation of various capacity-building courses for Cold Chain Handlers, CCTs, and Programme Managers, including a Module for the Cold Chain Handlers Handbook, a Training module on repair and maintenance of WIC and WIF, and a Training package for Training on Vaccine & Cold Chain Management.
- Development of guiding documents like National Cold Chain & Vaccine Logistics Action Plan.

4. Communication and demand generation:

- On the communication front, UNICEF works on the pillars of – advocacy Interpersonal Communication (IPC), capacity development campaigns; crisis communication; media

engagement, evaluation & analysis; community engagement; social capital; and strategic platforms & partnerships – to bring in communication as a key component of immunization. Each of these pillars has been elaborated on below.

- On the advocacy front, UNICEF engages with celebrities, including Amitabh Bachchan, Madhuri Dixit, Kareena Kapoor Khan, and Virendra Sehwag, to lead advocacy activities for different Routine Immunization campaigns and some others.
- UNICEF has developed multiple IPC materials for campaigns as well as for Routine Immunization, which include – the development of communication planning tools and formats, development of resource material like RBSK, development of FAQs, leaflets, guidelines & tool kits, handbooks, certificates, posters, banners & hoardings, miking & announcements, small AV clips & sound bites, content development for social media and website (audio-visuals, messages to counter rumours, special package for schools, and special package for involving private doctors).
- Capacity development of stakeholders at national, state, and district levels – training master trainers, IPC skill training of FLWs for BRIDGE and capacity building of health journalists through the CAS course for media, capacity building of radio jockeys on immunization, and child protection, the introduction of Radio4Child awards for creative and innovative Radio Jockeys who played a vital role in disseminating the messages around immunization.
- Between 2014 to 2019, UNICEF supported the communication development of multiple campaigns like – Measles-Rubella, MI, IMI, 5 saal 7 baar by campaign conceptualization, building campaign communication tools and materials to actual rollout.
- UNICEF is also involved in crisis communication wherein it undertakes daily media monitoring and tracking of news around health and immunization and proactively counters negative news. Additionally, it also trains Government spokespersons up to the district level to avoid negative news.
- Multiple media (print, digital, radio, TV, and social media) engagement activities were designed and executed– workshops with top-tier dailies, media sensitization workshops for new vaccines, panel discussions, and talk shows TV news channels, the release of publications on vaccine safety by trusted stakeholders in local vernaculars, involve RJs to air key messages & jingles, disseminate information through WhatsApp in the form of Cartoons and GIFs. UNICEF also specializes in media field visits wherein it works closely with journalists to conduct media analysis and identify the gaps for developing targeted content for different media.
- To engage with communities, UNICEF leverages existing social capital, by the way, through collaborations with NGOs, CSOs, Self Help Groups (SHGs), community leaders, and other community-level platforms. Additionally, UNICEF strategically collaborates with different partners on various thematic areas of immunization, which was pre-decided.

5. Polio Transitioning:

- Replication of SMNet strategies and deploying SMNet Network in strengthening Routine Immunization and introducing new vaccines by creating awareness and demand generation.
- Support in the development and adaptation of SMNet communication material.
- UNICEF utilized its polio assets and strategies for strengthening Routine Immunization health systems by addressing mistrust, rumours, and hesitancy. For example, SMNet was

used in Uttar Pradesh, Bihar, and West Bengal to create demand for measles campaigns & Routine Immunization.[15]

- Evaluation of SMNet was done to determine its impact on various immunization activities

Since UNICEF provides comprehensive support to the GoI in the design, implementation, and evaluation of immunization activities across the country, there is a **need to evaluate the support extended by UNICEF towards strengthening the UIP so that the support activities can be further streamlined effectively in the future**.

A detailed mapping of the work undertaken by UNICEF across the **five key areas of UNICEF activities for immunization** is presented in Section 2A: Theory of Change.

[15]UNICEF. (2016, January 12). *India Polio Learning Exchange: India Polio Program Transition and Legacy in Action.* Retrieved from India Polio Learning Exchange: https://iple.unicef.in/document/india-polio-program-transition-and-legacy-in-action

B. RATIONALE AND USE OF THE EVALUATION

This summative evaluation was in line with UNICEF India Country Office (ICO), as it provides robust evidence to inform UNICEF's support to the government in the coming future. With a focus on the five key areas of UNICEF activities in immunization, namely – coverage and equity, new vaccine's introduction, cold chain strengthening, communication & demand generation, and polio transitioning, **this evaluation assessed UNICEF's contribution to strengthening immunization in India from March 2014 to end 2019**. The findings from this evaluation will primarily be used as learnings, which will guide UNICEF towards effectively supporting the government in improving and expanding its immunization programme. The key uses of the evaluation are indicated below.

The **key uses of the evaluation** are indicated below:

- Knowledge sharing and discussions among relevant stakeholders concerning immunization and streamlining support for the remaining period.
- Realigning UNICEF support and its processes towards the immunization programme for better health outcomes by designing a new country plan from 2022 onwards.
- Utilizing learnings to align with the global Immunization Agenda 2030 (IA 2030), GAVI 5.0,16 and regional SEAR Vaccine Action Plan, influencing GoI's strategic vision, policy, and guidelines.

C. OBJECTIVES OF THE EVALUATION

The broad objectives of the evaluation are mentioned below:

1. **To assess the relevance, effectiveness, efficiency, sustainability, and coherence of UNICEF's support to the National Immunization Programme in India, from 2014 to pre-COVID-19 (end 2019)**
    - This evaluation utilized the Organization for Economic Cooperation and Development (OECD)-DAC framework 17 and focussed on five of the six criteria: relevance, effectiveness, efficiency, coherence, and sustainability, barring impact.
    - Gender and equity will be implicitly covered under each DAC criteria and integrated across the main evaluation questions presented in the evaluation matrix under Section 3D. (ANNEXURE 6D),

[16] GAVI. *GAVI Phase 5 (2021-25) strategy Accessible* at: https://www.gavi.org/our-alliance/strategy/phase-5-2021-2025
[17] OECD DAC Network. OECD Evaluation Criteria. Retrieved from: https://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm

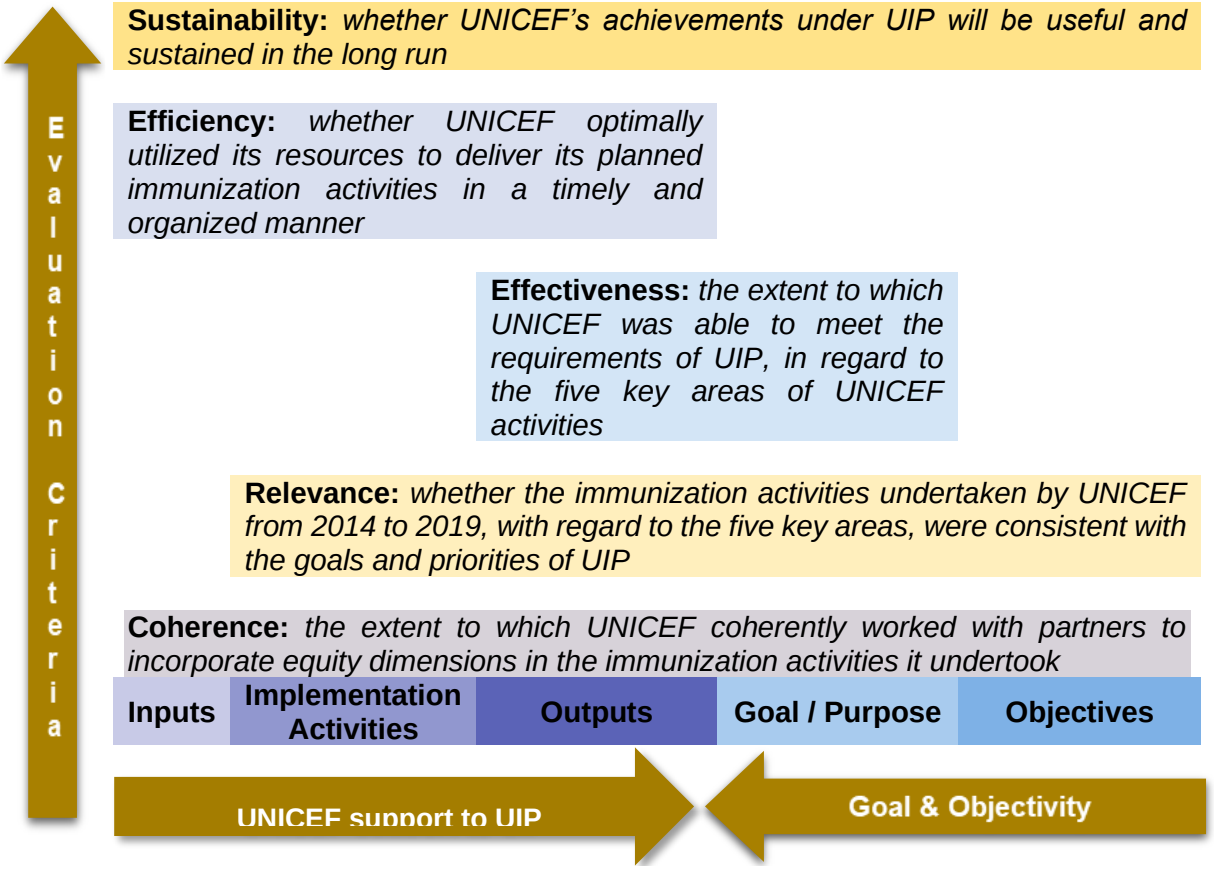


Figure 1: DAC Development Programme Evaluation Framework for the evaluation

2. **To document lessons learned and make recommendations further to improve the UNICEF's support to immunization in India**
   - Since UNICEF's support for immunization in India is ongoing, findings from this evaluation will be translated into a clear set of recommendations moving forward till 2022 and for the new country programme beyond 2022.
   - The evaluation findings will also be utilized for knowledge sharing and discussions among relevant stakeholders and streamlining their support for immunization in the coming future.

D. SCOPE OF THE EVALUATION

What and when?

The scope of this evaluation was **to assess UNICEF's contribution towards strengthening immunization activities in India from March 2014 to pre-COVID-19 (end 2019)**. The evaluation emphasized the five key areas of work that have characterized UNICEF's support to the immunization program in India:

I. Coverage and Equity
II. New Vaccine Introduction

III. Cold Chain Strengthening
IV. Communication and Demand Generation
V. Polio Transitioning

To define equity for this evaluation, different information sources were referred to. **Equity in health and immunization is defined as the absence of avoidable or remediable differences in access to or utilization of health services, including vaccination**. [18] It is also the situation in which all children's equal right to survival and development and reach their full potential without discrimination, bias, or favouritism is fully observed in the delivery of health programmes, including immunization.[19]

While immunization coverage is the proportion of the relevant population that has received vaccines, the test for equity-based programme delivery is commitment to target the most disadvantaged children. **Universal coverage in immunization is when all children in-country access and utilise immunization services. Therefore, it is crucial to ascertain determinants of inequities by disaggregating coverage across demographic and socio-economic indicators**.

This evaluation ascertained determinants of equity through a systematic review of the literature and examined UNICEF's strategies set out more specifically to address inequity, particularly for poor and vulnerable groups, including the girl child. This evaluation also examined the implementation of strategies and planned specific resource allocations for the underserved to address the equity gap. The evaluation matrix under Section 3D details sub-evaluation questions that examined equity across the evaluation criteria (Relevance, Efficiency, Effectiveness, Sustainability, and Coherence).

It is imperative to note that **this evaluation neither assessed the impact of UNICEF's support during 2014-2019 on the immunization programme nor focused on the programmatic evaluation of the UIP driven by the government**. Instead, the focus was to assess the key outcomes of UNICEF's work to strengthen those in the future. The findings from this evaluation aim to help strengthen the immunization programme from UNICEF's purview and that of other key partners engaged in UIP by way of realigning and streamlining support around immunization.

[18] WHO. (n.d.). *WHO: Health Systems - Equity*. Retrieved from WHO: https://www.who.int/healthsystems/topics/equity/en/
[19] UNICEF. (2011, October 25). *UNICEF: Civil society partnerships*. Retrieved from UNICEF: https://www.unicef.org/about/partnerships/index_60239.html

Where?

The evaluation was designed to assess UNICEF's programmes across the country with coverage of five states.

Primary data was collected from **five states** to reflect upon UNICEF's support for immunization at the state and district level and from **two cold chain resource centres** to observe cold chain logistics at national resource centres established with UNICEF's support.

Data collection from national/state/district levels provided an in-depth understanding of the contribution made by UNICEF to support immunization across the country.

Qualitative data was collected through in-depth interviews (IDIs) and facility assessments, detailed further in Section 3B: Primary Data Collection. In addition, a systematic desk review of literature focused on UNICEF's PAN-India support of the country's immunization programme. The systematic desk review traced the immunization activities conducted between 2014- 2019 in India and understood the background of UIP concerning five key areas of UNICEF's activities.

In order to understand UNICEF's sub-national support for immunization programmes, five states were purposively selected. The geographical coverage and rationale for the evaluation are presented in Table 2, below.

Table 2: Evaluation geography for primary data collection

Geographical Coverage		Rationale
States	1. Uttar Pradesh 2. Bihar 3. Madhya Pradesh 4. Rajasthan	These four states contribute to a significant portion of the birth cohort of the country, have comparatively weaker health indicators, a high number of unvaccinated/partially vaccinated children, and have a large number of polio high-risk areas. These states are priority states of the GoI and GAVI Health System Strengthening support. These states are also a significant part of UNICEF support, and resources are focused on these states.
	5. Assam	Assam was selected as the fifth state since it is the most populous North-Eastern state and presents an equity profile. i.e., tribal and tea-garden populations, which this evaluation will cover.
Centres	1. NCCVMRC, Delhi 2. NCCRC, Pune	NCCVMRC, Delhi, and NCCRC, Pune are the country's two dedicated national vaccine and cold chain management centres. These national resource centres have been established with support from UNICEF.

Evaluability

This section highlights the extent to which the objectives set out for this evaluation were readily and reliably measured. This section aims to emphasize strategies developed to achieve the desired objectives. Below are the identified challenges to evaluability and their proposed mitigation strategy:

Evaluability criteria	Evaluability Challenge	Mitigation Strategy
Relevance and clarity	The absence of a theory of change for UNICEF support to immunization in India posed a challenge in identifying logical connections of the causal chain from outputs to outcomes and from outcomes to impact.	A theory of change was retrospectively developed for UNICEF support to immunization from 2014 to 2019 in India.
Contribution	It is understood that UNICEF works in close cooperation with multiple partners in order to realize its goals. These partners include government institutions, civil society, media, professional associations, academic institutions in India, and international partners. While working on collective initiatives, the individual contributions made by each organisation is challenging to separate.	The evaluation considered the following methods to strengthen contribution: • Stakeholder mapping was done to map all stakeholders of the immunization programme in India. • Roles/interventions of other actors outside of UNICEF have been explicitly noted during the literature review. • Primary data collection was planned to be conducted across stakeholders.
Reliability	Avoiding judgments and instead relying only on facts backed up by desk reviews and statistics to arrive at findings that are reliable and valid	Triangulation of reported UNICEF contributions towards UIP from various stakeholders was used for contribution analysis.
Validity		The evaluation adapted DAC Evaluation criteria. An evaluation matrix was developed identifying key evaluation questions (KEQs) and sub-evaluation questions mapped with indicators and information sources across the OECD evaluation criteria (relevance, effectiveness, efficiency, sustainability, and coherence).

SECTION 2. CONCEPTUAL FRAMEWORK

A. THEORY OF CHANGE

Based on the programmatic expanse, a **retrospective Theory of Change (ToC) for UNICEF's support to the immunization programme in India from 2014 to pre-COVID-19 (end 2019)** has been prepared. Since UNICEF carries out activities to provide comprehensive support to the government in the design, implementation, and evaluation of immunization activities under five key areas, the key components of the **ToC derive from those overarching key areas – coverage and equity, new vaccine introduction, cold chain strengthening, communication and demand generation, and polio transitioning**.

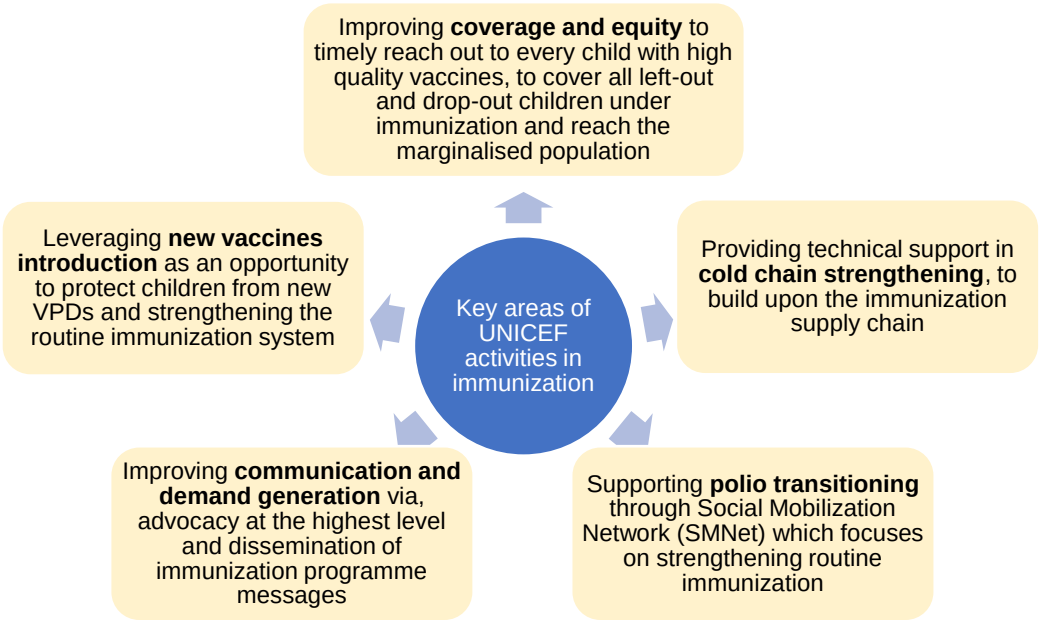


Figure 2: Overarching key areas for the draft theory of change

The standard results chain, moving from implementation strategies (inputs) to outputs, outcomes, and finally to the impact, has developed the ToC. It is imperative to note that the results chain is influenced by approaches that indicate how activities are understood to produce a series of results that contribute to achieving the final intended impact while keeping in mind certain assumptions. The same is depicted below:

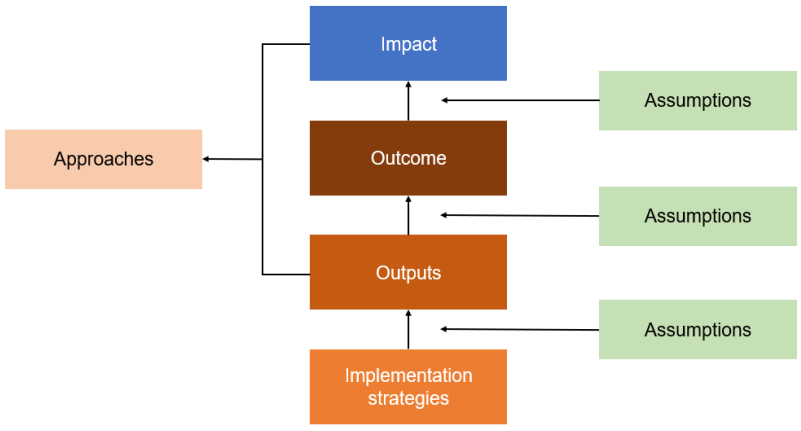


Figure 3: Schematic depiction of a theory of change

ToC for UNICEF's support to the immunization programme in India from 2014 to pre-COVID-19 (end 2019)

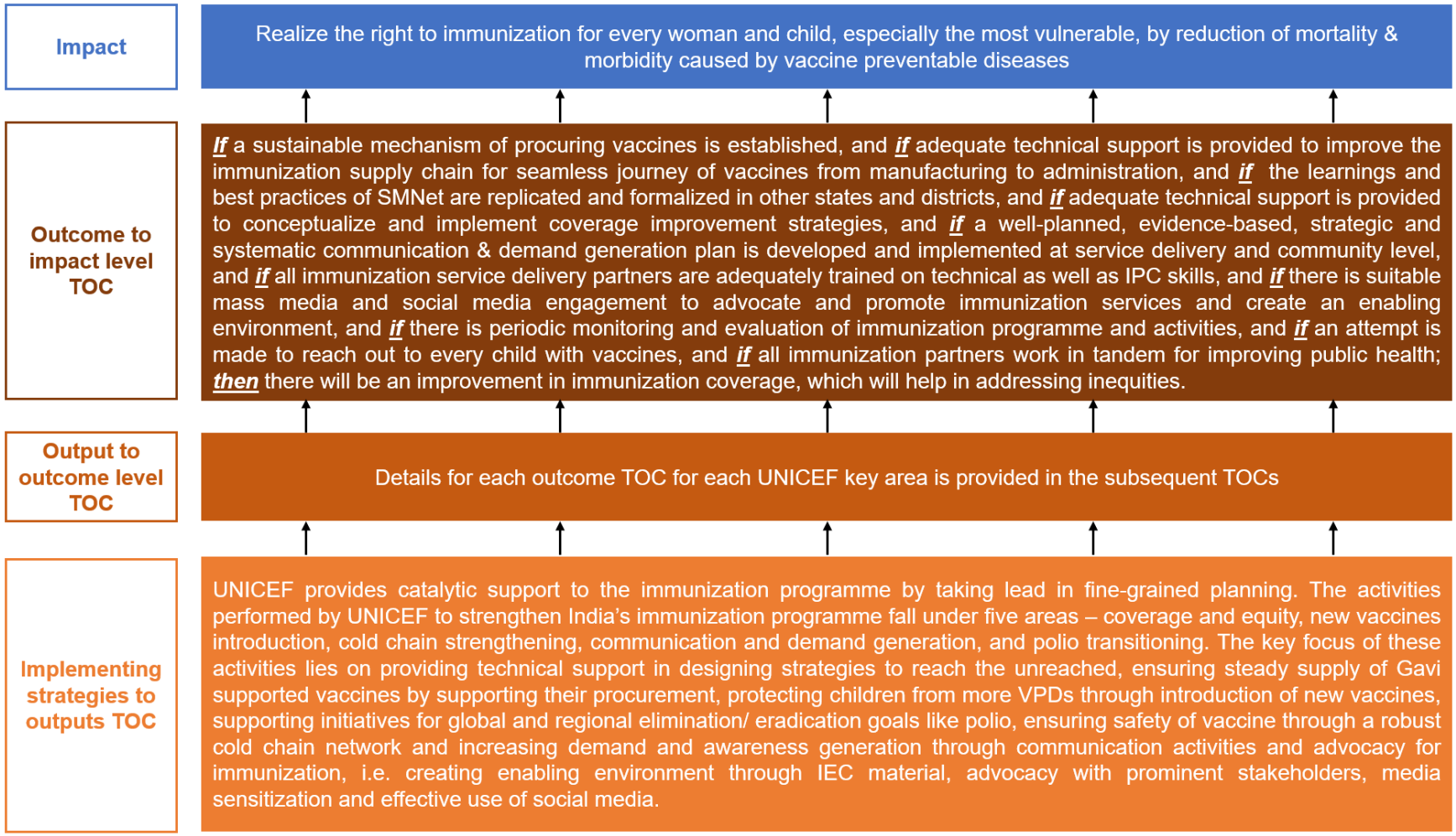


Figure 4: Theory of Change for UNICEF's support

Key approaches in the UNICEF's support ToC:

- A partnership approach with different stakeholders: Government (MoHFW, ITSU), NGOs (JSI, CORE Polio Project, PATH, Rotary International), Foundations (BMGF), academic institutions (NIHFW), vaccine alliances (GAVI), UN agencies (WHO, UNDP), private sector (celebrities and Goodwill Ambassadors), vaccine manufacturers.
- Working in tandem to fulfill the goals of NTAGI, Immunization Advisory Group (IAG), IEAG- Polio, IEAG-MR, Communication Core Group on Measles-Rubella elimination, and other expert groups of all new vaccines; by providing technical support to all expert groups.
- Providing technical assistance and updates in meetings.
- Providing technical support on the conceptualization and development of technical proposals/applications for donors.
- Evaluating and documenting the learnings and best practices of SMNet on India Polio Learning Exchange.
- Providing technical support and assistance in national-level policy advocacy and strategy development.
- Supporting state-level operationalization, on-ground implementation, and monitoring of immunization activities.

Key assumptions in the UNICEF's support ToC:

- India's maternal and child health remains a priority for all stakeholders, aligned with the government's priorities.
- All stakeholders support evidence-based decision-making toward immunization.
- All key areas of UNICEF activities overlap with each other and contribute towards improving Routine Immunization and strengthening the health system.
- Alignment of all stakeholders towards goals and plans of UIP regarding improving immunization coverage, the introduction of new vaccines, cold chain strengthening, polio transitioning, and communication and demand generation.
- Adequate availability of human and monetary resources at all stages.
- The stability in the production and supply of vaccines.
- Continued commitment to improving India's immunization programme by all stakeholders.

Theory of Change statement and graphic for Coverage & Equity

If there is periodic monitoring and evaluation of immunization programmes by measuring coverage indicators and disaggregating relevant indicators data at demographic and socio-economic indicators and other determinants of inequities, and ***if*** there is regular reporting and dissemination of important immunization indicators, and ***if*** a steady supply of vaccines is ensured, and ***if*** training immunization service providers enhance the quality of immunization service delivery, and ***if*** adequate support is provided in terms of technical expertise for the development of operational guidelines, policies, strategies, and progress reports; ***then*** evidence-based decisions can be made to cover all left-out, drop-out, zero-dose and marginalized children, which will improve immunization coverage initiatives in the country.

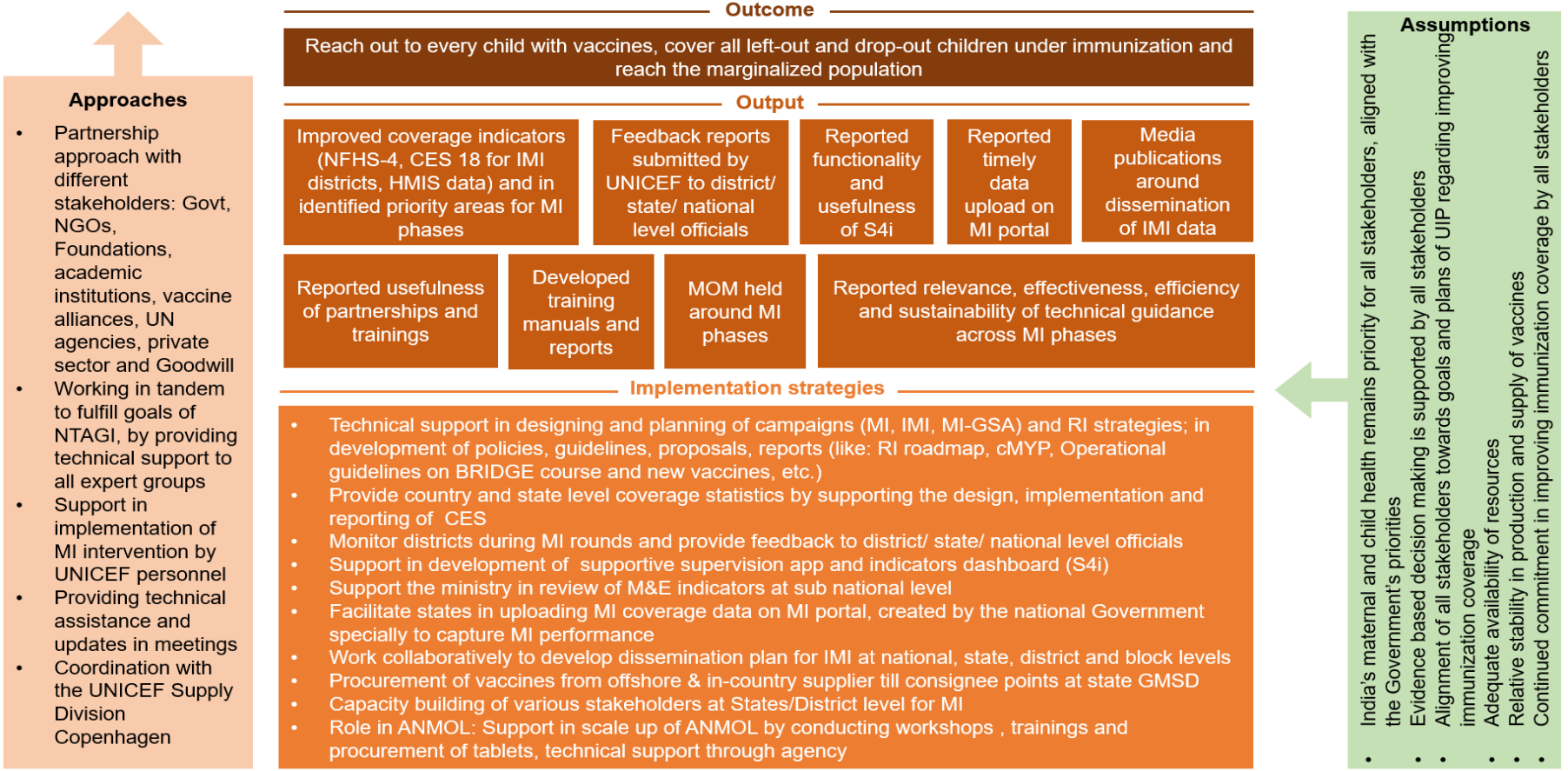


Figure 5: Theory of change graphic for coverage and equity

Theory of Change statement and graphic for New Vaccine Introduction

If adequate technical support is provided in planning, prioritizing, and implementation of newly introduced vaccines, ***if*** quality content is developed in terms of operational guidelines and IEC material for newly introduced vaccines, and ***if*** there is suitable mass media and social media engagement to sensitize people at the time of introducing new vaccines positively, and ***if*** adequate capacity is built for the service delivery of newly introduced vaccines, and ***if*** there are necessary cold storage provisions for newly introduced vaccines, and ***if*** necessary steps are taken for procurement and delivery of new vaccines, and ***if*** supportive supervision, regular reviews, and timely corrective actions are ensured to internalize new vaccines in the health system; ***then*** there will be the seamless implementation of newly introduced vaccines, which will protect children from new vaccine-preventable diseases.

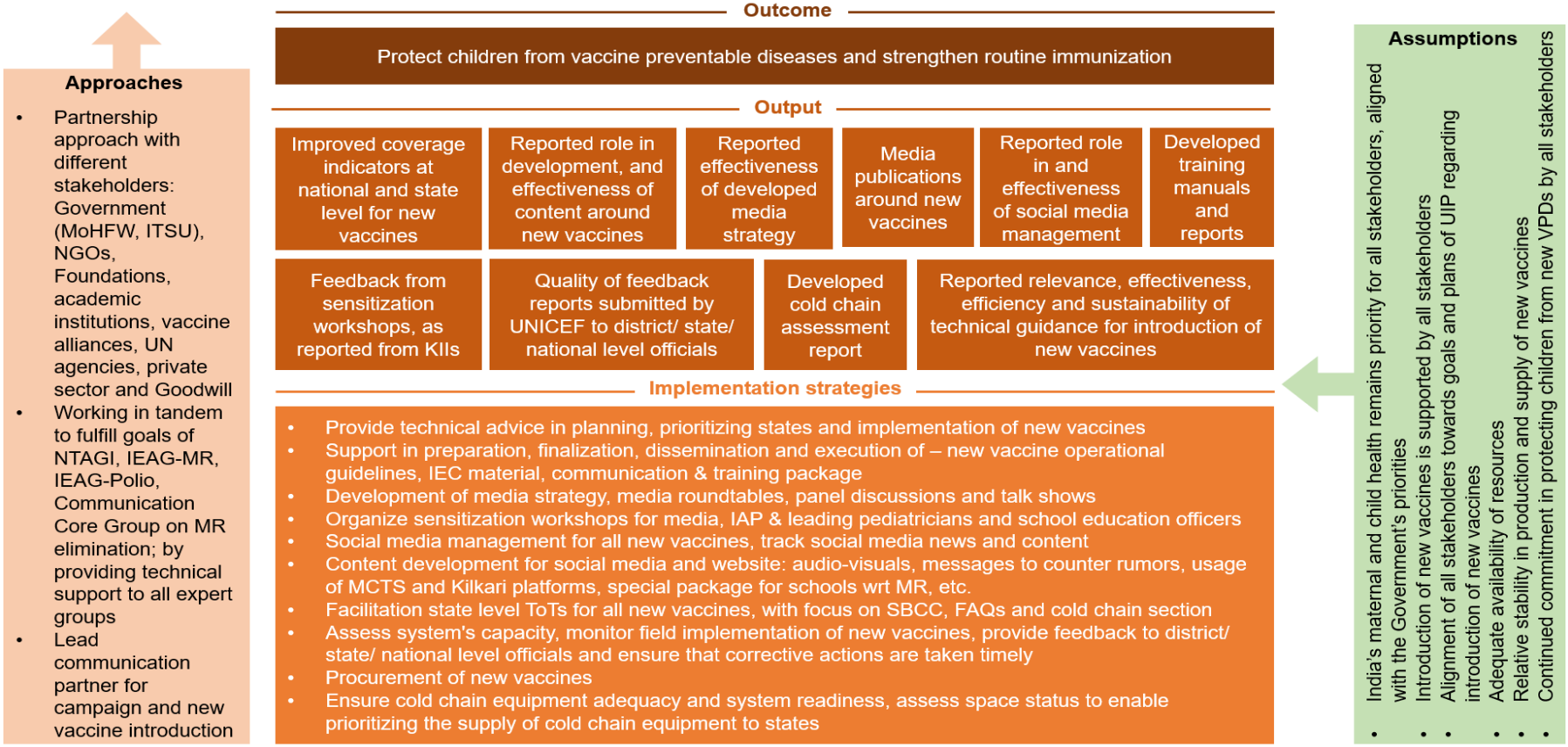


Figure 6: Theory of change graphic for new vaccine introduction

Theory of Change statement and graphic for Cold Chain Strengthening

If adequate technical support is provided towards establishing national resource centers for cold chain logistics, and ***if*** the country's immunization supply chain is assessed and improved, and ***if*** a mechanism is developed to track and maintain information around NCCRCs, and ***if*** quality content is developed for adequate capacity building, which will help in effective management of cold chain logistics, and ***if*** there is periodic monitoring and evaluation of cold chain and vaccine management; ***then*** all vaccines will be stored and supplied as per the required temperature in electrical and non-electrical equipment, which will help in the administration of quality vaccines to the beneficiaries.

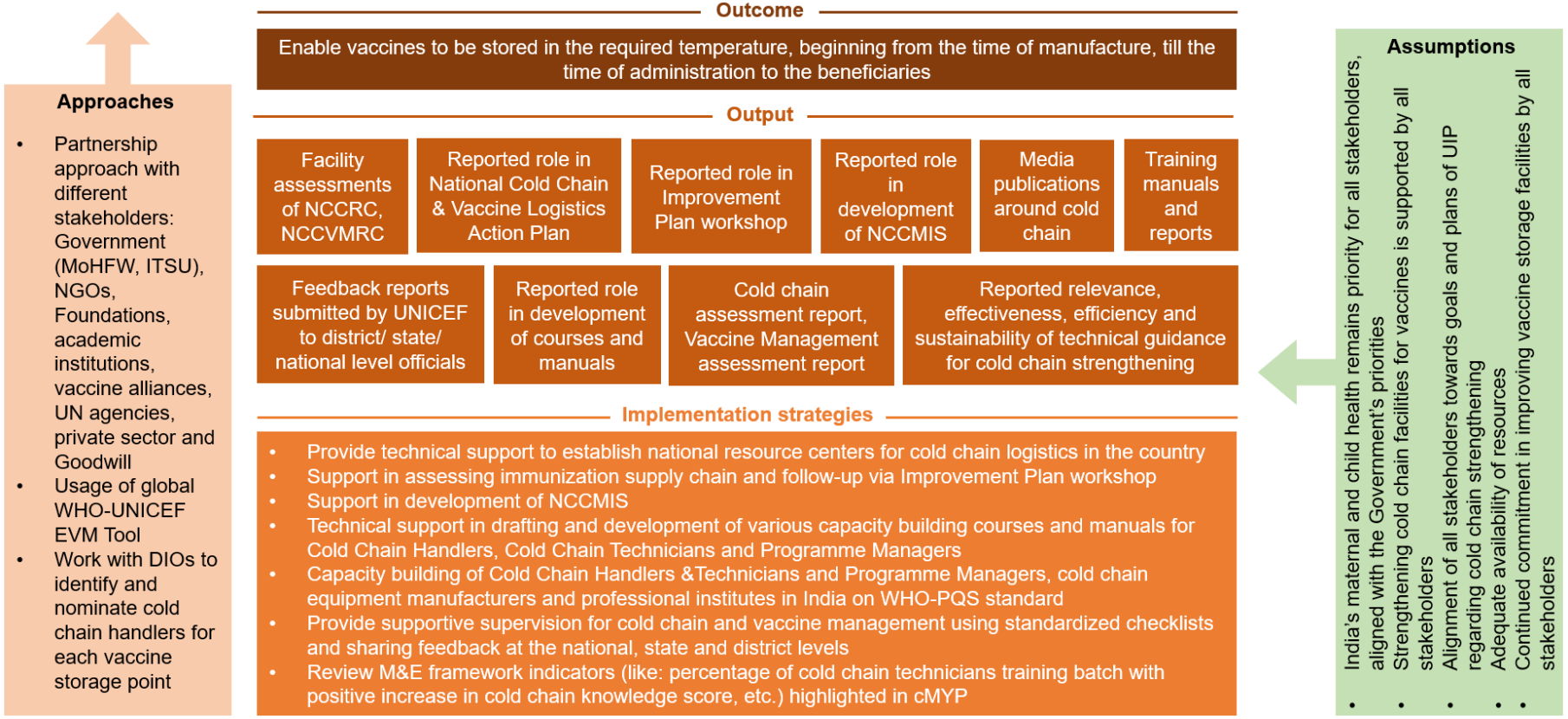


Figure 7: Theory of change graphic for cold chain strengthening

Theory of Change statement and graphic for Polio Transitioning

If the learnings and best practices through SMNet are evaluated and documented, and ***if*** the best strategies of SMNet are replicated in Routine Immunization, and ***if*** the mechanism of SMNet is used for social mobilization activities and monitoring during Routine Immunization, and ***if*** the communication material used in SMNet is adapted for different vaccines; ***then*** Routine Immunization will benefit from the added value of SMNet assets in a sustainable way, which will strengthen the health system across geographies.

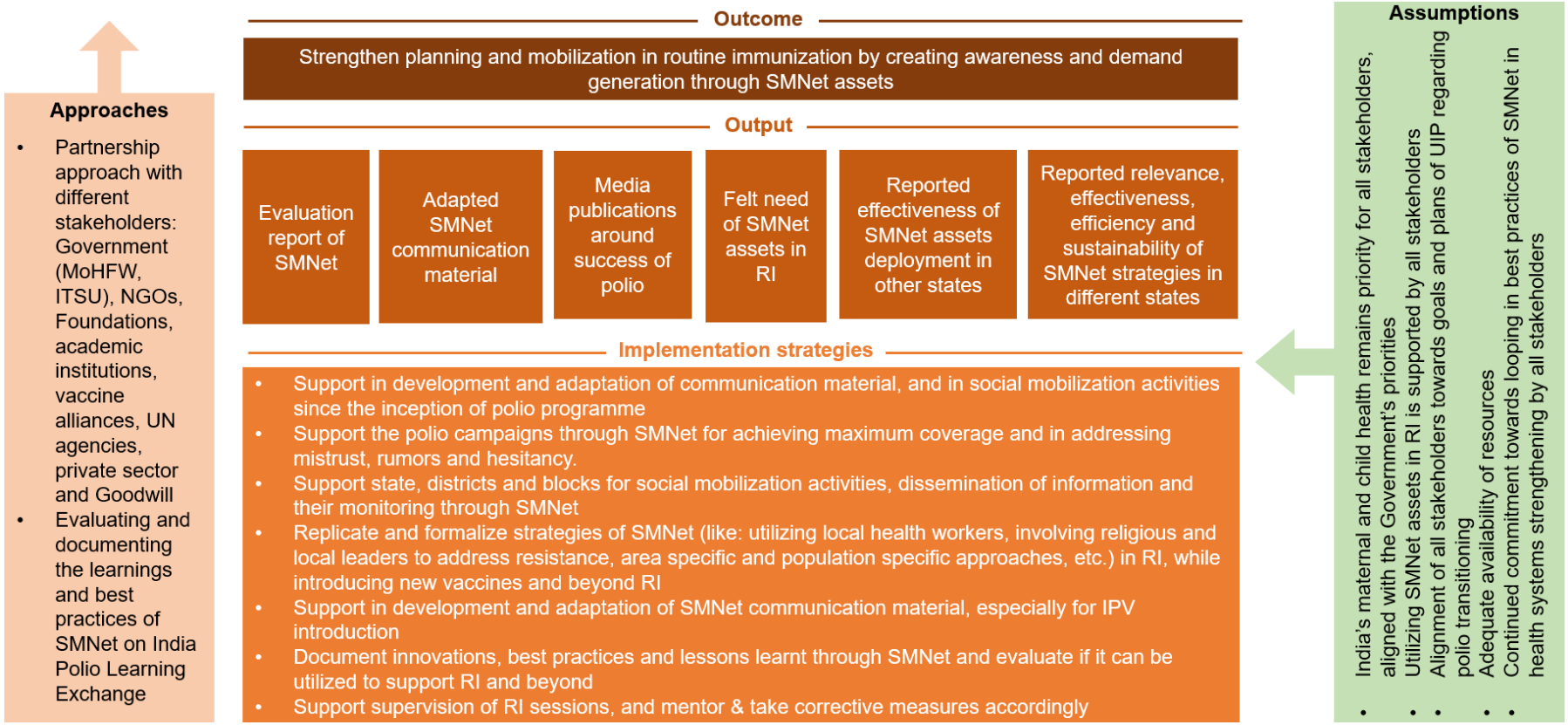


Figure 8: Theory of change graphic for polio transitioning

Theory of Change statement and graphic for Communication and Demand Generation

If due focus is given towards advocating immunization and improving child health, and ***if*** a well-planned, evidence-based, strategic and systematic communication & demand generation plan is developed and implemented at service delivery and community level, and ***if*** community-level organizations/ leaders/ celebrities are engaged throughout the immunization programme, and ***if*** there is suitable mass media and social media engagement to advocate and promote immunization services and create an enabling environment, and ***if*** all media focal points are trained to disseminate positive information and handle crisis/rumors around immunization well, and ***if*** immunization service delivery partners at all levels are adequately trained on technical as well as Interpersonal Communication (IPC) skills, and ***if*** caregivers are informed, motivated and enabled towards uptake of immunization services; ***then*** there will be an improvement in demand generation for immunization services, which will help in tackling hesitancy issues and increase coverage.

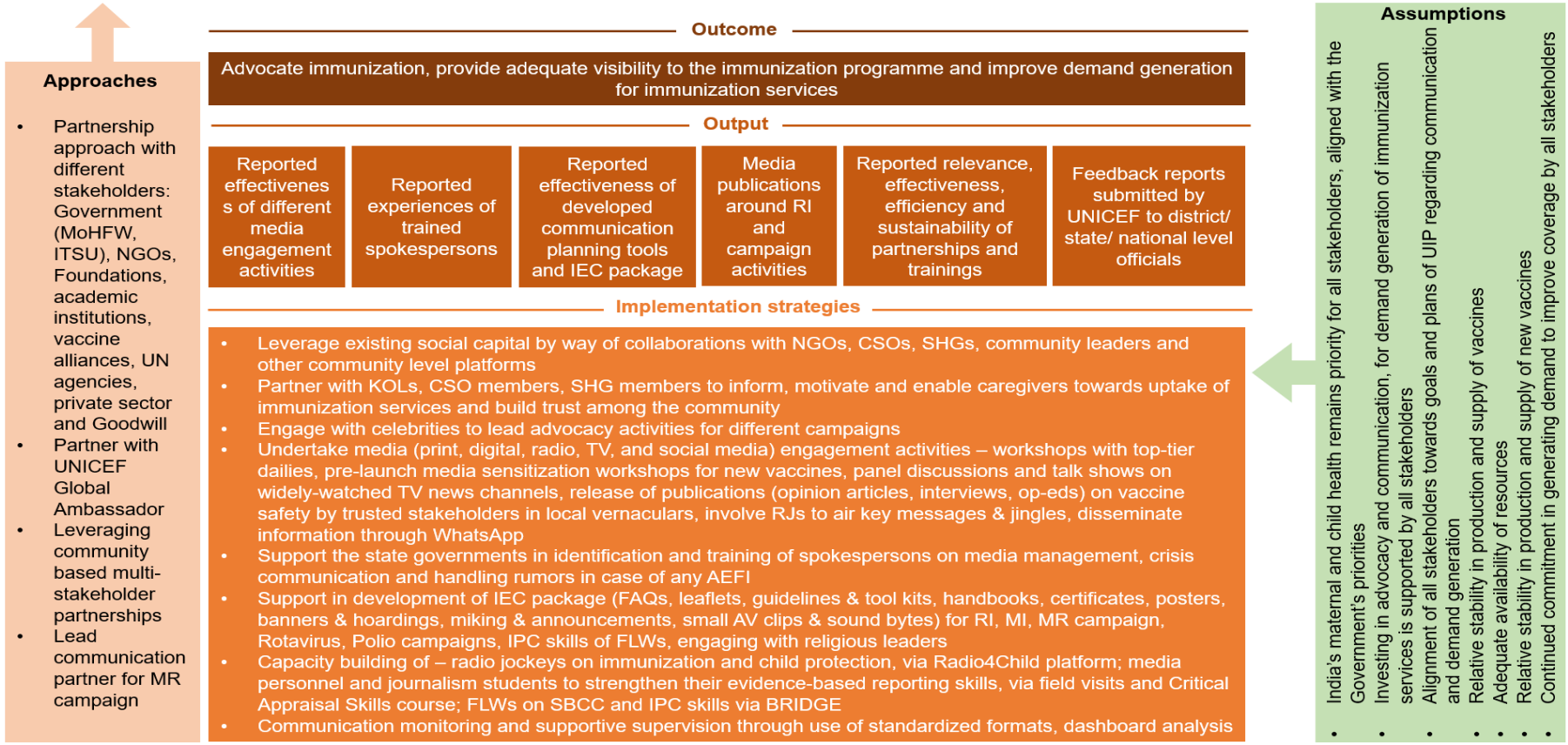


Figure 9: Theory of change graphic for communication and demand genera

SECTION 3. METHODOLOGY

This evaluation assessed UNICEF's contribution towards strengthening immunization activities in India from 2014 to pre-COVID-19 (end 2019), focusing on the five key areas of UNICEF activities in immunization, namely – coverage and equity, new vaccine introduction, cold chain strengthening, communication & demand generation, and polio transitioning. The Development Assistance Committee (DAC) Development Programme Evaluation Framework was used, with a focus on five criteria - relevance, effectiveness, efficiency, sustainability, and coherence, with a crosscutting focus on equity because the evaluation does not intend to analyse the effects of UNICEF's support. Each DAC criterion has implicitly addressed gender and equality, and they have been included in the primary evaluation based on IDIs.

A systematic assessment of the literature focused on UNICEF's PAN-India support for the country's immunization programme was the source of secondary data. In addition, qualitative activities with 150 stakeholders across five states, namely, Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan, and Assam, were conducted to collect primary data. These qualitative activities were one-on-one semi-structured IDIs of 45-60 minutes with stakeholders from national, state, and district-level government departments, partner organizations, and UNICEF staff from state and district. The details of geography and sampling identification are mentioned in the next section.

A. RESEARCH DESIGN

This evaluation draws upon the views of multiple partners working within the country's immunization domain. The table below indicates the stakeholders involved at different evaluation stages and the objectives and source of information. In addition, the table below provides a detailed research design and the objective of each of the evaluation stages and the stakeholders involved.

Table 3: Methods used for the evaluation

Methods used for evaluation	Objective	Source	Stakeholders involved
Systematic desk review	• To understand the background of UIP concerning five key areas of UNICEF activities – coverage & equity, new vaccine introduction, cold chain strengthening, communication & demand generation, polio transitioning • To trace the immunization activities that have occurred between 2014 to 2019 in India and represent it in the form of an immunization timeline concerning five key areas of UNICEF activities	• Immunization repository built during the Inception stage containing: • Documents, data & reports, operational guidelines, and handbooks available in the public domain • Internal documents, minutes, &	• Kantar Public • UNICEF

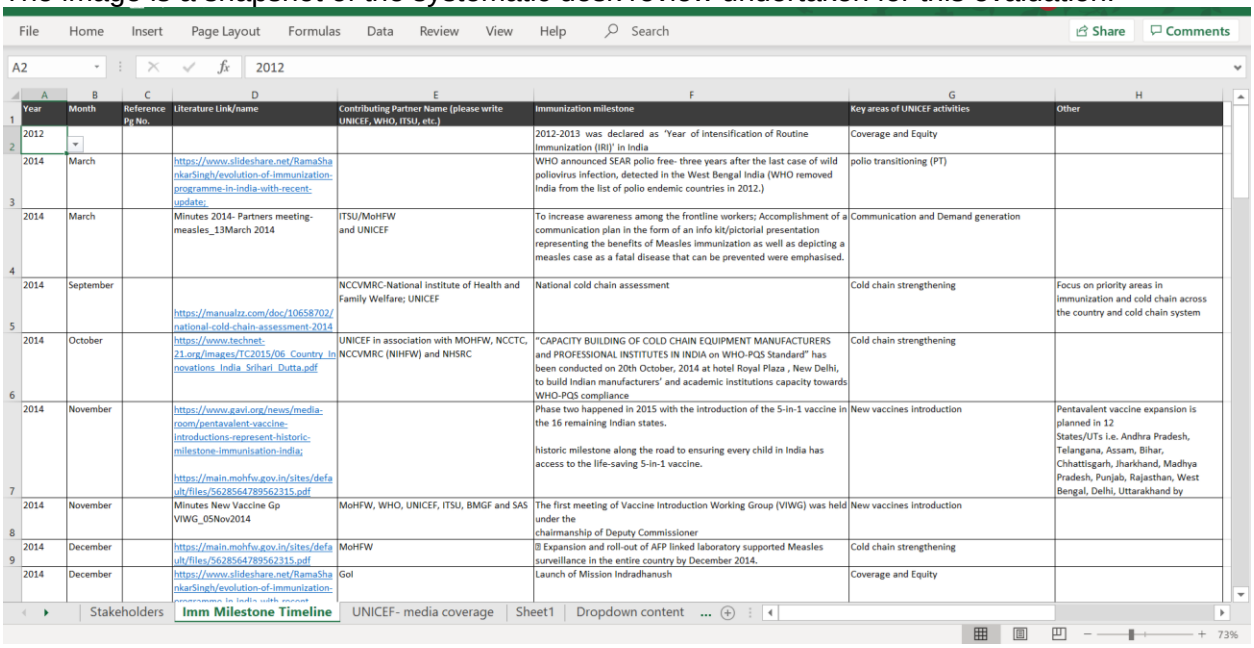
	• To develop a ToC indicating UNICEF's support for immunization in India specific to five key areas between 2014-19 • To build evaluation questions and strengthen the evaluation matrix • To identify key information areas and create research tools for primary data collection	reports shared by UNICEF • Minutes & media reports A list of documents is indicated in Table 5 under Section 3B.	
Quantitative analysis of secondary data	• To track the trend of immunization coverage from 2014 to 2019 in the country regarding the identified immunization activities • Identification of gender and equity gaps • Assess the quality of programme MIS data and supportive supervision	• Health Management Information System (HMIS) data • NFHS-4 • NFHS-5	• Kantar Public
Qualitative data collection	• To triangulate the role of UNICEF in the various immunization activities observed during desk review and collated in the immunization timeline • To gather views regarding relevance, effectiveness, efficiency, sustainability, and coherence of immunization activities undertaken by UNICEF to support the UIP between 2014-19 • To collect evidence documents (administrative data, and project trackers) regarding immunization activities supported by UNICEF between 2014-19 • To gather contextual and evidential inputs • To seek recommendations for strengthening UNICEF's support strategies towards immunization in India in the future • To develop a ToC indicating UNICEF's support towards immunization	• IDIs with stakeholders (The data collection methods are detailed in the below sections)	• Kantar Public • Deputy Commissioners, MoHFW • Mission Directors • State EPI Officers • State IEC Officer • District Immunization Officers (DIO) • District IEC Officer • District CCTs Vaccine Cold Chain Handler • Nodal Officer at NCCVMRC & NCCRC • Partners at national, state, and district level • Indian Academy for Pediatricts (IAP) President • A senior representative from medical colleges involved in immunization • SBCC cell members • Senior country manager of GAVI • UNICEF staff at the state and district level

B. SYSTEMATIC DESK REVIEW

A systematic desk review of the literature has been conducted to trace the immunization activities between March 2014 to 2019 in India. Post the completion of process tracing of immunization activities, the contribution of UNICEF and other partners in the immunization activities was gauged concerning five key areas of UNICEF activities – coverage & equity, new

vaccine introduction, cold chain strengthening, communication & demand generation, and polio transitioning. In addition, an immunization repository was built during this stage that consisted of country plan documents, rolling work plans (RWPs), minutes of meetings (MOM) around immunization planning and strategizing, donor reports and agreements, cold chain training datasets, EVM plan and reviews, secondary datasets around immunization, relevant documents released by MoHFW, SBCC reports, and others.

The image is a snapshot of the systematic desk review undertaken for this evaluation.



Year	Month	Reference Pg No.	Literature Link/name	Contributing Partner Name (please write UNICEF, WHO, ITSU, etc.)	Immunization milestone	Key areas of UNICEF activities	Other
2012					2012-2013 was declared as 'Year of intensification of Routine Immunization (IRI)' in India	Coverage and Equity	
2014	March		https://www.slideshare.net/RamaShankarSingh/evolution-of-immunization-programme-in-india-with-recent-update;		WHO announced SEAR polio free- three years after the last case of wild poliovirus infection, detected in the West Bengal India (WHO removed India from the list of polio endemic countries in 2012.)	polio transitioning (PT)	
2014	March		Minutes 2014- Partners meeting-measles_13March 2014	ITSU/MoHFW and UNICEF	To increase awareness among the frontline workers; Accomplishment of a communication plan in the form of an info kit/pictorial presentation representing the benefits of Measles immunization as well as depicting a measles case as a fatal disease that can be prevented were emphasised.	Communication and Demand generation	
2014	September		https://manualzz.com/doc/10658702/national-cold-chain-assessment-2014	NCCVMRC-National Institute of Health and Family Welfare; UNICEF	National cold chain assessment	Cold chain strengthening	Focus on priority areas in immunization and cold chain across the country and cold chain system
2014	October		https://www.technet-21.org/images/TC2015/06_Country_Innovations_India_Srihari_Dutta.pdf	UNICEF in association with MOHFW, NCCTC, NCCVMRC (NIHFW) and NHSRC	"CAPACITY BUILDING OF COLD CHAIN EQUIPMENT MANUFACTURERS and PROFESSIONAL INSTITUTES IN INDIA on WHO-PQS Standard" has been conducted on 20th October, 2014 at hotel Royal Plaza , New Delhi, to build Indian manufacturers' and academic institutions capacity towards WHO-PQS compliance	Cold chain strengthening	
2014	November		https://www.gavi.org/news/media-room/pentavalent-vaccine-introductions-represent-historic-milestone-immunisation-india; https://main.mohfw.gov.in/sites/default/files/562856478956231 5.pdf		Phase two happened in 2015 with the introduction of the 5-in-1 vaccine in the 16 remaining Indian states. historic milestone along the road to ensuring every child in India has access to the life-saving 5-in-1 vaccine.	New vaccines introduction	Pentavalent vaccine expansion is planned in 12 States/UTs i.e. Andhra Pradesh, Telangana, Assam, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Punjab, Rajasthan, West Bengal, Delhi, Uttarakhand by
2014	November		Minutes New Vaccine Gp VIWG_05Nov2014	MoHFW, WHO, UNICEF, ITSU, BMGF and SAS	The first meeting of Vaccine Introduction Working Group (VIWG) was held under the chairmanship of Deputy Commissioner	New vaccines introduction	
2014	December		https://main.mohfw.gov.in/sites/default/files/562856478956231 5.pdf	MoHFW	③ Expansion and roll-out of AFP linked laboratory supported Measles surveillance in the entire country by December 2014.	Cold chain strengthening	
2014	December		https://www.slideshare.net/RamaShankarSingh/evolution-of-immunization-	GoI	Launch of Mission Indradhanush	Coverage and Equity	

Figure 10: Snapshot of systematic desk review

The list provided in the annexure (ANNEXURE F: Repository of literature reviewed) represents the immunization repository built by the evaluation team with support from UNICEF. The documents listed in the repository were reviewed for this evaluation.

C. PRIMARY DATA COLLECTION

Data collection methods

The primary data collection encompassed **qualitative IDIs with stakeholders.** Considering COVID-19, primary data collection for this evaluation was conducted remotely using web-based platforms (MS Teams, Google Meet) or telephonically, as per the stakeholders' convenience. The IDIs were 45-60 minutes of one-on-one semi-structured interviews with key stakeholders working in the domain of immunization at national, state, and district levels (as detailed under Section 3E: Distribution of sample).

The selection of stakeholders for data collection was based upon the support provided by UNICEF that complements or supplements the roles and responsibilities of each stakeholder towards the national immunization programme. The views of these stakeholders working in different domains of immunization at national, state, and district levels helped answer the evaluation questions (as indicated under Section 3D: Evaluation Matrix). In addition, the perspective of all stakeholders helped in clearly defining UNICEF's contribution and support to strengthen immunization in India

– via validating and adding to the findings from the desk review and suggesting the way forward to strengthen UNICEF's support to immunization in India.

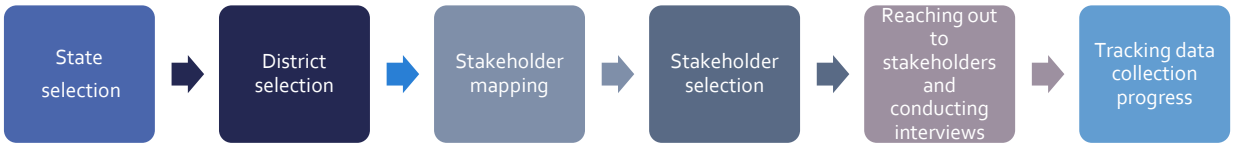
EVALUATION MATRIX

This evaluation followed the **OECD-DAC criteria**.[20] The evaluation matrix maps the evaluation questions against indicators and respective sources of information. It is to be noted that the evaluation matrix has been restructured by reframing the evaluation questions and sub-questions from the Terms of Reference (ToR) in consultation with, and with inputs from the Evaluation Reference Group (ERG), UNICEF India's Research & Evaluation team and UNICEF India's Immunization team of the Health Section; to make them more comprehensive. While restructuring the evaluation matrix, non-overlapping evaluation questions and sub-questions were bifurcated to provide a holistic picture. As a result of this restructuring, the number of evaluation questions increased from the ToR to the inception report. Due to new criteria in the DAC framework – coherence – during the inception phase, new evaluation questions were added to the evaluation matrix (which were not a part of the ToR). (Refer to ANNEXURE 6D: OECD-DAC EVALUATION MATRIX FOR THE EVALUATION.)

D. SAMPLING

Sampling methodology

UNICEF provided support to build a comprehensive list of target respondents and approach them.



• Five states, Bihar, Uttar Pradesh, Madhya Pradesh, Assam, and Rajasthan, were selected based on higher birth rate, weaker health indicators, low immunization coverage, equity profile, and many polio HRAs.	• Four districts were selected in each state • Districts were selected based on the presence/history of UNICEF's support at the district level. • The intersection of aspirational and high priority districts (HPDs) was observed during the selection.	• UNICEF and Kantar Public prepared and a list of key government and non-government stakeholders working in different domains of immunization at national, state, and district levels.	• Stakeholders were purposively selected from the complete list based on the roles are undertaken by them, years of experience between the evaluation time period, and their availability during the primary data collection stage.	• Considering COVID-19, primary data collection for this evaluation was conducted remotely using web-based platforms (MS Teams, Google Meet) or telephonically, as per the stakeholders' convenience.	• An online real-time tracker containing information about the status of all the interviews scheduled, details of the moderator conducting the IDIs, and meeting joining link of the IDIs was maintained.

State Selection

[20] OECD DAC Network. OECD Evaluation Criteria. Retrieved from: https://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htmI

- For the evaluation, five states were purposively selected to understand UNICEF's sub-national support of immunization programmes.
- Four states, Bihar, Uttar Pradesh, Madhya Pradesh, and Rajasthan, were selected based on higher birth rates, weaker health indicators, low immunization coverage, and many polio HRAs.
- These states are priority states of the government and GAVI HSS support. These states are also a major part of UNICEF support, and resources are focused on these states.
- Assam was selected as the fifth state since it is the most populous North-Eastern state and presents an equity profile.

District Selection

- In each of the selected states, four districts were selected for this evaluation.
- As the evaluation pertains to UNICEF support, the districts were selected based on consultants in the selected states, i.e., if a district has UNICEF consultant(s) and UNICEF support.
- In case any state had more than four districts with UNICEF consultants, four districts out of the ones with UNICEF consultants were randomly selected.
- If any state had fewer than four districts or no districts with direct UNICEF consultant support, then UNICEF focus districts provided with indirect or remote support by UNICEF were chosen.

Table 4: List of selected districts

States	Districts with UNICEF consultants/history of district-level support	Aspirational Districts (Y/N)	High Priority Districts (Y/N)	District selected (Y/N)
Assam	Baksa	Y	N	Y
	Udalguri	Y	N	N
	Darrang	Y	N	N
	Dhubri	Y	Y	Y
	Hailakandi	Y	Y	Y
	Barpeta	Y	N	N
	Goalpara	Y	N	N
	Karimganj	N	Y	Y
Bihar	Gaya	Y	Y	Y
	Purnea	Y	Y	Y
	Muzaffarpur	Y	N	Y
	Champaran	N	Y	Y
	Patna	N	N	N
Madhya Pradesh	Shivpuri	N	N	N
	Sheopur	N	N	N
	Alirajpur	N	Y	Y
	Jhabua	N	Y	Y
	Barwani	Y	Y	Y
	Umaria	Y	Y	Y
	Mandla	N	Y	N
	Bhopal	N	N	N
Rajasthan	Barmer	N	Y	Y
	Dungarpur	N	Y	Y

	Bhilwara	N	N	Y
	Jaipur	N	N	Y
Uttar Pradesh	Shahjahanpur	N	Y	N
	Lakhimpur Kheri	N	Y	N
	Shrawasti	Y	N	Y
	Barabanki	N	Y	N
	Gonda	N	Y	N
	Balrampur	Y	N	Y
	Hardoi	N	Y	Y
	Sitapur	N	Y	Y
	Sant Kabir Nagar	N	Y	N
	Maharajganj	N	Y	N

Stakeholder Mapping

A list of key personnel was created across the stakeholder organizations based on the organization's presence and functionality in identified states, districts, and cold chain resource centers.

Respondent Selection

- Respondents were purposively selected based on their roles and responsibilities, duration of experience, and availability.
- All participants were recruited through prior appointments.
- Appointments were sought for conducting the remote IDIs.
- All key informants were interviewed after reviewing programme guidelines and respective responsibilities.

Data collection summary

A total of **150 IDIs** have been conducted with government officials, partners, and UNICEF officials at district, state, and national levels. A success rate of 97% in data collection was recorded (150 of the proposed 154 IDIs were completed); however, this does not impact the analysis. IDIs with certain stakeholders were dropped in consultation with the UNICEF team, either due to refusals or because of no positive response (because of – unavailability due to a change in the role and designation, transfer to the other department, extremely busy schedule due to other pressing national/state priorities).

Stakeholders	National level	State-level	District level
RCH Advisor, MoHFW	1		
Joint Commissioner (UIP)	1		
Professor at NCCVMRC, Delhi	1		
Nodal Officer at NCCVMRC, Delhi	1		
Nodal Officer at NCCRC, Pune	1		
Mission Director (NHM)/ Director Health Services Family Welfare		3	
State EPI Officer		5	

State IEC Officer		5	
State Cold Chain Officers (CCOs)		5	
District Immunization Officers			20
District IEC Officer			17
District Cold Chain Technician/ Vaccine Cold Chain Handler			20
Partners at the national level	9		
Partners at the state level		27	
IAP President		3	
A senior representative from medical college involved in immunization		4	
SBCC cell members		4	
Senior country manager of GAVI	2		
UNICEF Staff/Consultants from State Offices		21	
Total IDIs	**150**		

E. ANALYTICAL APPROACHES

Analysis of Secondary data

The analysis framework follows the evaluation framework and ToR questions using the OECD-DAC areas of relevance, effectiveness, efficiency, sustainability, and coherence. **Triangulation of data sources** is key to the evaluation and was carried out to answer each evaluation question. The following activities were conducted to measure what policy, planning, or implementation changes occurred due to UNICEF's support to immunization in India:

- **Quantitative comparison of trends** – NFHS-4, NFHS-5, and HMIS data were utilized to observe immunization coverage trends at different periods between 2014 to 2019. Since survey data was not comparable to administrative data, these two datasets were utilized to observe the trends. Microsoft-Excel, a suitable software, was used to compare trends. Keeping in mind gender and equity, at the analysis stage, quantitative data was disaggregated as per equity dimensions specified under Section 1D: Scope of the Evaluation.
- **Process tracing** of all immunization activities and milestones regarding the country's immunization programme, from 2014 to pre-COVID-19 (end 2019). This helped gather the immunization activities under focus for this evaluation and fed into the development of the immunization timeline.
- **Stakeholder mapping** identified the list of stakeholders (Government, immunization partners, academia, and civil society networks) involved in the country's immunization programme across each immunization activity identified and highlighted from process tracing.

Analysis of Primary data

Qualitative Data Analysis of IDIs

All the data collected from IDIs were loaded and compiled in ATLAS.ti.

- The analysis of data gathered from IDIs followed a systematic approach, wherein the transcripts developed from audio recordings and field notes recorded and prepared during the IDIs were organized to facilitate a **thematic content analysis**. This included coding, categorizing into key themes using an inductive (data reduction) approach, and summarizing the key findings for each theme. The thematic areas are cross-cutting with key areas of UNICEF work and equity dimensions (gender, social categories such as Scheduled Caste, Scheduled Tribes, religions, residential clusters such as HRA, non-HRA, urban, rural, urban slums)
- Further, **framework analysis** was undertaken in which data was sifted, charted, and sorted in accordance with key issues and themes using five steps – familiarization, identifying a thematic framework, indexing, charting, and mapping and interpretation.
- Detailed **contribution analysis** of the data collected from interviews with stakeholders helped in understanding the relevance, effectiveness, efficiency, sustainability, and coherence of the role played by UNICEF regarding the country's immunization programme.
- The complete analysis involved continuous iterative responses to identify and code the main patterns (key findings) for further interpretation and synthesis into conclusions (data display). In doing so, triangulation (with findings from desk research, quantitative analysis, and qualitative interview sources) was employed for verification, substantiating analysis, and drawing the final judgments.

The detailed steps of qualitative data analysis are summarized below.

- **Step 1:** Professional transcribers manually transcribed the recorded interviews/discussions into English. Special care was taken during the transcription so that there was no loss of information during the process. This is the prime reason why transcripts were prepared manually, as software programmes sometimes don't transcribe colloquial words. Also, at times, these programmes cannot pick up words due to a lack of clarity, which is inevitable, given the settings in which social research is conducted. Researchers and supervisors performed random checks by listening to audio recordings to ensure the quality of transcriptions.
- **Step 2:** Content analysis formats were developed as per the interview guide to categorize responses to understand similarities and dissimilarities of stated facts. According to the researchers, in Social Science research methodology, information from transcriptions was put into the content analysis format. In addition, at the end of each interview, extensive notes were added to the transcripts.
- **Step 3:** All the qualitative research interviews were audio-recorded and transcribed by a professional transcription team. These transcripts were then analysed either by interpretive coding or by framework analysis. In either case, a code list was initially generated using the information areas covered in the interview guide. The detailed content analysis allowed data to be filtered based on the five criteria of the OECD-DAC framework: relevance, effectiveness, efficiency, sustainability, and coherence. This further facilitated an in-depth analysis of variations in the data.

F. LIMITATIONS OF THE EVALUATION AND MITIGATION STRATEGIES

- **Absence of counterfactual:** Since the support of UNICEF to the immunization programme is countrywide, it was difficult to identify counterfactual. Thus, the focus was on examining whether UNICEF's support could achieve the outputs and outcomes as intended. Further, the process-tracing approach was used to identify the milestones/ activities with respect to the immunization programme in India.
- **Confounding factors:** While the evaluation scope covered immunization activities starting from 2014 to pre-COVID-19 (end 2019), many initiatives and strategies that were reviewed started prior to 2014 and were built on previous programme cycles. Thus, a clear list of activities taken into consideration for this evaluation was charted out with the help of process tracing.
- **Reduced institutional memory:** The interview guides included sufficient probes relevant to the stakeholder's work which helped the participants recollect necessary information. Data gathered from different stakeholders with similar work/responsibilities were cross-checked for verification.
- **Poor quality of HMIS data or programme implementation data:** Assessment is reflective of any gaps that pre-exist in the secondary sources of data online or programmatic/ information in the public domain.
- **Moderator/Interviewer Bias:** Moderators were effectively trained on research and data collection protocol. All team members and moderators completed the UNICEF Ethics course before the evaluation. Researchers assisted the moderators in primary data collection from some national-level interviews.
- **Probability of capturing socially desirable responses:** Moderators maintained a neutral stance during data collection activities and did not pass any value judgment to have interviewees feel comfortable sharing accurate information. The moderators and researchers attempted to identify the correct response in cases of conflict in responses around the same topic by using effective probes – it was ensured that detailed probes were included in the interview guide.
- **Length of the document:** Given the amount of crucial information, the length of the executive summary and comprehensive report exceeds the suggested length as per the Global Evaluation Report Oversight System format. Condensing the information in the report or executive summary may have led to the loss of pivotal information necessary for depth for any key user.

G. ETHICS AND STANDARDS

UNEG Standards

Ethical considerations are crucial in evaluation studies that involve sensitive and complex subject matter and target groups. Considering the key informants' involvement, following all research ethics regulations or guidelines was pertinent. One of the most critical ethical guidelines is **respect for persons participating in the interview**. Respect for persons recognizes the capacity and rights of all individuals to make their own choices and decisions. It refers to respecting the autonomy and self-determination of all human beings and acknowledging their dignity and freedom. The basic principle governing the ethical conduct of research is **informed**

consent. Therefore, we ensured that voluntary informed consent was taken from the respondents. The key elements of a consent form were:

1) **Confidentiality-** Confidentiality of the information provided was ensured, and the same was conveyed to the respondents. It was confirmed that no third party had access to the research instruments, and no one had the authorization to access the data collected other than the authorized members of the evaluation team. The participant was also informed that all the responses would remain anonymous, and the data would be de-identified. The moderators were trained not to record any personal identifiers on the audio. The audio recordings have been archived into the password-protected system following transcriptions/data analysis. These will eventually be deleted post-completion of all the formalities of this project/evaluation.
2) **Voluntary participation**- Before the interview, it was clearly stated that participation in the evaluation is voluntary, and the participants are free to withdraw or refuse at any point during the interview. It was communicated that the desire to withdraw from the evaluation or refusal to participate would not result in penalties or loss of benefits.
3) **Privacy-** Maintaining the privacy of respondents is of utmost importance in an interview. It was ensured that the respondents were kept in a comfortable situation during the interview, and interviewees were guided by the interviewer throughout the interview to minimize the disturbance from their family, friends, and peers during the interview. It was also ensured by the interviewer that the respondent was not accompanied by anyone at any point of the interview.
4) **Compensation & incentives-** The respondents were informed before the initiation of the evaluation that no compensation or incentives would be provided.
5) **Rapport Building-** Before the interview, the initial 10 minutes of the conversation focused on explaining to the respondents the nature of the evaluation and developing comfort levels by clarifying the issues the respondents might have with the nature of the data requirement. For remote data collection, detailed mail was sent to participants detailing the evaluation objectives and purpose. Further queries from participants before the interview were addressed over e-mail/phone as suggested by the participant.

Researchers/Supervisors human quality- We understood and ensured that interviewing requires certain skill sets that every member associated with the evaluation needs to possess. These include- a). Integrity, b). Respect, c). Compassion, d). Professionalism, e). Courtesy and f). Sensitivity.

COMPLETION OF TRAINING AND COURSES ON ETHICS

All the core team members, moderators, and researchers went through Kantar Public's general training on ethics. The training had a module and a comprehensive plan on ethical considerations. Additionally, the guidance outlined in UNICEF Procedure on Ethical Standards in Research, Evaluation, Data Collection, and Analysis, as well as the United Nations Evaluation Group (UNEG) Ethical Guidelines for Evaluation[21] were followed. It was also ensured that every team member and moderator involved in this evaluation completed the UNEG Ethical Guidelines for Evaluation before the data collection.

[21] United Nation Evaluation Group. Ethical Guidelines for Evaluation, 2020. Retrieved at: http://www.unevaluation.org/document/detail/2866

IRB Approval

An IRB approval was sought for the evaluation, and an application dated 05 May 2021, along with a study protocol, was submitted to the Sigma Institutional Review Board. The IRB members reviewed the IRB application on **"Evaluation of UNICEF's support to strengthen immunization program in India"** of Kantar. A review meeting was attended by UNICEF and Kantar Public with the board on 23 May 2021 to discuss the scope of the evaluation and queries of the board. The IRB suggested the inclusion of a risks and mitigation plan, audio consent to minimize the risk of spreading or contracting COVID-19, data sharing policy with UNICEF, gender balance, and clarity on data collection methods.

The IRB approval was received on 10 June 2021 from the Sigma board post address of all queries, suggested amendments, presentation of the evaluation details, and resubmission of the third version of the IRB docket. A copy of the document is attached in ANNEXURE: B IRB Approval.

The following members participated in the online meeting over Google to discuss the protocol.
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- Dr. Venkatesh Srinivasan, Sigma IRB Chairman
- Dr. U V Somayajulu, Sigma IRB Member Secretary
- Dr. S K Banerjee, Sigma IRB Member
- Dr. S K Mondal, Sigma IRB Member
- Dr. Mayur Jain, Sigma IRB Member
- Ms. Pallavi Dhall, Kantar
- Mr. Sanyam Kapoor, Kantar
- Ms. Shraddha Mandal, Kantar
- Dr Rija Andriamihantanirina, UNICEF
- Mr. Atishay Mathur, UNICEF

Dr. Venkatesh Srinivasan chaired the meeting and conducted the proceedings, whereas the team at Kantar Public presented the evaluation details during the IRB review meeting.

SECTION 4. EVALUATION FINDINGS BY CRITERIA

The evaluation adopted the OECD=DAC evaluation framework and focused on five criteria: relevance, effectiveness, efficiency, coherence, and sustainability, barring impact. A retrospective ToC for UNICEF's support to the immunization programme in India from 2014 to pre-COVID-19 (end 2019), was also prepared. The systematic desk review traced the immunization activities conducted between 2014-2019 in India and understood the background of UIP concerning five key areas of UNICEF's activities. This was further utilized to build KEQs and strengthen the evaluation matrix (refer to Annexure D: OECD-DAC Evaluation Matrix for the Evaluation) to identify key information areas and develop research tools for primary data collection.

The findings are presented in a structured manner based on the OECD-DAC evaluation criteria. Findings are further structured to allow for analysis of overlapping KEQs and sub-evaluation questions. In addition, the primary data and secondary data have been triangulated to measure

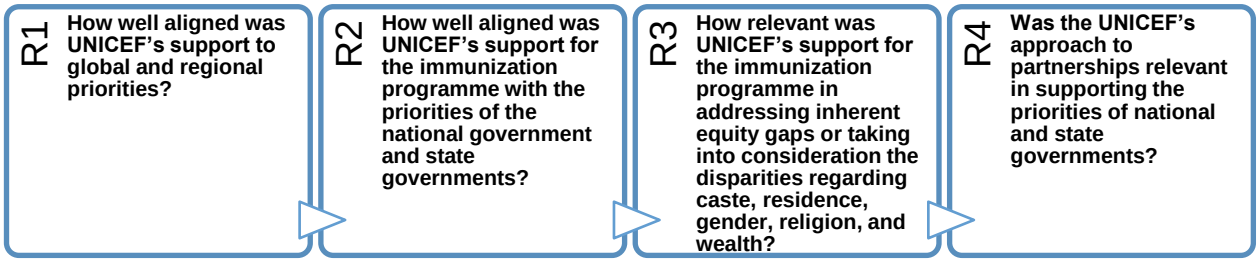
the policy, planning, and implementation changes that occurred due to UNICEF's support in immunization activities during 2014-19. The analyzed data and detailed findings below answer each of the KEQs.

A. RELEVANCE

This section of the report elaborates upon UNICEF's alignment with the UIP goals and with the priorities at the global, regional, national, and state levels through the years 2014-19.

The *relevance* of UNICEF's activities on immunization coverage is reflected in its alignment with SDG 3, Target 3.2: End all preventable deaths under five years of age[22] , and the earlier Millennium Development Goal (MDG) 4: Reduce Child Mortality rate by two-thirds between 1990 and 2015.[23] UNICEF also synchronized with the GoI's programmes and priorities: achieve and sustain the goal of 90% FIC[24] and national health outcome goals of the 12th Five Year Plan.[25] In this endeavour, UNICEF has developed strong partnerships with stakeholder organizations working towards similar goals in the region and the country.

The current evaluation explored the four key questions (R1-R4) listed below, and this report delves into each of these in this section.



R1. How well aligned was UNICEF's support to global and regional priorities?

UNICEF displays a comprehensive approach toward child survival and health and aligns with global priorities by supporting the achievement of SDGs. UNICEF covers all the critical health outcomes in its Country Programme Framework and prioritises the ones that are a part of the United Nations Sustainable Development Framework (UNSDF).

UNICEF's global strategic plans align with SDGs on child survival and quality essential healthcare services

UNICEF listed 5 goal areas under its Global Strategic Plan 2018-21 to drive toward the achievement of the SDGs by 2030.[26] Of the 5 areas, "Goal Area 1 - Every Child Survives and Thrives" directs to achieve good health and well-being of children globally. UNICEF responds to

[22] SDG Target 3.2: End all preventable deaths under five years of age. Full text of Target 3.2 is: 'By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.'

[23] United Nations Development Programme. *Millennium Development Goals by UNDP. Retrieved* from: https://www.in.undp.org/content/india/en/home/post-2015/mdgoverview.html

[24] Ministry of Health and Family Welfare. *Roadmap for achieving 90% full immunization coverage- A guidance document for the states*.

[25] Planning Commission, GoI. 12th Five Year Plan 2012-17 Social Sectors (National Health Outcome Goal: Reduction of Infant Mortality Rate (IMR) to 25 per 1000 live births.

[26] UNICEF. *UNICEF Strategic Plan 2018-21.* Available at: file:///C:/Users/ttpatilpr/Downloads/E_ICEF_2017_17_Rev-1-EN.pdf

SDG 3 - Good Health and Well-being by setting the goals under Outcome 1 of Health - Reduction of child and maternal mortality in UNICEF CPAP 2018-22.

A critical observation from the desk review (and analysis) is the lack of disaggregation in the intermediate outcomes by gender and social groups under CPAP. This results in a lack of segregated resource planning and targeted outcome measurement, which is also true for the SDG framework.

SDG 3 further elucidates the aim to reduce neonatal and under-five mortality among children (Target 3.2[27]) and mandates access to quality essential healthcare services, including vaccines, to all (Target 3.8[28]). UNICEF Country Programme Document (CPD) and CPAP 2018-22 concur with SDG 3.2, as evident from the key progress indicator of decreasing neonatal mortality and the outcomes of SDG Target 3.8 through intermediate outcome 2.[29]

UNICEF outcome 1: Intermediate Outcome 2:

- Targets to achieve 90% level in DPT3 coverage
- Number of transition states with <10% difference in full immunization coverage between the highest and lowest wealth quintiles

> *"UNICEF's global priorities were Coverage and Equity, and it was weaved into the technical support provided to the government."*
>
> *-District-level UNICEF Official*

The mid-term review of UNICEF's 2013-17 India Country Programme concluded that the outcomes were well-aligned with the Global Strategic Plan for 2013-17 and 2018-21.[30,31]

Alignment with GAVI

UNICEF's Global Strategic Plan, 2018-21, also aligns with GAVI's Strategic Goals.[32] UNICEF's catalytic support to governments across countries helps identify barriers to and prioritize child health and survival.

GAVI's Strategic Goals:

- Vaccine goals
- Market shaping goal
- Health system goal
- Financial goal
- Sustainability goals

UNICEF priorities are also in sync with GAVI's priorities under Health System Strengthening (HSS) in India to improve the quality and coverage of immunization. This facilitates the sustainability of the immunization programme by strengthening the government systems through strategic partnerships.

During the IDIs, stakeholders opined that UNICEF is a strong partner to the GoI, and its endeavour to improve the health of children is evident from its active membership in the Immunization Action Group (IAG) of the GAVI HSS grant since 2014.[33]

[27] SDG Target 3.2: By 2030, end preventable deaths of new-borns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births

[28] SDG Target 3.8: Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

[29] Intermediate outcome 2: Increased number of pregnant women and children especially from the marginalized groups receive quality immunization and package of other essential services for addressing common childhood illnesses.

[30] UNICEF. *UNICEF Annual Report India, 2015*

[31] UNICEF, UNICEF Global Strategic Plan 2013-17 and 2018-21.

[32] GAVI, The Vaccine Alliance. *GAVI Strategic Goals*. Accessible at: https://www.gavi.org/our-alliance/strategy

[33] The Result Matrix 2018-22 of UNICEF India Country Office define its alignment with the SDGs and the national priorities viz. National Health Policy 2017, national RMNCH+A strategy, Call to Action, India Newborn Action Plan (INAP), India Action Plan for Pneumonia and Diarrhoea (IAPPD), the Multi-Year Strategic 2013-17 Plan Universal Immunization Program, and the Global Vaccine Action Plan

This synergy between GAVI's funding under HSS and UNICEF's technical support to the government has proven vital to immunization coverage under UIP in India. NFHS-5, which corresponds closely to the evaluation period, shows an increasing trend in DPT3 coverage among children aged 12-23 months and in the uptake of immunization at Anganwadi centres[34] (introduced via child immunization services in Village Health and Nutrition Day (VHND)) reflecting the level of improvements made in India.

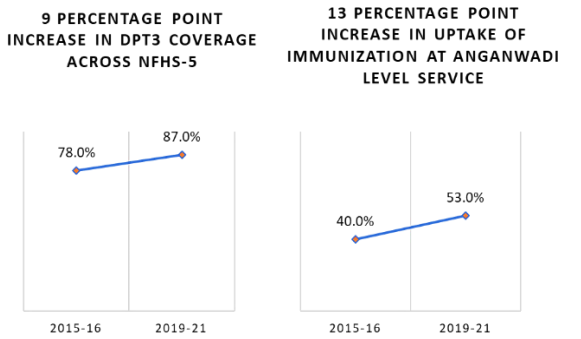


Figure 11: DPT3 coverage and uptake of immunization at Anganwadi level services as per NFHS-4 (2015-16) and NFHS-5 (2019-21)

These observations based on secondary evaluation were corroborated by the findings from the IDIs with government officials, partner organizations, and UNICEF staff. The participants deemed UNICEF's intervention as well-targeted and harmonized with the SDGs, Immunization Agenda (IA), and GAVI 5.0 priorities.[35]

> *"When SDGs were introduced, UNICEF aligned its work to the relevant SDGs to increase coverage and reduce child mortality. UNICEF has been supporting the government to achieve the targets of SDGs."*
>
> *-State-level Partner*

UNICEF's lucid goals, measurable outcomes, and strong linkage with global and regional priorities contribute to relevant support towards *'every child survives and thrives'.*

R2. How well aligned was UNICEF's support for the immunization programme with the priorities of the national government and state governments?

UNICEF works to achieve the GoI's goal of 90% FIC. As a result, the relevant outputs and outcomes are well listed in its Country Programme Framework. The same is reflected in their interventions at the state level in respective RWPs.

Alignment with national priorities

UNICEF CPAP 2018-22, Outcome 1 on Health (reducing child and maternal mortality) is mapped with the national

National Priorities:

- National Health Policy 2017
- India Newborn Action Plan (INAP), 2014
- India Action Plan for Pneumonia and Diarrhoea, 2014
- The Multi-Year Strategic 2013-17 Plan
- National RMNCH+A strategy (2013)
- Call to Action, 2013
- Universal Immunization Program
- The Global Vaccine Action Plan, 2012

[34] Analysis in the findings is based on the NFHS data. The data from National Family Health Survey, 2015-16 and 2019-21 is based on documented evidence, and population-based household survey. It is used by researchers and policy planner and cannot be ignored. The survey was funded and reviewed by the Ministry of Health and Family Welfare, GoI and was under the technical assistance of Demographic and Health Survey Program of USAID. This is to be noted that the reference period for the estimated indicators are well within the end of evaluation period.

[35] GAVI. *GAVI Phase 5 (2021-25) strategy Accessible* at: https://www.GAVI.org/our-alliance/strategy/phase-5-2021-2025

priorities.[36] UNICEF's country programme 2018-22 aims to contribute to the national priorities of reduction in neonatal mortality and improving immunization coverage, especially for the most vulnerable population.[37] This is in concurrence with the government's goal of achieving 90% FIC at the national level and the indicators listed under the Monitoring and Evaluation Framework of cMYP 2018-22 of GoI. [38]

> *UNICEF aligns with regional and global priorities of full immunization coverage and building better infrastructure via cold chain strengthening.*
>
> *-District-level Government Official*

In its efforts to strengthen and intensify the immunization programme, UNICEF has contributed to efficient progress monitoring of immunization coverage at the national level. GoI, with the support of UNICEF, undertook national surveys such as RSoC 2013-14, Coverage Evaluation Survey (CES) 2018, and National Family Health Surveys[39] (NFHS 2015-16, 2019-21). The results from these surveys are applied by the government and its stakeholders for course corrections and advocacy for supplementary resource allocation to strengthen the immunization programme.

For instance, RSoC's (2013-14) immunization coverage identified partially immunized or not immunized children among the vulnerable population in the tribal areas and socio-economically weaker sections. This finding catalysed the development of a new immunization intervention by the government, 'The Indradhanush Programme,' supported by UNICEF, WHO, and other stakeholders.

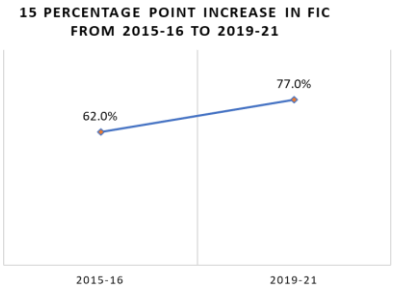


Figure 12: FIC coverage at national level (NFHS-4, 2015-16 & NFHS-5, 2019-21)

UNICEF's continued efforts to increase immunization coverage contribute to closing in on the FIC deficit of 15% from the goal at the national level.[40]

Alignment with state priorities

UNICEF's state-specific RWPs align with the state government's priorities. For instance, Output 2 under Outcome 1 of the 2018-2019 RWP of states clearly defines activities to strengthen the cold chain system, support the Measles-Rubella campaign, and improve Routine Immunization coverage and equity. [41] The activities are planned, implemented, and measured to report on the states' annual progress toward the overall annual targets.

> *Government expectations have been set forth to increase immunization coverage, and I have observed that UNICEF diligently complies with these expectations.*
>
> *- State-level Partner*

[36] National Priorities: Aligned with the national Health Policy 2017, national RMNCH+A strategy, Call to Action, India Newborn Action Plan (INAP), India Action Plan for Pneumonia and Diarrhoea (IAPPD), the Multi-Year Strategic 2013-17 Plan Universal Immunization Program, and the Global Vaccine Action Plan

[37] United Nations Economic and Social Council. *UNICEF CPD 2018-22.*

[38] Ministry of Health and Family Welfare, India. *Comprehensive Multi-Year Strategic Plan 2018-22.*

[39] The data from National Family Health Survey, 2015-16 and 2019-21 is based on documented evidence, and population-based household survey. It is used by researchers and policy planner and cannot be ignored. The survey was funded and reviewed by the Ministry of Health and Family Welfare, Government of India and was under the technical assistance of Demographic and Health Survey Program of USAID. This is to be noted that the reference period for the estimated indicators are well within the end of evaluation period.

[40] Ministry of Health and Family Welfare, GoI. *National Family Health Survey-5, 2019-21.*

[41] UNICEF. State specific Rolling Work Plan, 2018-19 for various states.

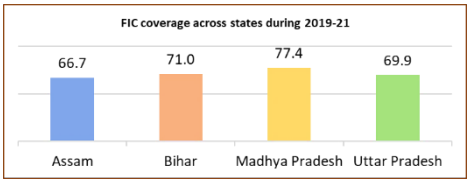


Figure 13: FIC coverage across states during 2019-21 (NFHS-5)

The well-defined outcomes and UNICEF's support towards achieving FIC is to be continued and further strengthened since NFHS-5 indicates that the goal of 80% FIC[42] at the state-level is yet to be achieved in the states of **Assam (66.7%), Bihar (71.0%), Madhya Pradesh (77.4%),** and **Uttar Pradesh (69.9%)**.[43]

> *"UNICEF supports the government to track the relevant priorities under child immunization and child survival. UNICEF always nudges the government regarding the need to improve immunization coverage, maternal health, and child health."*
>
> *- State-level Partner*

IDIs suggest that UNICEF supported relevant priorities of the state governments by means of evidence generation and contribution to strengthening monitoring systems. **Example 1:** UNICEF utilized the evidence to address the relevant challenges related to cold chain strengthening at the state level. UNICEF conducted cold chain assessments and vaccine waste management across 11 states to identify the issues. **Example 2:** The robust data from the UNICEF-supported CES 2018[44] conducted across 190 IMI districts identified reasons for no immunization or missing immunization among children, such as:

1) *gap in knowledge about child vaccinations* (33.0%),
2) *lack of felt need for vaccination* (24.0%), and
3) *fear of side effects* (11.0%).[45]

UNICEF also supports the strengthening of district-level monitoring systems through a digital platform, e-Jan Swasthya.[46]

e-Jan Swasthya:

An android application developed under NHM with technical support from UNICEF for tracking of pregnant women and ensuring improved health of young children with the support of ANM/ASHA.

Additionally, government stakeholders at the state and district level reported the relevance of UNICEF's SBCC strategy for maternal and child health. This is substantiated by data on the training of 7,760 master trainers in SBCC management.[47] UNICEF supported the state of **Odisha** to set up a Centre of Excellence and the launch of *Mamta Abhiyaan,* or Motherhood Campaign in **Madhya Pradesh,** to reduce maternal and child deaths.

[42] UNICEF. *UNICEF Country Programme Action Plan 2018-22*
[43] Ministry of Health and Family Welfare, GoI. *National Family Health Survey-5, 2019-21.*
[44] Ministry of Health and Family Welfare, GoI. Coverage *Evaluation Survey 2018*
[45] Ministry of Health and Family Welfare, GoI. *Coverage Evaluation Survey 2018*.
[46] e-Jan Swasthya Accessible at: https://ejs.health.rajasthan.gov.in/unicef_android/web/index.php?r=user%2Fsecurity%2Flogin
[47] UNICEF. *UNICEF C4D Gender Report 2019*.

The capacity building of FLWs by UNICEF is significantly relevant to UIP. The objective of this capacity building was to scale up Home-Based care for Young Children in 2019 [48] (HBYC) across 39 Aspirational Districts, [49] intending to improve the household contact of Accredited Social Health Activists (ASHAs) and educate parents about the importance of immunizing children. Further, in order to strengthen the HBYC initiative, UNICEF supported the government in the roll-out of Mother and Child Protection Card (MCP or vaccination) card guidebooks in 10 states as a comprehensive communication tool. These guidebooks were revised with particular attention to the gender of the child.[50]

Home-based Care for Young Children

Under NHM, ASHA provide home visits on 3rd, 6th, 9th, 12th and 15th months to promote early initiation of breast feeding, exclusive breast feeding until six months and continued breast feeding until the second year of life along with adequate complementary feeding and to ensure age-appropriate immunization and early childhood development.

R3. How relevant was UNICEF's support for the immunization programme in addressing inherent equity gaps or taking into consideration the disparities regarding caste, residence, gender, religion, and wealth?

The heterogeneity in maternal and child health indicators across groups and regions in India underpins the relevance of UNICEF's support in addressing equity gaps in the immunization programme. The gender-based difference in neonatal mortality indicates a possible inequity in access to essential healthcare services. Addressing the prevalent inequities in immunization coverage across different caste and religious groups is also pertinent to reaching the goal of >80% FIC in every state as well as to achieving the national target of 90% FIC.

Addressing gender equity gaps

UNICEF, under the SBCC Gender Strategy Framework, partnered with Doordarshan and Community Radio Association (CRA) to reach a wider audience for awareness generation regarding immunization and effectively addressing the gender equity gaps. Doordarshan's gender-transformative programming had a universal reach in India, and with CRA, UNICEF successfully reached 6,00,000 listeners via 60 radio stations.[51]

The state-level partners reported that the UNICEF SBCC cells backed the immunization programme by strengthening communication at the district level. The SBCC cells developed customised district communication plans to address the gender and equity gaps. They promoted positive social norms and practices among parents, service providers, and opinion leaders. [52] UNICEF's endeavour to contribute to the achievement of gender-based equity in

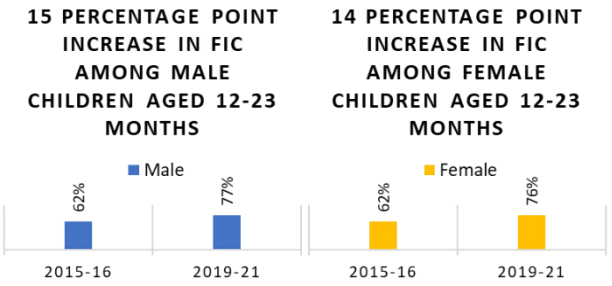


Figure 14: Change in FIC coverage among male and female children aged 12-23 months from 2015-16 (NFHS-4) to 2019-21 (NFHS-5)

[48] Ministry of Health and Family Welfare. *Home Based Care for Young Children.* Accessible at: https://hbnc-hbyc.nhp.gov.in/AboutUs/aboutHBYC
[49] UNICEF. *Annual Report 2019.* Retrieved from www.unicef.org/india/
[50] UNICEF. *UNICEF C4D Gender Report 2019*. MCP Card Guidebook Available at: https://nhm.gov.in/New_Updates_2018/NHM_Components/Immunization/Guildelines_for_immunization/MCP_Guide_Book.pdf
[51] UNICEF. *UNICEF C4D Gender Report 2019*.
[52] UNICEF. UNICEF *C4D-Gender Report 2019.*

immunization coverage is reinforced by the positive trend in the national FIC numbers, as depicted in the graph, in the last 5 years.[53]

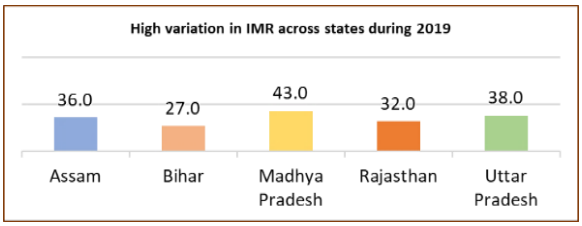


Figure 15: IMR across states in 2019, Sample Registration Survey

The disparity in infant mortality rate (IMR) among the states of **Assam, Bihar, Madhya Pradesh, Rajasthan,** and **Uttar Pradesh** is glaring.[54] There is a long road ahead from the country's current IMR, which stands at 28 deaths per 1,000 live births, to the government's 12th five-year plan target of 25 deaths per 1,000 live births.[55]

There is an observed disparity of 12 deaths per 1,000 live births in IMR among rural and urban areas. Given this evidence, it becomes even more relevant that the UNICEF country goals enable segregated targets and measures.

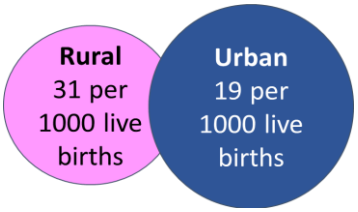


Figure 16: Geography-wise status of IMR during 2019 (Sample Registration Survey, 2019)

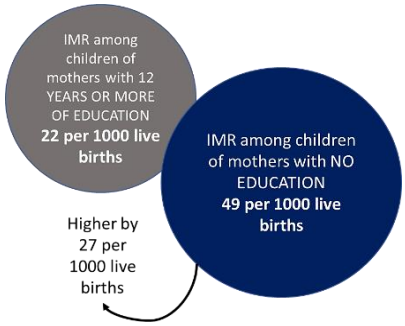


Figure 17: Disparity in IMR based on education of mothers during 2019-21 (NFHS-5)

The secondary data points toward associated disparities, such as the education of the mother or the primary caregiver from NFHS-5, which affects immunization-related behavioural outcomes and further impacts IMR. However, the government's UIP, as well as UNICEF's support, lacks specific interventions that encompass the linkages between female education and its impact on FIC and IMR.

Addressing caste equity gaps

Evidence indicates that the prevalence of low FIC among the tribal population was one of the underlying impediments to achieving the goal of 90% FIC for the GoI. UNICEF supported identifying these gaps by undertaking a needs assessment in 2016-17 among the tribal populations. UNICEF also undertook multiple situational assessments, such as a Tribal Need Assessment Study (TNA Study, 2021), RSoC 2014, and demonstrated model VHND as a model for integration of Routine Immunization outreach. The assessments were utilized to develop state-specific tribal immunization strategies to target barriers to FIC.

Stakeholders informed that the disadvantaged populations were targeted via intensified programme intervention, cold chain strengthening, communication to promote demand for Routine Immunization and mitigate Adverse Effects from Immunization (AEFI), and the development of IEC materials to improve attitudes towards immunization uptake.

> *"UNICEF is working towards achieving the goals of full immunization and protection of disadvantaged sections such as tribal and slums from diseases."*
>
> *- District-level Partner*

[53] Ministry of Health and Family Welfare, GoI. *National Family Health Survey-5, 2019-21.*
[54] Ministry of Home Affairs, GoI, New Delhi. *Sample Registration System Bulletin, 2019.*

[55] United Nations Economic and Social Council. *UNICEF CPD 2018-22 India*. 2017

The budget allocations for the state-specific immunization programmes developed by UNICEF for tribal areas under NHM project implementation plans in the focus states, such as **Madhya Pradesh, Rajasthan, and Assam,** signify the impetus laid on addressing these inequities.[56] UNICEF also reached out to mothers and fathers of children to address the challenge of low acceptance of the Measles-Rubella vaccine in the tribal pockets of the states of **Maharashtra, Odisha, Assam, and Gujarat** via outreach activities to promote vaccines uptake, especially by engaging with the fathers.[57]

UNICEF's concentrated efforts with reference to pertinent challenges of caste inequities have contributed to the success of decreasing the disparity of FIC among children of different castes. In 2015-16, the FIC among children aged 12-23 months of Scheduled Tribe was 8.7 percentage points lower than the FIC among children of other castes.[58]

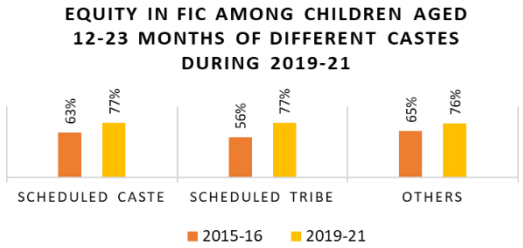


Figure 18: FIC coverage across different social categories during 2019-21 (from NFHS-5)

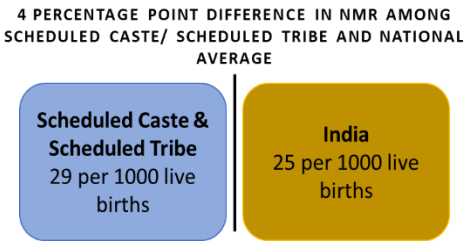


Figure 19: Prevalence of caste-based NMR, NFHS-5 (2019-21)

However, the interventions to address inequities have not fostered a measurable impact on neonatal mortality to the extent visible in FIC. The Neonatal Mortality Rate (NMR) among neonates of Scheduled Tribes and Scheduled Castes is nearly 4 percentage points higher than the national average.[59]

Cultural beliefs and language barriers were identified by district-level government officials as one of the key barriers to immunization-related communication with the tribal population.

> *"To improve communication and efficiency, UNICEF should consider providing IEC in each state's native languages and and also take th different dialects into consideration."*

Despite the targeted interventions, a quantifiable target to reduce neonatal mortality and immunization coverage specific to disadvantaged social groups is neither included in the UNICEF ICO programme 2018-22 nor in the UNICEF CPAP 2018-22 document.

Addressing religion-based equity gaps

UNICEF's engagement with faith-based organizations (FBOs), CBOs, and religious leaders targeted the relevant challenge, which is religion-based inequities in FIC. This contributed to a strengthened response to equity of immunization outcomes among children across different religious communities. UNICEF's SMNet, in convergence with FLWs, promoted engagement with local leaders to

> *"A health department official reached out to Imam's at mosque on Fridays for broadcasting information regarding child vaccination. These broadcasts are timed 2-5 minutes prior to prayer offerings at the mosque for better listenership."*
>
> *- District-level Government Official*

[56] UNICEF. *State-specific Rolling Work Plans 2014-15 to 2018-19s*
[57] Centre for Media Studies. *Gender and equity component in measles and rubella communication process-Mini report for UNICEF.* 2020
[58] Ministry of Health and Family Welfare, GoI. *National Family Health Survey-5, 2019-21.*
[59] Ministry of Health and Family Welfare, GoI. *National Family Health Survey-5, 2019-21.*

address vaccine hesitancy and correct knowledge on immunization.

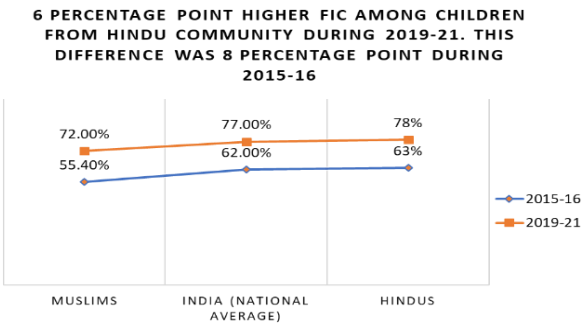


Figure 20: FIC coverage among children aged 12-23 months from Hindu and Muslim communities from 2015-16 (NFHS-4) and 2019-21 (NFHS-5)

However, as depicted in the graph (Figure 20), the increase in immunization rates among children aged 12-23 months in Hindu and Muslim communities from 2015-16 to 2019-21 has been unequal. This shows that despite the relevant efforts of UNICEF, the disparity in FIC between Hindu and Muslim communities still exists. These engagements are, thus, yet to transform into minimizing the religion-based disparity in FIC across the country.

Addressing wealth quintile-based equity gaps

FIC among children belonging to the highest wealth quintiles,[60] as indicated in NFHS 5, is 7 percentage points higher than the lowest quintile. The data also indicates the grave differential of 8.7 per 1000 live births between high and low wealth quintiles for IMR.

The pursuit of resolving these inequities was initiated by deploying UNICEF staff at the district and block level for intensified monitoring and assessment of communication and cold chain management in the HRAs, which have a higher concentration of communities belonging to lower wealth quintiles. These efforts were targeted to address the concern regarding inequities in wealth qualities.

> *"The urban slums were left out because there are no Anganwadi workers, unlike rural areas. People who can afford paid services in urban areas opt for private centres for immunization due to inconvenience and less availability of immunization services."*
>
> *-District-level Government Official*

Addressing geography-based equity gaps

In an endeavour to emphasize the pertinent challenge of FIC inequity, including immunization in rural areas, UNICEF supported the government in the development of a digital application called ANMOL and the capacity building of state-level healthcare service providers. As a result, approximately 24,000 ANMs were trained in seven states by UNICEF during 2017-19 for effective online data collection and to deliver services at the village level through the ANMOL application. These efforts of UNICEF were apropos to address the equity gaps in immunization.

ANMOL or ANM Online is an offline mobile/tablet-based application for ANMs as a job aid by providing them readily available health information about mothers and child such as immunization due list and health dashboards.

The utilization of ANMOL was an appropriate contribution to UIP that responded to the barrier of immunization coverage. ANMOL's objective to improve immunization data collection and management for evidence-based decision-making was a major step toward improving the delivery system and a positive initiative to strengthen government healthcare facilities. Until 2019, with the

[60] Wealth quintiles refers to the relative wealth of the household where the woman lives, divided into quintiles from the poorest (code 1) to the richest (code 5). Accessible at: https://microdata.worldbank.org/index.php/catalog/3110/variable/W/W_WEALTHQ?name=W_WEALTHQ

support of UNICEF, ANMOL was operational in 9 states/Union Territories, namely Andhra Pradesh, Telangana, Madhya Pradesh, Odisha, Himachal Pradesh, Haryana, Chhattisgarh, Chandigarh, and Karnataka, with about 15,000 ANMs using the application for real-time data and creation of automated due lists of immunization.[61] However, the low utilization of the ANMOL tablet indicates that further effort is needed to address related challenges. While this could be a function of different challenges, one of the barriers identified during the IDIs was the delayed procurement of ANMOL tablets in **Assam**.

The strengthened monitoring capacity of the health care facilities in rural India has made Routine Immunization among 12-23 months children of rural and urban areas significantly equitable, as evident in the FIC percentages of 77% and 75.5%, respectively. The differential between rural and urban immunization coverage of children aged 12-23 months among the four states of **Assam, Bihar, Rajasthan, and Uttar Pradesh** varies between 3.0% to 5.0%, whereas, in **Madhya Pradesh**, the equity has nearly been achieved.

R4. Was UNICEF's approach to partnerships relevant in supporting the priorities of national and state governments?

UNICEF engaged directly with government stakeholders and development partners to curb immunization inequity, which is a critical national and state government priority. UNICEF's partnerships were relevant in expanding the reach of the immunization programme and demand generation. Targeted partnerships relevant to the context of geography or community led to the designing of customised solutions to combat different barriers to immunization.

GAVI's HSS grant was disseminated among development partners, including UNICEF, and this brought together multiple relevant organizations to strengthen Routine Immunization in India. The central and state governments defined the immunization strategies to achieve the goal of 90% FIC as well as the responsibilities of all national, state, and sub-state level partners. This directed UNICEF to further partner with relevant organizations to strategize and work towards this common goal.

UNICEF partnered with Indian Medical Association (IMA), IAP, Ayush, and FBOs to advocate RMNCH+A practices for the betterment of girl children and to overcome AEFI-related vaccine resistance among parents.

> ***Mother and Child Protection (MCP) Card*** is a maternal and childcare entitlement card, a counselling and family empowerment tool which would ensure tracking of mother and child cohort for health, nutrition, and development purposes.

UNICEF also partnered with MoHFW to develop and roll out the MCP card guidebook in 10 states to improve immunization coverage and home-based care.[62] These interventions validate the relevance of UNICEF's partnerships to support the priorities of the government for improving immunization coverage.

[61] Ministry of Health and Family Welfare, GoI. *Annual Report 2019-20*
[62] UNICEF. *C4D-Gender Report 2019.*

The findings from the evaluation delineated the well-coordinated efforts of UNICEF with the government stakeholders. Regular communication with the development partners via partner forums and taskforce meetings was pivotal to addressing grievances and resolving issues for better Routine Immunization coverage.

> *"The joint workshops demonstrated that every partner including UNICEF, State Officials and State Partners are aligned on the priorities of immunization. These forums aid in discussing the tasks and duties of each team at the state and district levels."*
>
> *– State-level Partner*

UNICEF's state-level partnerships

The desk review, wherein UNICEF's alliance with state and district health missions across 23 states was examined, establishes that UNICEF extends relevant support to the government's UIP and partners with local organizations for monitoring and implementation activities. The evaluation also showed that UNICEF partnered with local NGOs that engaged local communities to expand the reach of the immunization programmes.

Mid-media activities:

Activities that include song and drama performances activities, folk performances, street theatre, puppet shows, video vans, and also fairs and exhibitions are all termed mid-media activities.

Example 1: In **Rajasthan**, UNICEF partnered with Jan Kala Sahitya Manch Sanstha (JKSMS) and J Walter Thompson (JWT) to conduct mid-media activities like community radio audio-visual shows, art/folk media by NRHM-identified groups and street theatre. The objective of the intervention was to support immunization demand generation by engaging community members and disseminating Routine Immunization-related information.

Community engagement can be associated with the increase in FIC to 80.4% in **Rajasthan during 2019-21**.[63] These activities were carried out across 10 HPDs[64], and street plays were performed to inform tribal communities.[65]

High Priority Districts (HPDs):

The bottom 25% of the districts in every state according to the ranking of districts based on composite health index have been identified as High Priority Districts (HPDs) by the government; this is to ensure the equitable health care and to improve the health outcomes.

Example 2: In **Assam**, boat clinics and community behaviour-centred IEC were managed by NGOs with the support of UNICEF for training sessions, implementations, and communication activities; along with this, UNICEF partnered with the Community Medicine Department of **Assam** Medical College in Dibrugarh to support SBCC cells with SBCC monitoring activities.[66]

UNICEF's partnerships in the equity context

Additionally, to address the caste-based equity gaps, Rotary International partnered with UNICEF at the state level and funded 6500 SMNet coordinators in **Uttar Pradesh and Bihar**, whereas UNICEF built the capacity of these coordinators.[67] UNICEF's partnership with organizations like

[63] Ministry of Health and Family Welfare, GoI. *National Family Health Survey-5, 2019-21.*
[64] HPDs: To ensure equitable health care and to bring about sharper improvements in health outcomes, the bottom 25% of the districts in every State according to the ranking of districts based on composite health index have been identified as High Priority Districts (HPDs). The Press Information Bureau, Ministry of Health and Family Welfare, GoI. Accessible at: https://pib.gov.in/newsite/PrintRelease.aspx?relid=118620
[65] IPE Global. *Going back to the roots: Using the power of traditional media to influence health seeking behaviour in Rajasthan*. 2017
[66] IPE Global. *Institutionalizing communication actions for promoting health service delivery: Training of health workers to engage with communities in Assam.* 2017
[67] GAVI. *Joint Appraisal Report 2019.*

Aravali[68] in **Rajasthan** for capacity building of local partners was relevant for improving Routine Immunization in tribal areas by engaging local communities, such as migrant communities and communities in mining areas of the state. This provided UNICEF an opportunity to reach the HRAs and underserved populations with the support of Aravali.

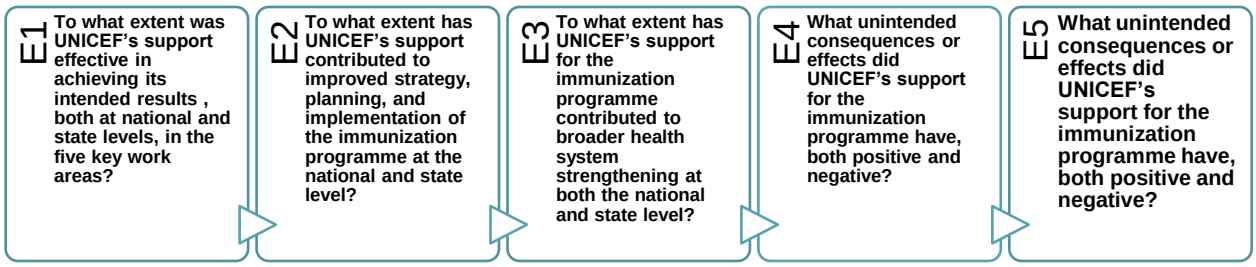
The partnership of UNICEF with the State Institutes of Health and Family Welfare (SIHFW), Tata Trust (in **Madhya Pradesh**), Piramal Foundation (in **Madhya Pradesh**), ANM training centres, Uttar Pradesh State Rural Livelihood Mission (UPSRLM), YosAid Innovations Fund in **Telangana**, Medical College Koraput and few other institutes and foundations[69] across multiple states were relevant to address the gender gaps in Routine Immunization in India.

B. EFFECTIVENESS

This section evaluates the effectiveness of UNICEF's support to the GoI's UIP. The effectiveness of UNICEF's support has been evaluated with a focus on five key areas:

- Coverage and equity
- New vaccine introduction
- Communication and demand generation
- Cold chain strengthening
- Polio transitioning

This section elaborates on the progress of UNICEF's interventions towards the achievement of the targets as stated under Outcome 1, "Health: Reduction of child and maternal mortality" of the UNICEF Country Program Framework (2018-22).



E1. To what extent was UNICEF's support effective in achieving its intended results, both at national and state levels, in the five key work areas?

UNICEF-led communication and demand generation activities for vaccine uptake on the one hand and toward building the capacities of the cold chain staff on the other contributed to the overall improvement in the UIP implementation. However, there are still gaps in the capacity of cold chain management in all the evaluation states, as evidenced by the low EVM[70] scores. A distinct improvement in cold chain management, immunization coverage, and demand generation was also observed during the period between 2014-19. The evaluation reveals that UNICEF further contributed to increasing the FIC coverage across the states by strengthening the health system. UNICEF's efforts have effectively supported narrowing the equity gaps in immunization coverage.

[68] PwC. *Baseline Assessment of GAVI Supported Health System Strengthening Project 2017 - 2021*
[69] UNICEF. *C4D-Gender Report 2019.*
[70] WHO-UNICEF have designed the Global EVM (EVM) initiative to help countries to improve the quality of their vaccine and cold chain management from the time the vaccine arrives in the country down to the service delivery point.

Coverage and equity

UNICEF is guided by the goal of strengthening UIP to achieve 90% FIC at the national level and >80% FIC at the state level. However, the NFHS-5[71] shows the national average of FIC at 77% (2019-2021), thus, suggesting a long road ahead. The FIC across the evaluation states of **Assam, Bihar, Rajasthan, and Uttar Pradesh** were lower than the national average.

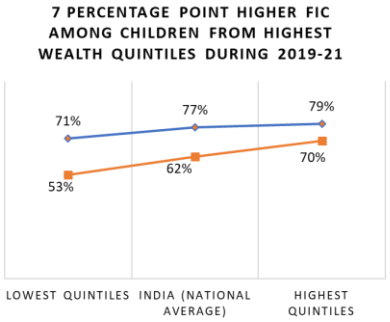


Figure 21: Disparity in FIC coverage based on wealth index during 2019-21 (NFHS-5)

At the national level, while the FIC inequality among caste groups has decreased from 2015-16 to 2019-21, it is still significantly higher among children aged 12-23 months across religious groups, wealth quintiles, and rural/urban areas, as reported in the NFHS-5 data (Figure 21).

At the state level, a gap in FIC coverage between rural and urban areas is seen. The coverage of FIC is 4% and 5% higher in rural areas in **Assam** and **Bihar,** respectively, compared to the urban areas.

In concurrence with the government's goal, there is a need for UNICEF to continue its efforts to bridge the FIC gap and inequities, especially among religious groups and wealth quintiles, over the next few years.

New vaccines and demand generation

MoHFW, GoI, in association with GAVI-HSS, rolled out Pentavalent, Rotavirus, Inactivated Polio Vaccine (IPV), and Measles-Rubella vaccines (Figure 22). The introduction and scaling up of vaccines such as the rotavirus, tetanus, and diphtheria was to ensure the safety of children against vaccine-preventable diseases such as tuberculosis, diphtheria, whooping cough, measles, and diarrhoea.

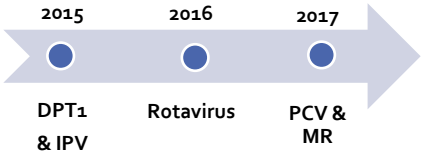


Figure 22: Timeline of new vaccine

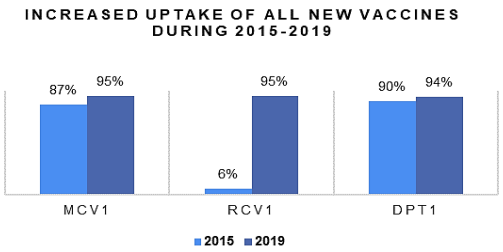


Figure 23: Coverage of new vaccines during 2015-19 (WHO and UNICEF estimates of immunization)

The percentage of children aged 12-23 months who received Measles Containing Vaccine (MCV1), RCV1, and DPT1 increased during 2015-19. Over these four years, an increase of 89% was reported in the uptake of RCV1, an 8% increase in MCV1, and a 4% increase in DPT1 uptake (Figure 23).

[71] Analysis in the findings is based on the NFHS data. The data from National Family Health Survey, 2015-16 and 2019-21 is based on documented evidence, and population-based household survey. It is used by researchers and policy planner and cannot be ignored. The survey was funded and reviewed by the Ministry of Health and Family Welfare, GoI and was under the technical assistance of Demographic and Health Survey Program of USAID. This is to be noted that the reference period for the estimated indicators are well within the end of evaluation period.

Along with the data for the uptake of new vaccines, the decrease in the DPT vaccine dropout rate is also encouraging. The dropout rate for DPT1 to DPT3 decreased from 12% in 2015-16 to 7% in 2019-21.[72] Likewise, the dropout rate for Pentavalent-1 to Pentavalent-3 was 8% during 2019-21 (Figure 24).[73] This decrease contributes significantly to the achievement of overall FIC at the state and national level and indicates the availability of quality essential child healthcare services like immunization.[74]

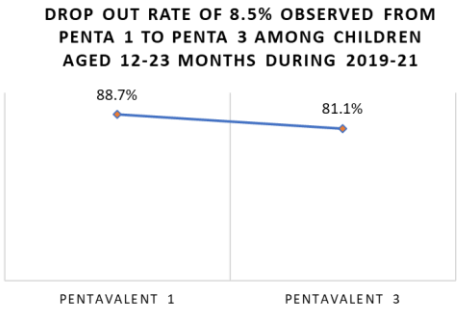


Figure 24: Dropout rate for pentavalent vaccine during 2019-21 (NFHS-5)

National AEFI secretariat:

The National AEFI Secretariat was established at the Immunization Technical Support Unit (ITSU) of the Ministry of Health and Family Welfare (MoHFW), India in 2012.

The government stakeholders, and partners, during the IDIs, acknowledged UNICEF's critical role in developing the communication materials for demand generation for the Measles-Rubella campaign and new vaccine introduction. UNICEF also supported crisis communication for AEFI. They also reported that UNICEF's strategies for activities such as media sensitization workshops, community mobilization, and mitigating vaccine hesitancy issues were effective for the success of the Measles-Rubella campaign. UNICEF constituted the Media Core Group[75] and formulated a crisis communication plan for controlling negative media coverage of new vaccines introduced in UIP.[76]

This helped to reduce the fear of AEFI and promote community ownership and demand for immunization.[77] UNICEF's support for the skill-building of FLWs in AEFI management, counselling parents, and promoting acceptance of vaccines among community members was highly appreciated.

> *"UNICEF supported the Measles-Rubella campaign and conducted state level trainings. These training supported community mobilization and address the challenge of vaccine hesitancy among parents. UNICEF also had a mechanism for feedback at block level."*
>
> *-District-level Government Official*

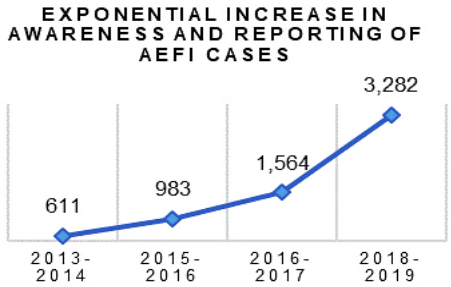


Figure 25: Figure 2 MoHFW Multi-Year Strategic Plan (2018-2022)

The actions of the National AEFI secretariat, with the support of UNICEF, have contributed to addressing the challenge of AEFI in India. The increased reporting of AEFI cases over the years indicates higher awareness of AEFI, improved self-efficacy among parents, and demand for immunization-related services. This is validated by the increase in the number of reporting of

[72] Ministry of Health and Family Welfare, GoI. National Family Health Survey-5, 2019-21 and National Family Health Survey-4, 2015-16. Where, DPT dropout= (DPT1 - DPT3 coverage)/DPT1coverage * 100.
[73] Ministry of Health and Family Welfare. *National Family Health Survey-5, 2019-21.*
[74] UNICEF. *Country Programme Document 2018-22*
[75] Media Core Groups were formed at state level for media management and address the crisis communication. These core groups were formed by bringing together government departments of Health, Education and Women & Child Development.
[76] *Report on Measles-Rubella SIA campaign Phase II 2017*
[77] *Report on Measles-Rubella SIA campaign Phase II 2017*

AEFI cases promptly, from 611 in 2013-14 to 3282 cases in 2018-19 (Figure 25).[78,79]

Cold chain management

UNICEF augmented the strength of the cold chain system to foster an increase in immunization coverage. During HSS-1 (2014-16), UNICEF's support contributed to the successful completion of the EVM assessment in 11 states. During HSS2 (2017-21), UNICEF supported the government in implementing EVM improvement plans in 16 states and measured the progress based on a composite score, i.e., the *Effective Vaccine Management Score*.[80] As a result, all 16 states now have the EVM improvement plan post-assessment. This led to cold chain strengthening activities such as the development of data entry modules, eVIN-based review of storage temperatures, development of standard vaccine storage contingency plans, regular follow-ups on cold chain inventory, and quarterly feedback on stock management indicators.[81]

EVM criteria to measure EVM assessment score

- E1: Vaccine arrival
- E2: Temperature
- E3: Storage capacity
- E4: Buildings, equipment, transport
- E5: Maintenance
- E6: Stock management
- E7: Distribution
- E8: Vaccine management
- E9: MIS, supportive functions

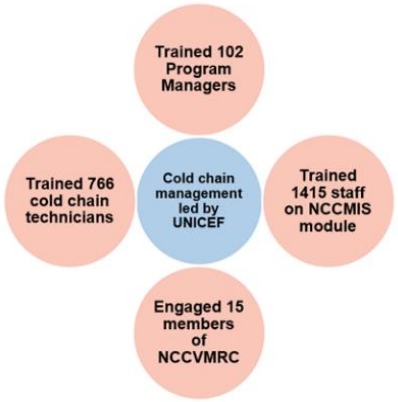


Figure 26: UNICEF training data (2014-2017)

The National EVM Assessment undertaken by UNICEF found the states of **Assam, Bihar, Madhya Pradesh, Rajasthan**, and **Uttar Pradesh** lagging in accomplishing the target of 80% score across E1 to E9 EVM criteria.[82] This shows that the capacity of the cold chain staff in vaccine management needs to be continuously strengthened to achieve relevant FIC goals. However, at the national level, there was a notable improvement in performance from 2013 to 2018, such as an increase of 29 percentage points in Vaccine Management Practices scores and 17 percentage points in storage capacity scores.[83]

Apart from implementing and improving EVM assessment, UNICEF also contributed to the capacity building of the cold chain staff to strengthen the system (Figure 26). This is evident from UNICEF's support (in 2019) of engaging with 15 key staff members at NCCVMRC for evidence generation, capacity building, planning, and implementation. UNICEF also funded the engagement of six of these key staff members through GAVI HSS funds.[84]

The effective strengthening of the immunization cold chain system over the past years is apparent in the effective use of NCCMIS in 76% of UNICEF-supported HPDs.[85]

[78] Ministry of Health and Family Welfare, India. *Comprehensive Multi-Year Strategic Plan 2018-22.* https://main.mohfw.gov.in/sites/default/files/Revised%20AEFI%20Guidelines%20Execute%20Summary.pdf
[79] GAVI. *Joint Appraisal Report 2019*
[80] PwC. *Baseline Assessment of GAVI Supported Health System Strengthening Project 2017 - 2021*
[81] GAVI. *Joint Appraisal Report 2019.*
[82] Ministry of Health and Family Welfare& UNICEF. *National EVM Assessment, 2018.*
[83] Ministry of Health and Family Welfare& UNICEF. *National EVM Assessment, 2018.*
[84] PwC. *Baseline Assessment of GAVI Supported Health System Strengthening Project 2017 - 2021*
[85] GAVI Joint Appraisal Report, 2019.

E2. To what extent has UNICEF's support contributed to improved strategy, planning, and implementation of the immunization programme at the national and state level?

UNICEF's strategy to improve FIC across the tribal population and HRAs was reported to be effective. The SBCC strategy, as seen from the evidence, reflects a positive impact on immunization coverage. However, no concrete research has been carried out to prove this hypothesis conclusively. The technical assistance provided by UNICEF for immunization advocacy contributed to increased demand generation but needs to be strengthened for closing FIC and IMR equity gaps at the state level.

Coverage and equity

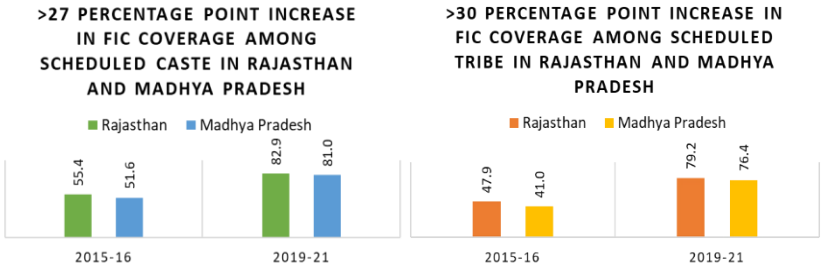


Figure 27: Increase in FIC coverage among Scheduled Caste and Scheduled Tribes during 2015-16 (NFHS-4) and 2019-21 (NFHS-5)

Prima facie, the immunization coverage among children of Scheduled Tribes and Scheduled Caste families has increased in both **Rajasthan and Madhya Pradesh** between 2015-16 and 2019-21 (Figure 27).

> *"For [Intensive] Mission Indradhanush programme, the messaging and other advocacy activities were customized by UNICEF for the tribal areas based on their needs. For instance, through BRIDGE training we taught Asha workers to deliver the messages related to immunization and AEFI in local languages of tribal communities. It is important that ASHA's deliver the messages in local language. In tribal districts we must talk in our local language only because tribal communities here do not understand the message in Hindi. So, it was a good move to train ASHAs for translating the UNICEF videos about functioning of vaccine in body, its effects, and benefits in local language so they can teach the parents of beneficiaries."*
>
> *-District-level Government Official*

Historically, immunization coverage of children among Scheduled Caste and Scheduled Tribes families has been low, as found in NFHS data. Armed with this knowledge, UNICEF developed state-specific tribal immunization strategies to improve service delivery through improved capacity of human resources.[86] UNICEF introduced relevant interventions such as "Campaign drive- Reaching the Unreached" and "5 saal 7 baar- Mobile van-based communication campaign" to address the challenge of FIC gaps among children of tribal populations. Some of the government stakeholders and partners reported that UNICEF facilitated open discussions between the government and other stakeholders to develop strategies to close equity gaps in Routine Immunization.

In efforts to address vaccine hesitancy and knowledge gaps, UNICEF's SMNet coordinators in-convergence with the FLWs promoted the utilization of local community leaders to talk about RI. SMNet facilitated conducting 1,516,163 IPC sessions in **Bihar** and **Uttar Pradesh**; as a result, 86% of caregivers in **Uttar Pradesh** and 60% in **Bihar** reported attending Routine Immunization sessions through community mobilization coordinators of SMNet in underserved areas.[87] The appreciation for community mobilizers and *Capacity-Building Initiatives for Routine Immunization*

[86] PwC. *Baseline Assessment of GAVI Supported Health System Strengthening Project 2017 - 2021*
[87] GAVI. *Joint Appraisal Report, 2019. Retrieved from: https://www.GAVI.org/sites/default/files/document/2020/India*

(CBIRI) during the IDIs also corroborate the contribution of SMNet to improved FIC in these two states.

Communication and demand generation

UNICEF rolled out BRIDGE IPC[88] training 2017-18 to increase demand generation for vaccines among the community and to build the capacity of frontline workers. As part of the training plan, UNICEF developed training aid and materials and disseminated 820,000[89] copies across all states in India. BRIDGE IPC training was done for a cadre of 7,000 National Lead Trainers (Figure 28) till the year 2017. These lead trainers further facilitated and trained 42% FLWs in SBCC/IPC skills by 2019.[90]

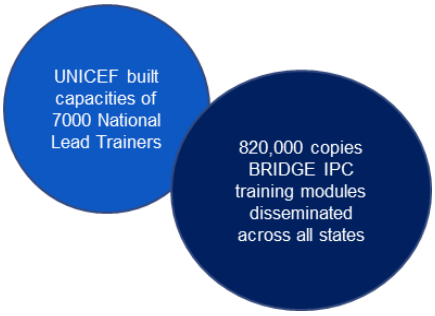


Figure 28: PwC, Baseline Assessment of GAVI Supported Health System Strengthening Project, 2017-2021

UNICEF set up SBCC cells in 17 divisional headquarters of **Uttar Pradesh** and six divisional headquarters[91] of **Madhya Pradesh.** Taking a cue from these states, the governments of **Bihar** and **Maharashtra** replicated this model in their states and set up SBCC cells. The extensive efforts in strengthening communication by UNICEF contributed significantly to mitigating misconceptions and uptake of new vaccines, each of which markedly supports improved FIC. However, concrete research has not been carried out to prove this conclusively.

E3. To what extent has UNICEF's support for the immunization programme contributed to broader health system strengthening at both the national and state level?

The effectiveness of UNICEF's contribution to the health system strengthening is witnessed in the improved FIC data. UNICEF's efforts in improving cold chain management, establishing relevant partnerships, and leveraging SBCC have been the route to the overall contribution. There have been variations in the increase of immunization coverage since 2015-16, but the FIC has increased across all states and Union Territories. Efforts are required for the cold chain points to match the global standard by achieving an EVM score of 80% across all nine criteria.[92] UNICEF's efforts contributed to strengthening the vaccine management and supply chain systems across states.

Cold chain management

[88] The Boosting Routine Immunization Demand Generation (BRIDGE) IPC module is a special one-day course designed to develop capacities of FLWs to leverage SBCC for RI

[89] PwC. *Baseline Assessment of GAVI Supported Health System Strengthening Project 2017 - 2021*

[90] GAVI. *Joint Appraisal Report 2019*

[91] Divisions in India are administrative unit formed by group of districts in a state and is headed by the Divisional Commissioners.

[92] UNICEF & NCCVMRC-NIHFW. *National EVM Assessment 2018.*

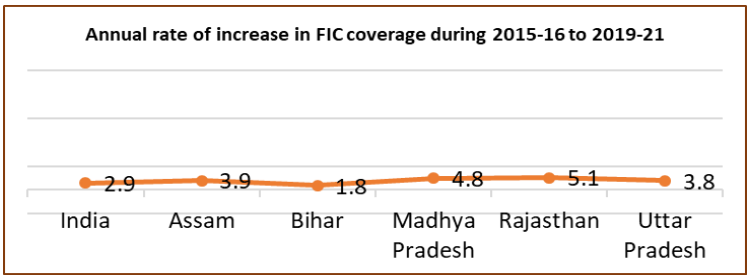


Figure 29: Annual rate of increase in FIC coverage between 2015-16 to 2019-21 (Source: NFHS-4 & NFHS-5, MoHFW, GoI)

UNICEF engaged with the government and other partners to strengthen the health system and boost FIC. The increase in FIC's annual growth rate of approximately 3% between 2015-2019 is correlated to UNICEF's successful support of UIP (Figure 29). The government stakeholders corroborated UNICEF's contribution to the FIC increase both at the centre and in the states. UNICEF-led capacity-building sessions of government officials at the state and sub-state levels led to active community engagement via Village Health, Sanitation, and Nutrition Days (VHSNDs) and the setting up of needs-based and routine vaccination camps.

The government stakeholders reported that UNICEF's support was transformational in strengthening the cold chain management systems that led to effective vaccine storage and management standards. There was an increase of 29 percentage points in Vaccine Management Practices scores and 17 percentage points in storage capacity scores post these interventions at the national level (Figure 30).[93]

> *UNICEF supported staffs have the knowledge about cold chain system, which allows them to support the cold chain service points. The cold chain system has been completely overhauled in the past few years- in terms of equipment, manpower, infrastructure, and even the handlers' guidebooks. Hence, UNICEF's support is crucial for vaccine management.*
>
> *-State-level Government Official*

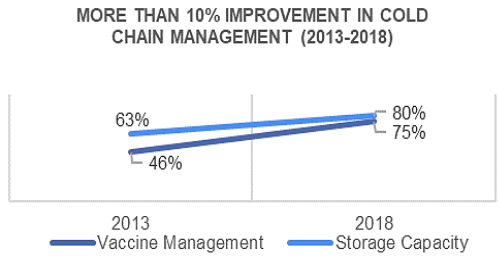


Figure 30: National EVM Assessment (2018), MoHFW

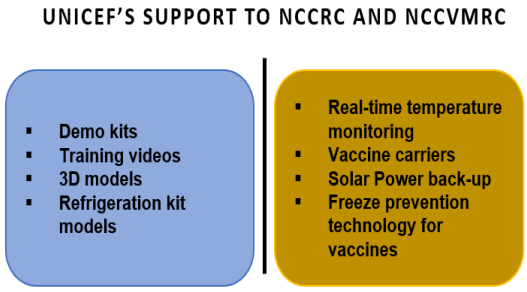


Figure 31 National EVM Assessment (2018), MoHFW

Between 2014 and 2019, UNICEF facilitated the fulfilment of resources required at the cold chain service points. With UNICEF's support, the setting up of NCCRC and NCCVMRC led to formal capacity building of all cold chain staff across the country (Figure 31).

Partnerships for demand generation

The evidence shows that UNICEF leveraged its engagement with the Department of Social Justice and Minority Affairs (SJ&MA) during the Measles-Rubella vaccine rollout to promote vaccine uptake and mitigate the fear of AEFI among minority groups. This was done through AEFI

[93] Ministry of Health and Family Welfare & UNICEF. *National EVM assessment 2018.*

causality assessment and positive positioning of the Measles-Rubella campaign. Additionally, to foster the promotion of the Measles-Rubella vaccine, UNICEF, along with several government departments, reached out to vulnerable communities, identified remote geographic pockets, and increased budgets for mobile van connectivity.[94] UNICEF collaborated with government agencies and effectively leveraged the existing government resources such as "E-Gram Swaraj Abhiyan" in **Rajasthan**. UNICEF optimized the platform to improve the recruitment of ANM workers to promote coverage of RI at the village level.

UNICEF's community-level partnerships and collaborations with opinion leaders and religious influencers were beneficial in dispelling vaccine-related myths by utilizing customized communication strategies, mid-media activities, and communication campaigns. UNICEF's tribal need assessment studies for the government[95] uncovered prevalent myths and beliefs among tribal populations impacting child immunization.

E4. What unintended consequences or effects did UNICEF's support for the immunization programme have, both positive and negative?

UNICEF's strengthening of UIP contributed to child survival through immunization and increased community participation in health awareness programmes. UNICEF is a key stakeholder and a technical partner that facilitated and contributed to shaping the government's priorities for immunization and maternal and child health indicators in India. A positive unintended outcome of UNICEF's support to the UIP is that it has increased healthcare services utilization, as evident from the increased institutional deliveries and a reduction in child mortality and morbidity caused due to poor quality of healthcare. However, the causality between the improvement of immunization and other health indicators needs to be examined further through more directed research studies that are yet to be conducted.

E5. How effectively has UNICEF's support responded to gender, equity, and human rights in its approach to supporting the immunization programme, both at the national and state level?

The UNICEF CPAP 2018-22 does not have disaggregated targets, but broadly, UNICEF's activities were aimed at reducing the gender and equity gaps. UNICEF devised communication campaigns focusing on pervasive inequities and promoted FIC in key geographies. There are improvements in immunization coverage among children belonging to different social groups, as evident from NFHS-4 and NFHS-5, although existing gaps in coverage among religious groups and wealth quintiles need to be closed. The evaluation findings suggest that further strengthening of the health system is required to further close the equity gaps across neonatal mortality, infant mortality, and FIC.

Effectiveness of UNICEF's approach to equity among genders

During the Measles-Rubella campaign (2017-2019), UNICEF developed Measles-Rubella Quartz (Measles-Rubella Quality Assurance in Real Zone), a web-based dashboard that consolidated and provided disaggregated data at Primary Healthcare Centre (PHC) and Community Healthcare

[94]Centre for Media Studies and UNICEF. *Formative evaluation of communication processes used for the national measles rubella vaccination campaign for inclusion in routine immunization.* 2020

[95] Ministry of Health and Family Welfare & UNICEF. *Immunization among tribal population in India: A need assessment report*

Centre (CHC) levels. Gender was one of the important indicators in the dashboard, which enabled the monitoring of immunization coverage across girls and boys. This was an important step toward a more targeted approach for immunization-related communication and uptake by way of segregated tracking.

The improved gender equity in FIC indicates the effectiveness of UNICEF's intervention, but the data for IMR shows the pervasive gender inequity across the states of **Assam, Bihar, and Uttar Pradesh**, as mentioned in table 5.

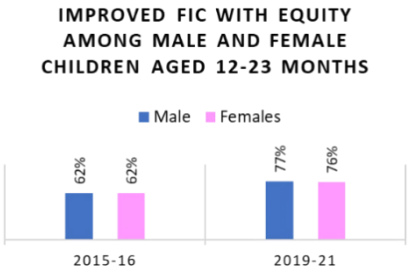


Figure 32: Gender-based FIC coverage during 2015-16 (NFHS-4) and during 2019-21 (NFHS-5)

Table 5: Status of IMR across states (Source: Sample Registration System Bulletin, 2019. Office of the Registrar General, GoI)

States	Male (per thousand live births)	Female (per thousand live births)
Assam	35	**37**
Bihar	26	**29**
Madhya Pradesh	**44**	43
Rajasthan	31	**33**
Uttar Pradesh	37	**38**

Effectiveness of UNICEF's approach to geography-based equity

Poor pockets within the urban areas are at risk of low immunization coverage due to the unavailability of accurate population data, especially for migrants and other economically marginalised groups. [96] UNICEF has strengthened the immunization programmes in urban areas to curb this risk through its Routine Immunization monitoring and assessment, focusing on 14 cities based on the low immunization coverage in urban pockets across **Assam, Bihar, Karnataka, Madhya Pradesh, and Uttar Pradesh** (10 under HSS-2 and 4 under Performance Evaluation Framework of Targeted Country Assistance (PEF TCA)).[97]

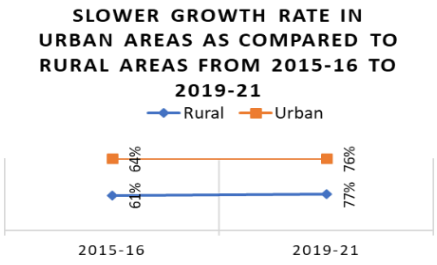


Figure 33: FIC in rural and urban areas during 2015-16 (NFHS-4) and 2019-21 (NFHS-5)

In urban areas, Teeku Talk was organized in slums, shopping malls, and large neighbourhood parks in **Bihar** as a part of the SBCC campaign to engage people around issues of immunization and motivate parents to fully immunize children.[98]

Teeku Talk is a public engagement initiative on Routine Immunization in Bihar, uses an interactive magic show, discussion, pledge, and quiz to engage people around the issues of immunization.

The growth rate of FIC in urban areas is comparatively lower than the growth rate of FIC in rural areas, which demands interventions that are more effective in curbing this disparity.

Effectiveness of UNICEF's approach to equity among religious groups

[96] Ministry of Health and Family Welfare. *Strengthening immunization in urban areas- A framework from Pilot project in 14 cities.*
[97] GAVI. *Joint Appraisal Report, 2019*. Retrieved from: https://www.GAVI.org/sites/default/files/document/2020/India
[98] IPE Global. *Good Practices for Health Systems Strengthening: Shaping winning strategies for changing RMNCH+A behaviors*. 2017

National surveys such as NFHS-5 evidenced variations in FIC based on religion, reinforcing the need for additional focus to achieve greater equity. The highest variation in FIC among children from Hindu and Muslim populations exists in the state of Assam, with a difference of 9%. Similarly, in **Bihar, Madhya Pradesh, Rajasthan**, and **Uttar Pradesh**, the FIC among children of Hindu families is higher; there is a disparity of 5.7%, 10%, 5.1%, and 7.5%, respectively, NFHS-5 (Table 6).

Table 6: FIC coverage of children aged 12-23 months from Hindu and Muslim communities, 2019-21 (NFHS-5)

States	FIC coverage at state level	FIC coverage among Hindus	FIC coverage among Muslims
Assam	66.4	70.6	**61.8**
Bihar	71.0	71.9	**66.2**
Madhya Pradesh	77.1	77.7	**67.7**
Rajasthan	80.4	80.7	**75.6**
Uttar Pradesh	69.6	70.9	**63.4**

UNICEF developed targeted communication plans and IEC materials, which were contextualized for communities and hesitant pockets across states. The varied cultural needs and barriers to immunization were taken into consideration to address vaccine hesitancy.[99] For instance, the social influence of faith-based leaders, archbishops,[100] and Sikh leaders was leveraged during the roll-out of the Measles-Rubella campaign.

Effectiveness of UNICEF's approach to equity among social categories

Considering the prevalence of inequity among social categories, UNICEF undertook various needs assessment studies to identify needs and barriers among tribal populations and marginalised groups. Specifically, seven identified states and 14 predominantly tribal districts were closely studied to identify the triggers and barriers to immunization, which further fed into a customized communication strategy. A few other interventions like the "*Campaign drive-Reaching the Unreached*" and "*5 saal 7 baar- Mobile van-based communication campaign*" aimed at increasing immunization awareness and closing equity gaps via SBCC and social mobilization activities.[101]

The data of FIC among Scheduled Caste and Scheduled Tribes (~77%) show an upward trend and is closing in on the gap with the national average. The effectiveness of UNICEF's efforts in UIP is represented by this increase in immunization coverage, but the discernible disparity in indicators such as NMR requires further efforts, especially among Scheduled Caste and Scheduled Tribes.

The overall improvement in the UIP may have contributed to UNICEF-led communication and demand-generation initiatives for vaccination uptake and capacity building. The management of the cold chain, vaccination coverage, and demand generation all saw substantial improvements between 2014 and 2019. For instance, in 2015-16, only around 63% of mothers could present the vaccination cards when asked, indicating parents' poor retention of MCP vaccination cards. This percentage has now increased to 86%,[102] which indicates improved self-efficacy among parents and, therefore, demand generation. The strengthened FIC data demonstrate the efficiency of UNICEF's support for the health system strengthening. The initiatives of UNICEF have

[99] Ministry of Health and Family Welfare & UNICEF. *Immunization among tribal population in India: A need assessment report*
[100] Center for Media Studies & UNICEF. *Gender and equity component in Measles and Rubella communication process-2020*
[101] GAVI. *Baseline assessment of GAVI supported Health System, Strengthening Project 2017-2021*. 2019
[102] Ministry of Health and Family Welfare, GoI. *National Family Health Survey-5, 2019-21 and National Family Health Survey-4, 2015-16*

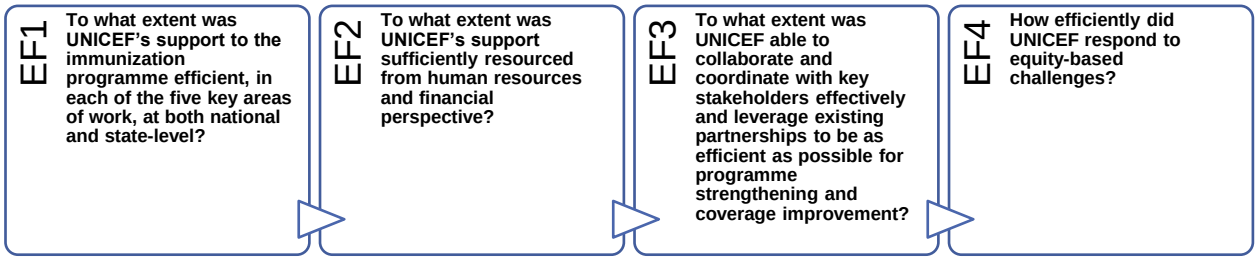
significantly helped to address the equity disparities in vaccine coverage; evidence indicates that there is still scope for immunization demand generation through more favourable influence on the community.

C. EFFICIENCY

This section elaborates upon the efficiency of UNICEF's support: human, fiscal, and time.

UNICEF worked with NGOs, CBOs, media houses, FBOs, and government departments at the national and state level to unlock the potential of their united efforts for strengthening the UIP. In this pursuit, UNICEF and the partners focussed on easing the introduction of new vaccines and establishing a stronger supply chain.

The current evaluation explored the four key questions (EF1-EF4) to understand and measure efficiency, as listed here, and this section elucidates each of these:



EF1. To what extent was UNICEF's support to the immunization programme efficient, in each of the five key areas of work, at both national and state-level?

The GAVI HSS grant outlines immunization coverage-related targets for UNICEF and provides guidance on the activities to be undertaken. The current evaluation measured the extent to which UNICEF was able to spend its resources judiciously in supporting the implementation of various activities.

UNICEF'S support for Immunization Coverage and equity

The efficiency of UNICEF's support was triangulated through an exhaustive review of UNICEF's records on activities and fund utilization. The investments and efforts of UNICEF were important and are progressing slowly to achieve the GAVI HSS-2 grant objectives.

Objectives of GAVI HSS2 (2017-21):

- To strengthen and maintain robust data systems and improve evidence-based decision making
- To improve service delivery through improved capacity of human resources
- To strengthen cold chain and Vaccine logistics systems
- To improve demand generation for immunization services to improve coverage and address inequities

UNICEF leveraged existing resources in capacity building by utilizing the government-introduced software ANMOL for improved availability of real-time data on immunization that could foster evidence-based decision-making.[103] In this regard, UNICEF achieved 80% of its target in training ANMs to use ANMOL at an expenditure of USD 5.2 million from GAVI HSS-2 funds with a cash balance in the total allocated budget.[104] However, until 2019, ANMOL was operational in only nine states, against a target of 19 states.[105] Indicating the slow progress and that funds were not efficiently utilized. Wider coverage across

[103] India HSS2 grant. Objective 1: To strengthen and maintain robust data systems to improve evidence-based decision making
[104] *GAVI HSS Q1 2020 report* and *GAVI Joint Appraisal Report India, 2019.*
[105] Ministry of Health and Family Welfare. *Annual Report, 2019-20.*

states will contribute to enhanced efficiency and achievement of targets by providing real-time data and the creation of automated due lists of immunization.

The desk review around equity showed delayed development of the tribal strategy for immunization in accordance with GAVI HSS-2 objectives. The allocated funds for the development of tribal strategy were unused until 2018. Later in 2019, 15 states with a high concentration of tribal population started to develop state-specific tribal strategies with UNICEF's support. Conclusively, the efficiency in planning and strategizing to address both fund utilization and inequities started late and therefore did not yield the expected results at state-level such as in Uttar Pradesh, where a differential of 17% was observed among castes during 2019-21 (Figure 35).

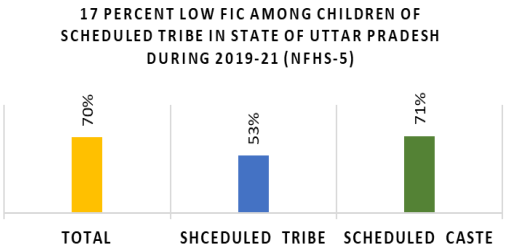


Figure 35: Variation in FIC coverage among castes in Uttar Pradesh, 2019-21 (NFHS-5)

UNICEF's support for new vaccine introduction

The efficient use of SMNet is among the key activities undertaken by the government and UNICEF under the GAVI HSS objectives. The interviews with government stakeholders found that UNICEF's cadre of SMNet coordinators played a crucial role in advocacy for the polio vaccine, especially during its transition from oral drops (OPV) to injectables (IPV). Most government stakeholders perceived UNICEF as accommodating and efficient in adapting to the government's requirements for route transitioning.

For the immunization coverage of the Measles-Rubella vaccine as well, UNICEF's SMNet coordinators supported the government during the awareness generation campaign. For the Measles-Rubella campaign, the SMNet mobilizers were deployed across blocks of **Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan, and Haryana** to support communication activities worth INR 6.5 billion for IEC/social mobilization. [106] **Bihar and Uttar Pradesh** incorporated SMNet transition and utilization strategies into state PIPs.[107] The efficient use of human and fiscal resources has contributed to the increased uptake of measles-containing vaccines (MCV1) among children in the age group of 12-23 months by 8 percentage points from 2015 to 2019, as observed from the WHO and UNICEF estimates of immunization.[108]

The graph shows the enhanced coverage of the rubella-containing vaccine (RCV1) and DPT1 since 2017 and 2015, respectively (Figure 36).

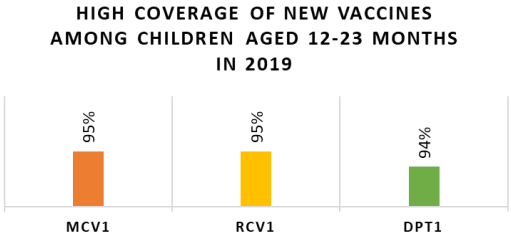


Figure 36: Coverage of new vaccines during 2019 (WUENIC, 2019)

UNICEF's support for cold chain strengthening

[106] Ministry of Health and Family Welfare. *Comprehensive Multi-year Plan, 2018-22.*
[107] UNICEF. *UNICEF India's Polio Program: Legacy in Action*
[108] WHO and UNICEF. *WHO and UNICEF estimates of immunization 2015 and 2019*

Target achievement of UNICEF during HSS-1(2014-17):

- 127% staff (2,282 staff) against the target of 100% (1,800 staff), trained cold chain, vaccine logistics management, supportive supervision, and MIS and effective vaccine management.
- 28% cold chain points from a target of 9412, received supportive supervision on quarterly basis
- 11 states from a target of 12 states completed EVM assessment
- 11 states out of 12 target states developed an improvement plan
- 5426 cold chain equipment procured, which is more than the target of 5000

UNICEF conducted cold chain assessments and vaccine waste management studies at the state level and utilized the evidence to strengthen the cold chain systems across 11 states of India. This promoted their achievement of the GAVI HSS-1 grant targets. These studies also supported the government in identifying gaps and facilitated improvement in the efficiency of UIP by taking relevant measures.[109]

> *EVM assessments were helpful since, these assessments facilitated in problem-identification and development of EVM improvement plans to strengthen the cold chain facilities.*
>
> *– State-level Government Official*

The data also corroborate that UNICEF EVM assessments were valuable since these assessments provided the base for developing EVM improvement plans.

The evaluation discovered that during HSS-1, GAVI allocated funds of USD 18.4 million to UNICEF for cold chain strengthening in the poor-performing states of India (such as Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Goa, Jharkhand, Gujarat, Madhya Pradesh, Maharashtra, Manipur, among others). UNICEF utilized these funds on time and achieved most of the targets during HSS-1, which indicates its efficient support to the immunization programme through cold chain strengthening.[110]

> *UNICEF's guidance and support were well-planned, which they delivered by means of software developments, monitoring, implementation, and reviews to strengthen the cold chain facilities. UNICEF's support was much needed for improvement of the cold chain system*
>
> *– State-level Government Official*

UNICEF successfully undertook capacity development of the cold chain handlers, technicians, and logistic vaccine managers during 2017-18 with an expenditure of USD 884,000 (GAVI HSS-2 grant) to increase cold chain knowledge. [111] UNICEF also fostered NCCMIS augmentation and '*Immunization Supply Chain-Cold Chain data harmonization*,' which resulted in increasing the number of UNICEF-supported HPDs that use NCCMIS from 60% in 2018 to 76% in 2019. This is indicative of the improved efficiency of the immunization cold chain system monitoring.[112]

Most of the targets of the cold chain and effective vaccine management were not only achieved, but in some cases, they overshot the targets. This is a result of the efficient use of funds, time, and human resources. The improved efficiency of the cold chain system could be witnessed in the improved EVM Scores. This improved management is indicated by CES 2018 data that shows a low proportion (7%) of parents/ caregivers reporting "Vaccine not available" as a reason for missing the vaccination.[113]

[109] GAVI. GAVI HSS-1 Technical Report (2014-2017).
[110] GAVI. GAVI HSS-1 Technical Report (2014-2017).
[111] GAVI HSS Q1 2020 report and GAVI Joint Appraisal Report India, 2018.
[112] GAVI. *Joint Appraisal Report, 2019*. Retrieved from: https://www.GAVI.org/sites/default/files/document/2020/India
[113] Ministry of Health and Family Welfare, GoI. Coverage Evaluation Survey 2018.

UNICEF's efforts toward immunization communication and demand generation

GAVI HSS grants guide UNICEF to improve demand generation via SBCC strategies. The evaluation found that in this endeavour, UNICEF supported 9 out of 12 target states to develop the SBCC strategy and strengthen the SBCC institutional structure during the period of 2014-17.[114] UNICEF also utilized GAVI HSS-1 funds for the capacity building of 3,050 FLWs in IPC skills for immunization, much higher than the target of 1,020 FLWs.[115]

For demand generation, UNICEF employed its SMNet to disseminate Routine Immunization session information via community mobilization coordinators in Uttar Pradesh and Bihar. This resulted in 85%[116] of caregivers receiving information regarding Routine Immunizations in underserved areas of the two states, at an expenditure of USD 1.8 million in 2017-18. During 2014-17, UNICEF also steered 2,97,685 IPC sessions using polio SMNet in Uttar Pradesh and Bihar, which was 177% of the total target of 1,68,000 under the GAVI HSS1 grant[117]

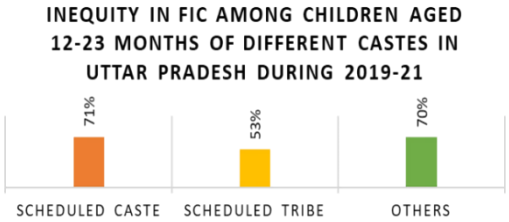


Figure 37: Caste-based FIC coverage among children aged 12-23 months during 2019-21 (NFHS-5)

These activities fostered positive messages regarding immunization and its benefits among the underserved pockets of Uttar Pradesh and Bihar. Within these pockets, the evidence suggests a low efficiency of interventions indicated by low translation of positive messages to the uptake of vaccines (Figure 37) and require sustained efforts.

An amount of USD 700,000 from the GAVI HSS-2 grant was dedicated to media advocacy at national and state levels to create an enabling environment for immunization. UNICEF leveraged existing media resources such as the Urdu media and Urdu dailies in successfully reaching out to minority communities in 11 priority states.[118] This initiative was focused on curbing the inequities of immunization via sustained interventions.

Media advocacy during 2014-19:

UNICEF reached out to religious minority communities in 9 priority states that is Bihar, Rajasthan, Uttar Pradesh, Madhya Pradesh, Assam, Chhattisgarh, Jharkhand and Gujarat including 2 other states Andhra Pradesh and Telangana via Urdu media and Urdu dailies.

There is, however, scope to strengthen the local media resources as the gap in FIC among Hindu and Muslim children aged 12-23 months is still prevalent, with Hindu communities having 6 percentage points higher coverage of full immunization that Muslim communities as per NFHS-5.

EF2. To what extent was UNICEF's support sufficiently resourced from human resources and financial perspective?

UNICEF's approach was to address the inadequacy of human resources in the government system to strengthen the immunization programme. UNICEF further built the capacity of the existing human resources to overcome the barriers to immunization coverage.

[114] GAVI. GAVI HSS-1 Technical Report (2014-2017).
[115] GAVI. GAVI HSS-1 Technical Report (2014-2017).
[116] GAVI. GAVI Joint Appraisal Report (2018-19)
[117] GAVI. GAVI HSS-1 Technical Report (2014-2017).
[118] GAVI. GAVI Joint Appraisal Report (2019-20)

UNICEF supported the government's UIP and immunization priorities by efficiently delivering improved human resources capacity. During 2017-18, UNICEF contributed 2.2% of its total expenditure on immunization coverage activities in India, *including the provision of personnel*.[119] The interviews with stakeholders informed that UNICEF supported the government in expanding the human resources in the government system. *For instance,* UNICEF supported the staffing of four Zonal Consultants assigned for AEFI surveillance and two shared staff under NCCVMRC.

RISE Package is a Rapid Immunization Skill Enhancement (RISE)- A blended-learning knowledge and skills building package for India's Universal Immunization Program, used by UIP workforce.

UNICEF also strengthened the existing human resources by conducting capacity-building activities. UNICEF developed the training trainer handbook, microplanning packages, and Rapid Immunization Skill Enhancement (RISE) packages. They also trained supervisors, Anganwadi Workers (AWW), and cold chain handlers.

The evidence indicates that UNICEF supported the government by providing human resources in the form of immunization officers in the state departments and at sub-state levels. However, there is a perceived need among government stakeholders for more support from UNICEF for human resources at the district and block levels. Additionally, UNICEF consultants are on short-duration contracts of 12 months to 48 months currently. However, in order to thoroughly utilize the institutional memory and experience of UNICEF consultants, they should have longer contracts.[120]

> *"UNICEF hires people on contractual basis for short durations. The initial consultant stayed for six months before being transferred to another district. Similarly, next consultant was also replaced after few months due to shorter duration of the contract with UNICEF. This dampens the work progress, which can be controlled."*
>
> *– State-level Government Official*

The government stakeholders and partners reported that UNICEF-supported human resources were efficient in their performance and delivered promptly on programme activities. In terms of challenges, the interview data indicated that UNICEF's administrative processes: consultant hiring, contract renewals of consultants, transfers of consultants within districts, and short-term contracts with consultants, proved to be challenges to efficient delivery.

> *"UNICEF has funds to implement Routine Immunization activities at the state level, however the administrative processes are tedious and make access to funds, cumbersome. The functioning could be easier if the processes were made simpler and access to utilization of funds, more expedited."*
>
> *– State-level Government Official*

EF3. To what extent was UNICEF able to collaborate and coordinate with key stakeholders effectively and leverage existing partnerships to be as efficient as possible for programme strengthening and coverage improvement?

*UNICEF and its partner organizations regularly communicate with the government and coordinate with each other at partners' forums or taskforce meetings. The scope of work, roles, and re*sponsibilities are clearly laid down for all stakeholders to promote efficient collaboration and work toward the common goal of strengthening UIP.

[119] GAVI. *Joint Appraisal Report, 2019*. Retrieved from: https://www.GAVI.org/sites/default/files/document/2020/India
[120] https://www.unicef.org/careers/compensation-benefits-and-wellbeing

UNICEF, along with the government and other development partners, engaged in high-level IAG meetings and national immunization review meetings from 2014 to 2019 to assess immunization needs at the national, state, and district levels.[121,122] Additionally, activities were allocated among different partners by the government based on planning and decisions taken by the steering committee, including UNICEF.

UNICEF worked towards addressing prevalent equity gaps in periodic national surveys such as CES, GoI/family health surveys, RSOC, and WHO/UNICEF estimates of national immunization coverage. Hence, UNICEF based its immunization activities on the Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCH+A) and Integrated District Approach (IDA) to facilitate targeted activities in hard-to-reach areas and among the underserved. For instance, UNICEF leveraged the existing government platform (E-Gram Swaraj Abhiyan) in Rajasthan to appoint ANMs to reach the identified villages to improve immunization coverage.

Efficiency of partnerships at state-level

Further, to efficiently leverage partnerships for strengthening of immunization programme at the state-level, during 2014-19, UNICEF funded the **Madhya Pradesh state government** for certain activities.[123]

UNICEF funded the Madhya Pradesh state government to:

- Procure approximately 19,000 vaccine carriers,
- Procure toolkits for cold chain staff, and
- Build capacity of dedicated resource centres

The primary data also highlighted the immense contribution of UNICEF to improve the time efficiency of the cold chain system in Madhya Pradesh to facilitate reach in hard-to-reach areas and among the tribal population.

Similarly, in Bihar, UNICEF's efficient engagement with the State Health Society Bihar (SHSB) is another example of collaborative functioning to foster vaccination supply. Here, UNICEF supported in increasing the cold chain storage capacity and strengthening preventive maintenance of cold chain equipment.

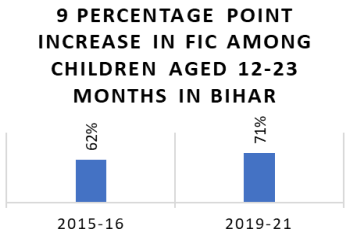


Figure 38: FIC Coverage in Bihar during 2015-16 (NFHS-4) and 2019-21 (NFHS-5)

The increase in immunization coverage in Bihar by 9 percentage points between 2015-16 and 2019-21 is encouraging, and although it may be a secular trend, it suggests that an improved supply of vaccines cannot be ruled out as having contributed to achieving the FIC goals (Figure 38).

Examples of UNICEF's efficient partnerships:

To promote states' community-level partnerships with SHGs and PRIs across 36 districts of 13 states

- Alliance for Immunization and Health (AIH)
- Voluntary Health Association of India (VHAI) Districts' health missions

Partnership with foundations and educational institutes to increase reach of communication

- TATA Trusts,
- Piramal Foundation,
- Xavier's University,
- Utkal University

[121] GAVI. *Joint Appraisal Report, 2019*. Retrieved from: https://www.GAVI.org/sites/default/files/document/2020/India
[122] Ministry of Health and Family Welfare. *Comprehensive Multi Year Strategic Plan 2013-17*
[123] GAVI. *Joint Appraisal Report, 2019*. Retrieved from: https://www.GAVI.org/sites/default/files/document/2020/India

EF4. How efficiently did UNICEF respond to equity-based challenges?

UNICEF developed customized communication and micro plans, designed outreach activities, and interacted with relevant community members to address the equity-based challenges. In addition, UNICEF conducted needs assessments and surveys to understand the challenges, which fostered the identification of issues that needed addressing in order to achieve FIC goals. In terms of fund utilization, UNICEF delayed the timely development of the tribal immunization strategy.

Efficiency of UNICEF's strategy for the underserved population

The desk review of the GAVI Joint Appraisal Reports and GAVI HSS-2 Q1 2020 report points toward a delay in the utilization of funds allocated under the GAVI HSS-2 grant for the development of tribal immunization strategy. Despite the delay, UNICEF undertook needs assessment studies and identified underserved geography/pockets at the district level to address low immunization coverage and vaccine hesitancy. 15 states with high tribal populations were identified and supported by UNICEF for the development of state-specific tribal immunization strategies to focus on immunization needs and barriers among local tribes.[124]

> *"UNICEF undertook data collection, health reporting, data analytics and interpretation to highlight the disparities to the government in the form of information rather than numbers. This facilitated the decisions and planning in collaboration with the government to decrease inequities."*
>
> *– UNICEF Official*

However, the extent of prevalent inequities demands a richer efficiency and timeliness of the interventions to curb inequities successfully. The high NMR among Schedule Caste/Scheduled Tribes, as compared to other castes, also discussed in previous sections, emphasizes the persistence of inequities and inefficiencies.

Efficient resource allocation to address inequity

The interviews with the state-level stakeholders suggested that UNICEF leveraged the presence of its staff at the state and sub-state levels to identify the contextualized Routine Immunization needs. This enabled UNICEF to accurately identify and efficiently strategize to address the equity-based challenges.

The national-level partners, however, strongly opined that UNICEF was unable to leverage its network of CSOs efficiently and develop micro-level strategies at the highest potential, which led to the slower achievement of outcomes. Further, an analysis of the secondary data also demonstrated the low efficiency of human resource utilization; UNICEF tailored communication and micro plans and ensured state-level ToT on the Routine Immunization microplanning package, only 62% of the targeted districts in five states carried out district-level training following state-level ToT. The target percentage achieved was 60% in 2018, and it only rose to 62% in 2019.

[124] GAVI. *Joint Appraisal Report, 2019*. Retrieved from: https://www.GAVI.org/sites/default/files/document/2020/India

Examples of UNICEF's partnerships for mid-media activities:

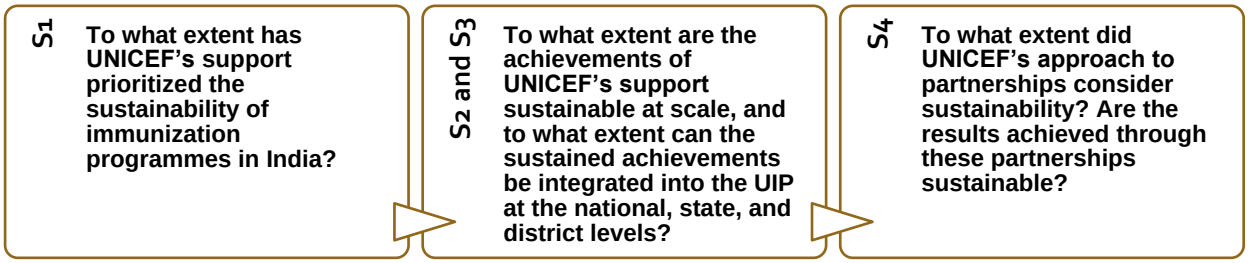
- UNDP supported UNICEF to amplify communication.
- In 2016, RIINPS utilized IEC developed by UNICEF for IPV communication, for capacity building for social mobilization and mid-media activities.

UNICEF engaged with media houses and other partners to conduct mid-media activities to reach a larger population across gender, caste, religion, and economic status, with a messaging to mitigate AEFI during the rollout of new vaccines. However, the data and persistent gaps in FIC indicate the need to strengthen communication with more engaging and impactful content.

D. SUSTAINABILITY

The section examines sustainability in UNICEF's contribution and technical support in the five key areas of the UIP: Coverage and Equity, Cold Chain Strengthening, Communication and Demand Generation, New Vaccine Introduction, and Polio Transitioning.

UNICEF aided positive systemic changes in the government's immunization programme with the aim of ensuring sustainability and having a lasting impact on the country's UIP. Findings in this section are based on the KEQs that explored the extent to which UNICEF's support prioritized the sustainability of the immunization programme and its approach to partnerships.



S1. To what extent has UNICEF's support prioritized the sustainability of immunization programmes in India?

UNICEF's contribution to the UIP was planned with a focus on extending support to the health system in a sustainable manner. UNICEF's approach was to direct efforts toward infrastructural improvement, fulfil human resources requirements, upskill the existing workforce of UIP, develop and utilize SBCC strategies, and strengthen the vaccine supply chain. UNICEF's approach to collaborations with CSOs at the state and sub-state levels were designed with an exit strategy to ensure the sustainability of interventions. The government and other stakeholders perceive UNICEF's continuous support as vital for addressing challenges of communication, demand generation, and equity in UIP.

UNICEF's sustainable contribution to cold chain management

UNICEF's approach to strengthening the cold chain system for effective vaccine management underpins the sustainability of the immunization programme. The UNICEF-supported institutionalization of NCCRC in Pune and NCCVMRC in Delhi, through GAVI funding, was a major step toward a sustainable cold chain system.

With the support of UNICEF, the government conducted EVM assessments to assess the quality of work and identify the problems in the cold chain system. UNICEF customized EVM assessments based on the standards of global EVM developed by WHO-UNICEF. These assessments were utilized by the government to strengthen the cold chain system for evidence-based decision-making. UNICEF's interventions supported the government in closing the identified gaps and elevating the quality standards of cold chain points for sustainable functioning.

> ***WHO-UNICEF, Global Effective Vaccine Management:***
>
> WHO-UNICEF have designed the Global EVM (EVM) initiative to help countries to improve the quality of their vaccine and cold chain management from the time the vaccine arrives in the country down to the service delivery point.

The government stakeholders, during IDIs, acknowledged the effective partnership of UNICEF with the government to strengthen the cold chain system. Within the scope of this partnership, UNICEF built the capacity of the technical and managerial staff around effective cold chain management and vaccine handling. Enhancing the self-efficacy and capacities of human resources is a fundamental approach to enabling a sustainable cold chain system. UNICEF furthered the development of the handbook for vaccine and cold chain handlers for effective and continuous vaccine management throughout the immunization supply chain.

> *"The UNICEF role is very predominant in maintenance of NCCRC's cold chain equipment, test laboratory, and the PQS accreditation process, whereas the maintenance of the infrastructure is supported by the government Only after receiving approval from the Government, UNICEF fund NCCRC requirements that are specified in the proposal."*
>
> *-Cold chain staff*

UNICEF also supported the government by means of human resources and the transition of personnel from the UNICEF payroll to the government's payroll. This was a key step to seamlessly bringing in the trained human resources within the government system and sustaining the institutional memory.

Sustainable contribution to communication and demand generation

UNICEF established and strengthened SBCC cells in 11 states[125] to boost immunization demand generation by utilizing robust SBCC approaches. The SBCC cells were pivotal in ensuring effective and regular communication for behaviour change at the state level, resulting in sustained demand generation for immunization. These SBCC cells positioned within the government system have developed contextualized SBCC strategies to enhance immunization coverage. As an input to the SBCC strategy, UNICEF completed BRIDGE IPC training for master trainers and IPC skill training for FLWs.[126]

UNICEF's SMNet, an existing resource network, which is under transition to the government system, has proven to have sustained through the course of information dissemination for different vaccines. UNICEF utilised SMNet for demand generation via community mobilization coordinators. The communication strategy has also been vital to new vaccines' introduction; UNICEF provided support for the development of Measles-Rubella communication guidelines around AEFI in 2017 and AEFI media communication protocol in 2014 to build vaccine

[125] GAVI. *Joint Appraisal Report, 2019*. Retrieved from: https://www.GAVI.org/sites/default/files/document/2020/India
[126] GAVI. *Joint Appraisal Report, 2019*. Retrieved from: https://www.GAVI.org/sites/default/files/document/2020/India

confidence. The high coverage of DPT1, MCV1, and RCV1 in 2019 indicates the sustained capacity of UNICEF's intervention.

Sustainable technical inputs

UNICEF successfully utilized the effective resources from the Polio and MR campaign by contextualizing them for the UIP. For instance, UNICEF supported the IEAG-MR at the national level and developed a communication guideline for the Measles-Rubella campaign endorsed by the MoHFW.[127] As a result, the government updated these tools later and utilized them as key tools for Routine Immunization communication planning. In addition, these communication planning and monitoring tools continue to be used as standard communication planning tools for Measles-Rubella immunization promotions. The strategy for resource development for optimised utilization contributes significantly to sustainable and scalable interventions.

UNICEF enhanced the monitoring in UIP by integrating an urban and immunization dashboard utilized by the government to analyse HMIS, MCTS/RCH, microplanning, and supportive supervision. These dashboards provide the state-wise immunization coverage performance, VPD, and continuous feedback to partner organizations and MoHFW. These activities have promoted and will continue to foster the sustainability of UNICEF's approach and efforts.

S2 & S3. To what extent are the achievements of UNICEF's support sustainable at scale, and to what extent can the sustained achievements be integrated into the UIP at the national, state, and district levels?

The utilization and transition of SMNet from the polio campaign to the government's UIP indicates the sustainable use of UNICEF-supported interventions. In addition, the sustainability of UNICEF's strengthened cold chain system is also evident from the shift of NCCRC and NCCVMRC to government funding. The community engagement activities of UNICEF, such as SMNet, are sustainable since they delivered results and are under transition to the government system. These are expected to provide unwavering support to the UIP. This implies that the resources developed by UNICEF to support the government are useful and provide sustainable support to the UIP.

Transition of cold chain system from UNICEF to NHM

UNICEF monitored the cold chain systems to have sustained and improved cold chain management over the years. The NCCVMRC and NCCRC, pioneered by UNICEF, are now government-funded with minimal technical support from HSS.[128]

> *"UNICEF invested in capacity building of cold chain technicians with a plan of supporting them for 6 months. Of the 40 cold chain technicians, 16 transitioned to the government payroll, whereas the remaining cold chain technicians were supported by UNICEF right up till 2019."*
>
> *- State level UNICEF official*

During the IDIs, a cold chain representative reported that UNICEF formed a pool of regional trainers to foster, share and sustain the knowledge and skills. These trainers continuously mentor master trainers and deploy them at the state level for cold chain capacity building. This approach

[127] UNICEF. *Measles-Rubella SIA Campaign Phase 2, India 2017*

[128] Ministry of Health and Family Welfare. *Comprehensive Multi Year Strategic Plan 2018-22*

to capacity-building has proven sustainable and would provide continued support to achieve the national FIC targets.

Transition of SMNet from UNICEF to NHM

UNICEF's cadre of SMNet officials was effective in community mobilization throughout Routine Immunization. They were utilized in Measles-Rubella campaigns and subsequently assimilated into the government workforce. This ensured knowledge retention in the system and the sustainability of the Measles-Rubella campaign. Similarly, community engagement and social mobilization via FBO, religious leaders, and CBOs will also help the government sustainably disseminate the knowledge of immunization and enhance demand generation since they have been mobilized to make regular announcements regarding Routine Immunization.[129]

The transition of SMNet to the government system was underway until 2019 and is yet to be completed. While the network is managed and supported by UNICEF, some SMNet officials were transitioned into the government system for social mobilization of Routine Immunization with existing knowledge to facilitate a sustainable increase in immunization coverage. With the recommendation of IEAG in 2013 and 2015, UNICEF continues to manage human assets until global certification.[130]

S4. To what extent did UNICEF's approach to partnerships consider sustainability? Are the results achieved through these partnerships sustainable?

UNICEF has facilitated immunization coverage and sustainability of the interventions via its partnership with organizations that function in a similar area of work to improve child healthcare. UNICEF collaborated with the partners to achieve the planned results and facilitated training to embed equity and demand generation as an approach for a sustainable increase in FIC.

UNICEF partnerships as per the scope of work

UNICEF's approach to partnerships with CSOs at the state and sub-state levels were usually established with an exit strategy. UNICEF collaborated with the partners with a clear set of goals and planned activities. The tenure of collaborations was defined by the outlined scope of work and completion of projects. Stakeholders cited an example of UNICEF's partnership with Rotary International, where UNICEF and Rotary International worked together to transition SMNet assets and the partners' exit.

Training of partners by UNICEF to ensure equity in Routine Immunization:

- In Madhya Pradesh UNICEF collaborated with Ayaan Welfare Society
- In Rajasthan, UNICEF collaborated with Aravali

UNICEF contributed to the capacity building of partners across states for community mobilization to ensure demand generation and equity in immunization coverage. In addition, UNICEF monitored partners' work to ensure quality work and long-term sustainable interventions.

[129] GAVI. *Joint Appraisal Report, 2019*. Retrieved from: https://www.GAVI.org/sites/default/files/document/2020/India

[130] UNICEF. *India Polio Program Transition and Legacy in Action.*

For instance, in Madhya Pradesh, the Ayaan Welfare Society mentioned that UNICEF monitored Ayaan's work after building their capacities in communication for Measles-Rubella and Intensive Mission Indradhanush campaigns to ensure the sustainability of interventions between 2017-19.

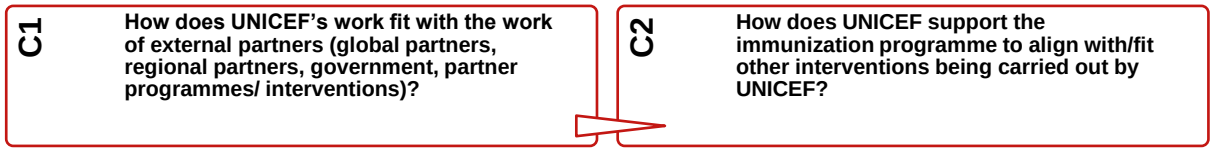
> *"Ayaan worked with UNICEF during Measles-Rubella and [Intensive] Mission Indradhanush campaign for social mobilization with the focus on equity (lower economic strata and urban poor). UNICEF trained the staff of Ayaan and monitored the work."*

To foster sustainability of the interventions at the local level, UNICEF partnered with youth and women groups, faith-based groups, lawyers-collectives, CSOs, and CBOs to improve and sustain equity across states. In Rajasthan, UNICEF built the capacities of Aravali and other local partners associated with Aravali. Aravali collaborates with the migrant community and in mining areas of the state and provides an opportunity to reach the HRAs and underserved populations. By collaborating with them, UNICEF has facilitated equity in the demand generation of Routine Immunization.[131]

E. COHERENCE

The *Coherence* section elaborates on the internal and external cohesion in UNICEF's work. Internal coherence ensures the alignment of immunization programmes with UNICEF's other programme interventions per global, national, and state priorities. External coherence refers to the objective sharing between UNICEF and other partner organizations that are complementary.

The section explores the KEQs on UNICEF's approach to maintaining coherence between partners and their own interventions at a broader level.



C1. How does UNICEF's work fit with the work of external partners (global partners, regional partners, government, partner programmes/ interventions)?

UNICEF partnered with the government and other organizations at the national and state levels. UNICEF identified and worked with community-based partners that share the common goal of strengthening the health system at large, wherein each had distinct roles and responsibilities.

Coherence in working with global partners

UNICEF's priority of improving child survival drives it to work coherently with global partners such as GAVI. UNICEF's partnership with GAVI was coherent as it shares a common aim of delivering vaccination programmes to vulnerable children and strengthening the health system. GAVI, with the support of UNICEF, worked towards ensuring immunization supplies, cold-chain equipment, and high-quality, affordable vaccines.

[131] GAVI. *Joint Appraisal Report, 2019*. Retrieved from: https://www.GAVI.org/sites/default/files/document/2020/India

In this pursuit, GAVI disbursed funds to the WHO, UNICEF, UNDP, and JSI to strengthen the health system and achieve the goal of 90% FIC at the national level. UNICEF and WHO rigorously monitored immunization coverage in the country via surveys and joint reviews of reports submitted by states. The concurrent monitoring of the immunization programme facilitated the government and partners in accurately tracking the progress of UIP activities and coverage. UNICEF collaborated with UNDP to strengthen the cold chain delivery points for an improved supply of UIP vaccines. UNDP provided technical support for the eVIN system, and UNICEF built the capacity of the cold chain managers to use the integrated system.

> ***eVIN*** is an indigenously developed technology system that aims to provide real-time information on vaccine stocks, flows and storage temperatures of the vaccines across all cold chain points in the country.

Coherence in UNICEF's partnership with the government

Like UNICEF, all government and civil society partners continue to work towards achieving the SDG goals. UNICEF partnered with the government at the national level with the purpose of strengthening the health system and improving immunization coverage across the country. The government defined clear areas of roles and responsibilities for each partner under GAVI HSS, which essentially built on their respective expertise to attain coherence in work for effective delivery.

> *"During the first meeting held by the steering committee at the Chief Secretary level, UNICEF presented the role of every partner of UIP and communication protocol for district and block level communication. UNICEF also coordinated individually with the partners and the government to align on programme activities."*
>
> *-State-level UNICEF Official*

During IDIs, the government stakeholders and partners specified that partners undertook collaborative activities so that organizations with established competence took the lead and others supported as per the requirements.

UNICEF's strategy of addressing the pertinent issues in consultation with the state governments ensured that its approach was coherent. For instance, UNICEF's partnership with the Directorate of Public Health and Family Welfare in Madhya Pradesh for an SBCC outreach programme- *Mamta Abhiyan.* UNICEF drove this multi-media campaign to support the state government in improving maternal and child-health outcomes under NHM.[132] In Assam, UNICEF contributed to NHM via its partnership with the Department of Health and Family Welfare by building the capacities of ASHA's to ensure home-based newborn care via a voucher system.

Coherence in partnership with other organizations

> *"Some families are resistant to vaccines, especially in minority communities. To convince the parents in such cases, UNICEF utilized the SMNet, these community mobilization coordinators are experts in interacting and influencing resistance posed by family members."*
>
> *-State-level Government Official*

UNICEF leveraged social mobilization by partnering with CBOs, local communities, FBOs, and religious leaders. For instance, UNICEF facilitated social mobilization under SMNet with the support of Rotary International in Uttar Pradesh and Bihar.

[132] IPE Global. Good practices for health system strengthening: Shaping winning strategies for changing RMNCH+A behaviors

External coherence in UNICEF's work is also reflected in its partnership with JWT and JKSMS for running a mid-media campaign across 10 districts of Rajasthan. Each of these organisations supported UNICEF by rolling out a mid-media campaign in areas that have their existing community presence to address low immunization coverage.

Under the government-led UIP, UNICEF and partner organizations share objectives to support the common goal of improved immunization coverage across the country. The task force meetings and partners' forums provided the much-needed platform for facilitating the collaboration of this common goal.

C2. How does UNICEF support the immunization programme to align with/fit with other interventions being carried out by UNICEF?

UNICEF assigned the responsibility to internal teams to monitor the progress of health interventions and work towards a clear set of goals coherently. To achieve these goals, UNICEF's Result Framework was utilized to define and conform to the outcomes, outputs, and relevant activities for each area of work.

Internal coherence among UNICEF's teams

> *"UNICEF's interventions under UIP primarily consists of health strengthening, cold chain management, C4D, and capacity building. There were coordination mechanisms which were built within UNICEF system. We were having monthly program group meetings, along with one-on-one meetings as and when needed to align on programme activities."*
>
> *-District-level UNICEF Official*

UNICEF's internal review mechanisms ensured non-duplication of work and coordination among different UNICEF teams – the health team, the Communication for Development (C4D) team, and the Communication Advocacy & Partnership (CAP) team.

The programme activities were laid out by several UNICEF teams in state-specific RWPs, which clearly identified the teams and partners accountable for implementing each activity. The state-specific RWPs listed the individual activities against each output which provided guidance to internal teams for activities to be undertaken and annual targets. This enabled cohesion in the works of UNICEF's team and their interactions with other relevant partners, thus, preventing conflicts. Additionally, regular meetings allowed UNICEF's internal teams to monitor the progress of their work, plan forthcoming priorities, and coordinate their efforts across different programme engagements.

Internal communication among UNICEF's teams

An established network of UNICEF officials across states and experience sharing within UNICEF allowed the organization to benefit from its 'in-house' learnings and increase the effectiveness of its work. For instance, before the rollout of communication plans for the new vaccine campaign, UNICEF leveraged the experience of communication campaigns rolled out in different states, their reach, success measures, and challenges.

However, in the context of the C4D team and media-related tasks, some discussions with UNICEF staff pointed towards a need for improved communication, with clearly defined roles and responsibilities for each team to prevent delays.

> *"It is difficult sometimes to coordinate with the C4D team due to their multiple engagements across different teams of UNICEF. This delay in communication and coordination of work leads to delay in completion of work at times."*
>
> *-District-level UNICEF Official*

SECTION 5. CONCLUSIONS AND RECOMMENDATIONS

F. CONCLUSIONS

Relevance

- UNICEF India's support for Routine Immunization is relevant to the global priorities for FIC. This is evident from the alignment with UNICEF's Global Strategic Plan 2018-21 and SDG 3 (SDG Target 3.2[133]: to reduce neonatal and under-five mortality among children and SDG Target 3.8: access to quality essential healthcare services, including vaccines, to all[134]), which aims to reduce child mortality and improve child survival; this also aligns with the Strategic Goals of GAVI[135].
- UNICEF India's intervention is also aligned with GAVI's HSS priorities. This strengthened UNICEF's support to undertake appropriate planning and interventions to improve overall immunization coverage. The improvement (in DPT3 coverage from 78% to 87% and immunization at Anganwadi centres from 40% in 2015-16 to 53% in 2019-21) substantiates UNICEF's contribution to achieving SDG 3 and GAVI Strategic Goals.
- The results matrix of UNICEF ICO for 2013-17 does not provide specific targets for the vulnerable population groups and gender. Thus, it is difficult to quantify the achievement of relevant outcomes and UNICEF's contribution to the intervention to reduce inequity in immunization.
- In the Indian context, cultural beliefs and language barriers continue to affect immunization coverage. Although UNICEF took relevant steps across states towards closing the FIC gaps, there are pervasive disparities in vaccination coverage across castes and religious groups that hinder the achievement of the >80 % FIC target in every state and the national target of 90% FIC.
- As evidenced, it can be observed empirically that UNICEF's close partnership and alignment with the government's priorities contributed to the national road map of achieving the relevant FIC goal, as indicated by the FIC data. For example, between NFHS-3 (year) and NFHS-4 (2015-16), the annual growth rate of FIC was approximately 2%, while between NFHS-4 and NFHS-5 (2019-21), it was nearly 3%. Although UNICEF

[133] 3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births

[134] SDG 3.8: Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

[135] GAVI, The Vaccine Alliance. *GAVI Strategic Goals*. Accessible at: https://www.gavi.org/our-alliance/strategy

has addressed the pertinent challenges identified over the years, the evaluation suggests that overall immunization progress is slower than expected.

- The evaluation also revealed that the mother's education and empowerment are critical drivers for decreasing infant mortality and different immunization-related behavioural outcomes impacting IMR. An emphasis on a more all-encompassing approach that considers these pertinent factors as contributors to FIC is seen as missing in the interventions and UNICEF's support to UIP.
- Observing the geography-based equity coverage reveals that FIC in urban areas is progressing slowly, vis-à-vis its rural counterpart. The well-defined health structure in rural areas is a relevant approach that is presumably a reason for the higher growth rate of FIC among children in rural areas compared to urban areas. On the other hand, in urban areas, rapid urbanization affects the capacity of available health infrastructure, and migrations result in missed vaccinations among children. These issues indicate the need for targeted, relevant approaches in urban areas to address the delays in achieving FIC in these areas.

Effectiveness

- UNICEF's contribution to cold chain strengthening has been effective, as observed by the increase in cold chain points, better national, state, and district infrastructure, and the enhanced capacities of cold chain staff. UNICEF's relevant support for cold chain strengthening contributed to a notable improvement in cold chain management at national and state levels. This can be observed in more than a 10% increase in EVM assessment scores of Vaccine management Practices and Storage Capacity. UNICEF's technical support has helped improve vaccine management across states as well. To achieve the global standards, states such as Assam, Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh will have to achieve the target of an 80% score across criteria E1 to E9 based on the National EVM Assessment. Also, there is scope for improvement in national EVM criteria scores for Maintenance and Repair, Vaccine Management Practices, and MIS & Supportive Functions scores that are currently below 75%.
- UNICEF's support for new vaccine introduction in India via cold chain management and supporting communication efforts to curb the fear of AEFI has effectively achieved >80% coverage of MCV and RCV and >90% of DPT1 between 2014-19. The improvement in coverage can be attributed to the increased capacity of FLWs, the setting up of SBCC cells, and the use of ANMOL by ANMs across some states.
- While some of the states (e.g., Madhya Pradesh and Rajasthan, based on NFHS-5 data) have made significant progress toward FIC in the last four-five years with the support of UNICEF to the UIP, the national and state government, there are other states (e.g., Bihar, Uttar Pradesh, and Assam, based on NFHS-5), where progress has not been significant. For instance, the average annual growth rate of FIC among children aged 12-23 months in Bihar was 1.8 percentage points, much less than 5.1 percentage points in Rajasthan and 4.8 percentage points in Madhya Pradesh.
- There have been some barriers to FIC that indicate the scope of improvement for more effective interventions. For instance, in 2015-16, only around 63% of mothers could present the vaccination cards when asked, indicating parents' poor retention of

vaccination cards. This percentage has now increased to 86%, indicating improved self-efficacy among parents and increased demand for their child's immunization. However, there is still a lack of clarity among parents about the responsibility for the retention of vaccination cards, with parents perceiving healthcare workers to be responsible. The clarity in this regard would help in monitoring the coverage. Therefore, insufficient knowledge on the parents' part about the importance of retaining this card should be addressed via programme interventions.

Efficiency

- The efficient and timely use of resources by UNICEF led to the improvement of the cold chain system across the country, which is reflected in the increase in the percentage of Routine Immunization in five states Assam, Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh.

- UNICEF successfully leveraged the government-introduced ANMOL app for improved availability of real-time data on immunization that could foster evidence-based decision-making and achieved the 80% target in training ANM. However, the less-than-optimal use of the app in most of the targeted 19 states needs to be addressed.

- Of the total, only 76% of the UNICEF-supported HPDs are utilizing NCCMIS for cold chain data harmonization; this could also contribute to the unachieved target of >80% FIC across states due to hindered supply of vaccines. This is also reflected in the EVM score, which was observed to be below 80% for the five focus states of this evaluation and the national score.
- The SMNet mobilizers have proven effective in the past during the Measles-Rubella campaign, where an investment of INR 6.5 billion having been made on awareness generation communication activities via SMNet mobilizers across the states of Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan. As a result, the states of Bihar and Uttar Pradesh incorporated SMNet transition and utilization strategies into state PIPs. However, the equity gaps in state-level variations continue to exist across religions and castes in the states.
- The lack of efficiency was observed during the Measles-Rubella campaign, where only 62% of the targeted district in 5 states conducted district-level training after (Training of Trainers) ToT on the Routine Immunization microplanning package by 2019, which is also reflected in the interviews with partners who perceive that UNICEF was unable to leverage its network of CSOs and develop micro-level strategies for communications.

Sustainability

- UNICEF created infrastructure and digitized systems such as NCCMIS and EVM, which are sustainable as digitized monitoring systems for cold chain management. Even though UNICEF's partnership with the government to strengthen the cold-chain system has contributed to improved coverage, the unachieved targets of FIC coverage at the national and state level reflect slow progress.

- UNICEF's capacity-building activities and cold chain infrastructure are expected to ensure the system's sustainability. Findings suggest that the pool of regional trainers at the state level effectively built the capacity of cold chain staff by fostering knowledge and skills. A change in attitude and practices of cold chain handling is desirable for long-term sustainability.
- The capacity building of FLWs for IPC skills and active use of ANMOL by FLWs supports the government in sustaining the programme in the long term.
- The effective SBCC intervention also points out that changes in knowledge and behaviour among parents have been proven effective to a certain extent. Thus, highlights that the continuous dissemination of knowledge among males and females of reproductive age about timely immunization and how it impacts children's health, and future is crucial to achieving 90% FIC.

Coherence

- UNICEF and its partners have mutually exclusive and demarcated ToRs, and UNICEF clearly defines the roles and responsibilities of partner organizations at the beginning of the partnerships. Thus, a strong external coherence is created between UNICEF and its partners at the beginning of any programme activities.

- The IDIs with UNICEF officials suggested that the internal coherence among UNICEF teams is affected due to multiple responsibilities. The instances were specific to work wherein various teams or departments are involved in one task. Such as mid-media work or media communication activities, where teams from different departments align to undertake a common task. However, communication gaps due to other responsibilities lead to deliverable delays.

G. RECOMMENDATIONS

This section lists the recommendations to help UNICEF strengthen its support of the UIP. The recommendations are listed in a tabular format, along with the relevant findings.

Relevance

RECOMMENDATIONS	FINDINGS
Need for disaggregation of indicators based on social groups and gender: In the absence of clear annual milestones, measuring the programme's progress was challenging for policymakers as well as in terms of additional resource allocation every year. Thus, targeting FIC coverage for all socio-economic groups and genders with specific targets would be strategic. This will facilitate a guided approach for achieving equity in FIC along with easier monitoring and assess the sufficiency of comprehensive improvement in the situation.	The desk review (and analysis) observation is the lack of disaggregation in the intermediate outcomes by gender and social groups under CPAP. This results in a lack of segregated resource planning and targeted outcome measurement, which is also true for the SDG framework.

In continuation of the above, UNICEF should consider disaggregation of all immunization indicators by gender and vulnerable social groups, including those living in urban poor communities and migrants. Targets should be set on these parameters in UNICEF's results Framework, CPD, and Country Programme Action Plan (CPAP) for a guided approach to achieving equity.	
Requirement for customized SBCC for different religious groups: The data suggests the FIC among children of Muslim communities has increased but is lower than the FIC among children of Hindu communities. The resistance to routine immunization persists despite UNICEF and states several SBCC and IEC activities. Although UNICEF and state governments have set up SBCC cells, these should invest more in IEC and communication tools with targeted messaging for parents from different religious communities. UNICEF should consider instituting strong monitoring mechanisms similar to polio eradication programmes in specific resistant communities. A strong sustained campaign such as SMNet may also benefit the children in these areas.	The increase in immunization rates among children aged 12-23 months in Hindu and Muslim communities from 2015-16 to 2019-21 has been unequal at the national and state level. This shows that the disparity in FIC between Hindu and Muslim communities still exists. National surveys such as NFHS-5 evidenced variations in FIC based on religion, reinforcing the need for additional focus to achieve greater equity.
Need to focus on urban FIC: To achieve a high growth rate of FIC among children of urban areas, UNICEF and partners should support state governments in the identification of the issues impacting immunization coverage, including barriers, and in developing state-specific relevant strategies, especially for urban slums, kiln sites, construction sites, and any other HRAs.	The strengthened monitoring capacity of the health care facilities in rural India has made Routine Immunization among 12-23 months children of rural and urban areas significantly equitable, as evident in the FIC percentages of 77% and 75.5%, respectively. The differential between rural and urban immunization coverage of children aged 12-23 months among the four states was also observed. Poor pockets within the urban areas are at risk of low immunization coverage due to the unavailability of accurate population data, especially for migrants and other economically marginalised groups.
Need for conducting an evaluation to explore FIC variation causes:	The differential between rural and urban

UNICEF and partners should undertake evaluative studies to document success and failure stories to identify the factors or drivers affecting the change. For example, success factors and case studies can be identified in good-performing states such as Madhya Pradesh. These learnings could be utilized and replicated in states where FIC growth is slow.	immunization coverage of children aged 12-23 months among the four states of Assam, Bihar, Rajasthan, and Uttar Pradesh varies between 3.0% to 5.0%, whereas, in Madhya Pradesh, the equity has nearly been achieved.

Effectiveness

RECOMMENDATIONS	FINDINGS
<u>Need to promote knowledge sharing among states:</u> Lessons from the states performing relatively better can be replicated in the other states that are lagging. Through an evidence-based study, UNICEF and stakeholders should identify the factors or interventions that led to improved coverage in states such as **Madhya Pradesh and Rajasthan**, which led to improvement. It would be critical to assess the impact of an integrated approach (by integrating immunization in other RMNCH+A interventions) on immunization intervention and the extent of its contribution to the positive change, and to what extent it addressed equity issues.	The immunization coverage among children of Scheduled Tribes and Scheduled Caste families has increased in both Rajasthan and Madhya Pradesh between 2015-16 and 2019-21. In Madhya Pradesh, equity has nearly been achieved among rural and urban geographies.
<u>Need to strengthen local healthcare services:</u> Owing to the lack of robust evidence about children from urban poor and migrant families, it is challenging to assess the focus of UNICEF's intervention in terms of equity. It would be strategic for UNICEF to advocate for improving immunization coverage amongst the poor and migrant families in urban areas, which might require better coordination with local governments like the panchayat or local urban bodies and effective monitoring of the demand and supply situation and investing in strengthening of the local-level health services.	Poor pockets within the urban areas are at risk of low immunization coverage due to the unavailability of accurate population data, especially for migrants and other economically marginalised groups. This is evident from the growth rate of FIC in urban areas, which is comparatively lower than the growth rate of FIC in rural areas.
<u>Vaccine uptake and full immunization through targeted SBCC:</u> There is a high Bacillus Calmette–Guérin (BCG) vaccine compliance (more than 90%), whereas the overall FIC is as low as 76%. This could be due to poor recall of immunization dates among parents (especially from vulnerable families) or poor MCP (vaccination) card maintenance. UNICEF and stakeholders should focus more on child retention in the immunization programme, so all children captured through the system at least, are fully immunized.	In 2015-16, only around 63% of mothers could present the vaccination cards when asked, indicating parents' poor retention of MCP vaccination cards. This percentage has now increased to 86%, which indicates improved self-efficacy among parents and, therefore, demand generation. However, FIC has reached 76% at the national level,

Although the retention of MCP cards has increased, UNICEF should promote the importance of vaccination cards for tracking immunization and educate parents about the benefits of full immunization over partial immunization to ensure a child's health. UNICEF may support the government by undertaking capacity-building of ANM, ASHA, and other local-level advocacy systems with the support of SBCC cells.	indicating the requirement for a more favourable influence on the community to raise immunization demand.

Efficiency

RECOMMENDATIONS	FINDINGS
<u>Increase in digital monitoring of cold chain systems for increasing FIC in underserved areas</u> To achieve the targets, UNICEF and its partners should identify more organizations at the grassroots level, including Urban Local Bodies and Panchayats, that can influence the communities, remove resistance, mitigate the fear of AEFI, and help UNICEF and the government achieve their goals. Also, it would be important to strongly highlight the association of immunization with the survival of the child, including morbidity and overall welfare. Additionally, it was observed that only 76% of the UNICEF-supported HPDs utilize NCCMIS for cold chain data harmonization. Therefore, to improve the coverage, UNICEF should support state governments in enhancing digital monitoring across districts to promptly improve vaccine management. That would entail capacity building for maintaining a cold chain, strong, robust monitoring, and quick feedback, possibly through digital systems (and dashboards) to the local administration for effective and efficient steps.	UNICEF fostered National Cold Chain Management Information System augmentation and 'Immunization Supply Chain-Cold Chain data harmonization,' which increased the number of UNICEF-supported HPDs that use NCCMIS from 60% in 2018 to 76% in 2019.

Sustainability

RECOMMENDATIONS	FINDINGS
<u>SBCC for community engagement with local organizations and leaders:</u> SBCC cells have contributed to the improved immunization coverage; however, similar targeted strategies should be adopted to address the resistance towards immunization, retention of children in the immunization programme, and improved felt need among specific communities for closing equity gaps. To bring a sustainable change in the behaviour and attitude of the community, it is necessary to enhance community engagement and the local governance system. Therefore, UNICEF and stakeholders should continue to support the SBCC strategies across states to include more regional and local community-based influencers, activists, and religious	• UNICEF established and strengthened SBCC cells in 11 states to boost immunization demand generation by utilizing robust SBCC approaches. • These SBCC cells positioned within the government system have developed contextualized SBCC strategies to enhance immunization coverage.

leaders. With UNICEF's support, SBCC strategies will continue to support the intensification of immunization coverage via the engagement of SBCC cells in states.	
Devising a strategy for sustainable knowledge within the government system: It is suggested that UNICEF plan and implement strategies such as continuous periodic workshops based on standard modules, monthly periodicals with case studies, and other UIP-specific knowledge development activities. This could facilitate sustainable human resource performance and knowledge retention within the government immunization system for improved FIC. UNICEF and other stakeholders should continue to support with knowledge and expertise in planning, strategizing, and implementation by providing experts that have global and national experience.	• UNICEF supported the government using human resources and the transition of personnel from the UNICEF payroll to the government's payroll. This was a pivotal step to seamlessly bringing in the trained human resources within the government system and sustaining the institutional memory. • UNICEF's SMNet, an existing resource network, which is under transition to the government system, has proven to have sustained through information dissemination for different vaccines. • UNICEF monitors partners' work to ensure quality work and long-term sustainable interventions.

Coherence

RECOMMENDATIONS	FINDINGS
While the government plays a significant role in such coordination, it would be advisable to strengthen an internal mechanism of all stakeholders and initiate lesson-learning processes. UNICEF should create and administer partner surveys to identify gaps, good practices, and areas for improvement related to coherence. The results could be made accessible to partners to improve coherence. The other platform for such coordination could be through United Nations Sustainable Development Cooperation Framework (UNSDCF), so far as UN agencies are concerned. UNICEF and stakeholders should continue to monitor the implementation and the coverage through periodic survey. UNICEF should support the government in strengthening the HMIS for generating high-quality reports based on accurate data from the state and sub-state-level, which could be	The government defined clear areas of roles and& responsibilities for each partner under GAVI HSS, which essentially built on their respective expertise to attain coherence in work for effective delivery. UNICEF's strategy of addressing the pertinent issues in consultation with the state governments ensured its approach was coherent.

ensured by continuous capacity building of the health workforce for accurate data capturing.	
To avoid delays and reduce duplication of activities, better coordination during developing RWPs and continuous monitoring of progress on outcomes is recommended.	Some discussions with UNICEF staff pointed towards a need for improved communication, with clearly defined roles and responsibilities for each team to prevent delays.

H. LESSONS LEARNED

Coverage and equity

Targeted strategies accelerate the closure of immunization equity gaps.

To increase coverage of Routine Immunization, UNICEF focused on increasing community demand for immunizations and strengthening the health system for better quality services. The state-specific RWP and gender-focused SBCC strategies possibly contributed to the increase in FIC. UNICEF's targeted strategies, such as SBCC Gender Strategy Framework and partnerships with media agencies such as CRA, were observed to be effective with the mass dissemination of information to promote gender equity, indicating the high effectiveness of mass media for overcoming social barriers and encouraging immunization.

Further, the gap in coverage of full immunization in urban areas compared to rural areas points to the rapid rise in urban slums, brick kilns, construction sites, and families' migrations, affecting vaccination completion and continuity. This indicates that the public engagement strategies of UNICEF need to be planned better with frequent engagement sessions to increase the reach of the interventions.

In addition, UNICEF partnered with FBO, CBOs, and other organizations, yet the disparity in FIC among religious groups continues to exist. This calls for more focused interventions and strategies across states, such as tribal strategies to curb the inequities. The needs assessments of UNICEF to identify challenges in tribal areas have contributed to a better knowledge of challenges faced among these communities. This has also been leveraged to develop targeted state-specific tribal strategies to address the coverage and equity gaps. Therefore, this can be concluded that similar studies could be leveraged to address the FIC gaps prevalent among religious groups, wealth quintiles, and urban areas.

Communication and demand generation

SBCC strategies enhance the demand for immunization

UNICEF developed communication plans to reduce vaccine hesitancy, especially for new vaccine rollouts and government campaigns to intensify Routine Immunization coverage. UNICEF interventions such as ANMOL and BRIDGE have added to the improved capacity of FLWs to promote immunization.

The SBCC strategy has also contributed to changing the population's attitude toward the benefits of child immunization with improved knowledge. The decrease in dropouts and increase in timely

reporting of AEFI cases suggest that UNICEF's efforts have been effective. UNICEF's partnership and mid-media interventions have been effective in adding to UNICEF's efforts to enhance coverage.

Cold chain strengthening

Capacity building of cold chain management staff and improved infrastructure strengthen the cold chain system.

UNICEF works to provide better infrastructure, dedicated resource centres, toolkits to train cold chain staff, monitor cold chain management, and provide travel allowances for cold chain staff to visit other points. These efforts of UNICEF were dedicated to improving the vaccine supply and increasing FIC. During the CES 2018, it was learned that the unavailability of vaccines was the least reported barrier to immunization. Also, the improved FIC across different geographies and social groups indicates that the current cold chain strengthening strategy has increased FIC coverage.

Although UNICEF transformed all cold chain points at the state level and focused intently on areas that had disadvantaged populations, there is still a need to improve the infrastructure and capacity of the cold chain system across the states to bring the quality to par with global standards, as indicated by the National EVM Assessment. The unachieved goal of 90% FIC indicates the need to improve vaccine management via cold chain strengthening.

New vaccine introductions

Strategic AEFI communication promotes the uptake of new vaccines

At the Measles-Rubella vaccine roll-out, UNICEF played a crucial role in AEFI mitigation through communication with community stakeholders, opinion leaders, religious leaders, media, and journalists. The protocol to deal with AEFI instances was ensured by the release of operational guidelines developed with the support of UNICEF and released by the government.

This also helped the government to prepare the FLWs through training to address the queries related to AEFI. The vaccines' introduction has been successful, with an increase in coverage between 2014 and 2019. Efforts of UNICEF, such as forming Media Core Groups (as discussed in findings under KEQ E1) at the state level, were an effective action plan to communicate the crisis, tackle rumours and fake news and reduce the fear of AEFI among parents.

Polio Transitioning

SMNet coordinators drive community mobilization for improved immunization coverage.

UNICEF pioneered community mobilization for advocacy during the polio campaign through a vast network of SMNet coordinators. With the support of SMNet mobilizers, UNICEF reached lakhs of households across states to inform parents about Routine Immunization. The government stakeholders also appreciated these SMNet coordinators for community mobilization and capacity-building immunization initiatives during the IDIs.

UNICEF's technical support for IEC enhanced the government's communication and increased demand generation for the Measles-Rubella campaign. SMNet mobilization is a good example of leveraging existing resources and knowledge for improved immunization coverage. UNICEF has successfully leveraged the polio legacy to promote Routine Immunization in underserved areas and HRAs.

ANNEXURE

A. TERMS OF REFERENCE OF THE EVALUATION

1. Background

Immunization is considered as one of the most cost-effective strategies to prevent child morbidity and mortality. For every dollar invested on immunization, there is a potential return of investment of US$44. Immunization is one of the key strategies to achieve child health related Sustainable Development Goals (SDGs). Globally, there has been a focus on strengthening immunization through efforts aimed at improving coverage on one hand, and through the introduction of new vaccines on the other. Nonetheless, challenges like under investments, ineffective vaccines management, disease outbreaks, geographical inequities, demand barriers and low coverage

pockets within countries, still prevent the sustainable and universal delivery of vaccination services. UNICEF works globally with partners- governmental, non-governmental and alliances- to strengthen health systems and ensure the vaccines reach every child, including the most marginalized.

1.1. The immunization programme in India

The Immunization programme in India is one the largest in the world and it is a unique example considering the target cohort to be covered annually, the country's geographical vastness and variety, and the socially and culturally diverse population of the country. Every year, the national immunization programme targets 25 million children and 30 million pregnant women, through 11 million vaccination sessions delivered thanks to a platform of 27,000 cold chain points. The large scale of the beneficiaries' cohort to be reached in India entails the deployment of a large and complex delivery system, including a large number of human resources involved in service delivery, logistics and cold chain, and a large amount of vaccines procured and distributed across the country.

The country's immunization programme is very dynamic and has witnessed multiple interventions and achieved many milestones in its evolution. Its priorities are in sync with the global immunization priorities and in line with the Global Vaccine Action Plan (GVAP), which is a framework to prevent millions of deaths by 2020 through more equitable access to existing vaccines for people in all communities. This has brought together all the relevant partners- Government, non- Government (BMGF, WHO, UNICEF, and GAVI), national, international, academia- on the same platform working towards the commitment of the government.

In India, the Universal Immunization Programme (UIP) provides immunization against nine vaccine preventable diseases (VPDs) nationally and three VPDs sub-nationally. During the last ten years, full immunization coverage (FIC) has increased from 43.5% in 2005 (Source: NFHS 3 (2005-06) to 62% in 2015 (Source: NFHS 4 (2015-16)). The programme covers all eligible children & pregnant women, providing vaccines free of cost. Evidence from the NFHS-4 (2015-16) survey shows no difference in immunization coverage with respect to gender (62.1% in males, 61.9% in females). However, the improvement in immunization coverage is hindered by inequities related to education levels, caste, wealth quintile, urban- rural provenience. Available routine data show that the main reason for no or partial vaccination is awareness gap and fear of AEFI.

To further accelerate immunization coverage, the GoI launched MI on 25th December 2014, a nationwide immunization campaign aimed to address the equity issue and to reach the unreached, i.e. all partially and non-vaccinated children. MI was further intensified as IMI, through which four rounds have been conducted between October 2017 and January 2018 in identified geographic areas. IMI led to an average 18.5% increase in full immunization coverage in the 190 identified districts as compared to that in NFHS-4 survey. Subsequently, under the Gram Swaraj Abhiyan (GSA) and extended GSA, the activities focused on reaching the identified villages. MI and, later on, IMI contributed not only to improved immunization outcomes, but also to health system strengthening as they involved meticulous microplanning, capacity building of health workforce, intensive monitoring, focused communication activities and enhanced accountability at all levels.

Cognizant of the supply side and demand side challenges that hinder equitable immunization coverage in India, the government has undertaken various initiatives since 2014 to improve coverage, strengthen the system and ensure equity. The interventions include supplementary immunization activities (MI), new vaccines introduction (pentavalent vaccine, rotavirus vaccine, inactivated polio vaccine, measles-rubella, pneumococcal conjugate vaccine), strengthening vaccine logistics management, cold chain strengthening, communication and demand generation, strengthening surveillance and adverse events following immunization.

For a sustainable health system that leaves no child unimmunized and that provides a strong platform for disease elimination, the government has developed a roadmap to achieve 90% FIC, with focus on Urban and Tribal areas.

For a deeper understanding of the immunization programme in India, Contractor may refer to the information provided in the RFP documents.

UNICEF is also undertaking programmatic evaluations/studies of specific components of immunization programme, the findings of which will aid in understanding the programme and adjust the scope of the present evaluation. These include:

1) Tribal Needs Assessment Study: Over the years, immunization coverage in tribal population has remained comparatively low as compared to the other categories. There is insufficient literature on immunization program issues in tribal population, therefore before devising any strategy for tribal population, it is imperative to understand the need and demand of immunization services in these population. It is expected that the need assessment will aid in exploring the reasons for low immunization coverage that are specific to tribal population. The results of the study are expected to be out by January 2020.
2) Evaluation of the Communication Processes used for Measles-Rubella (MR) campaign: The overall purpose of the assessment is to determine if, and to what extent, the communication processes for the measles and rubella campaign have been relevant, effective, efficient, and sustainable. TheMeasles-Rubella campaign, covering children in the age group of 9 months up to 15 years, has been conducted in most states of the country. With the government' decision to introduce Measles-Rubella vaccine in the routine immunization, the evaluation findings and lessons learnt makes it useful not just for UNICEF but also for the GoI. This evaluation will highlight critical issues and challenges, provide essential lessons from implementation, document any local innovations, assess what worked and how procedures & activities can be further improved. The results of this evaluation are expected to be released by end of April 2020.

3) BRIDGE Evaluation: interpersonal skills of health care workers have been identified as one of the critical issues under immunization programme. The 'Boosting Routine Immunization Demand Generation' (BRIDGE) training package was developed by UNICEF with the aim to strengthen interpersonal communication skills of the frontline workers (ANM, ASHA, AWW). This BRIDGE evaluation seeks to understand the relevance, effectiveness, efficiency and sustainability of the training programme, which includes its design, roll- out, training and implementation. The results from this evaluation, expected by May 2020, will provide recommendations on programme improvement.

1.2. The role of UNICEF to support immunization in India

The immunization programme in India is a solid example of a Government owned and led intervention, where partners join forces to provide focused technical support in key areas, while field level implementation is fully delivered by the public health system. The immunization programme is centrally guided by the Ministry of Health & Family Welfare (MoHFW), GoI and implemented by State Governments. The Government funds approximately 80% of the immunization program. All developmental partners including UNICEF, provide support to MoHFW in effectively planning, designing, implementing and monitoring various activities to achieve the overall objective of protecting every child from vaccine preventable diseases.

UNICEF provides catalytic support to the immunization programme through activities that strengthen the health system with key focus on providing technical support in designing strategies to reach the unreached as well as ensuring steady supply of GAVI supported vaccines by supporting their procurement, protecting children from more VPDs through introduction of new vaccines, supporting initiatives for global and regional elimination/eradication goals like polio, ensuring safety of vaccine through a robust cold chain network and increasing demand and awareness generation through communication activities and advocacy for immunization, i.e. creating enabling environment through information-education-communication (IEC) material, advocacy with prominent stakeholders, media sensitization and effective use of social media.

UNICEF works with a broad range of partners at national and states' levels. Partnerships are instrumental to improving health outcomes and reducing inequities, to efficiently and effectively expanding the reach of the program. While the government has remained the lead partner, UNICEF has worked with intergovernmental organizations, non-governmental organizations (JSI, CORE Polio Project, PATH, Rotary International), Foundations (BMGF), academic institutions (NIHFW); vaccine alliances (GAVI); UN agencies (WHO, UNDP) and the private sector (celebrities and Goodwill Ambassadors) to sustain the government efforts.

The UNICEF country program action plan (CPAP) 2018-2022 presents the following outcome statement, with relation to immunization:

"Pregnant women, newborns, children and adolescents in UNICEF programming states have equitable access to and utilize quality health services at community, outreach and facility level, with focus on marginalized groups and girl child, by 2022"

This overarching objective translates in the following aspirational output, to be achieved by 2020:"Increased number of pregnant women and children especially from the marginalized groups receive quality immunization and package of other essential services for addressing common childhood illnesses".

The key deliverables to be achieved with UNICEF's support include:

- States introduce Pentavalent vaccine and Inactivated Polio Vaccine (IPV)
- State conduct cold chain and vaccine logistic assessments and subsequently produce and implement a budgeted improvement plan based on EVMs
- High priority districts update NCCMIS data at least once in a month
- States analyse and use supportive supervision reports for action
- National operation guidelines for new vaccines introduction
- UNICEF's supported states with EVM assessment conducted and 80% recommendations of improved plans addressed
- Primary Health Centres (PHCs) are designated as cold chain points for immunization in UNICEF's supported states

UNICEF carries out the activities through its Country Office at New Delhi and 13 field offices: Assam, Bihar, Chhattisgarh, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, North- Eastern States (except Assam), Odisha, Rajasthan, Telangana, Uttar Pradesh, West Bengal.

While technical support is provided through all field offices, program efforts have focused in particular in the states of Uttar Pradesh, Bihar, Madhya Pradesh and Rajasthan, which present large birth cohorts and low immunization coverages. Uttar Pradesh and Bihar were also polio focus states and UNICEF is currently supporting the transition of polio assets to strengthen the routine immunization programme.

The key areas of UNICEF activities in immunization can be categorized under the following headings:

1. Coverage and equity
2. New vaccines introduction
3. Cold chain strengthening
4. Communication and Demand Generation
5. Polio Transitioning

The key activities supported by UNICEF in these areas of work are summarized below:

i. Coverage and equity: this area encompasses the interventions undertaken to reach out to every child with vaccines, to cover all left-out and drop-out children under immunization and reach the marginalised population. The main activities include:

- Support to coverage improvement initiatives, namely MI, Intensified MI, Gram Swaraj Abhiyan:
  - Strategic technical guidance in planning meetings held at the Ministry, aimed at prioritizing districts for MI phases, at urban immunization planning, and at identification of priority areas.
  - Active participation to review meetings & Inter-Ministerial meetings at national level towards inter-sectoral convergence under MI.
  - Development of MI operational guidelines, communication strategy, printing and dissemination of guidelines.

- Capacity building of various stakeholders at States/District level for MI
- Monitoring districts by UNICEF personnel during MI rounds and providing feedback to district/state/national level officials on the planning activities, sessions visited, IEC visibility and reporting activities. UNICEF also facilitated states in uploading the MIcoverage data on MI portal, created by the national Government specially to capture MI performance.

- **Immunization coverage surveys** to provide the government with coverage statistics for evidence-based decision making
  - Support to the design, implementation and reporting of Coverage Evaluation Survey (CES) 2009 and 2018 and of the RSoC 2013-14, that provide country and state-level immunization coverage estimates.

- Support to the government in **procurement of vaccines** through GAVI support, in coordination with the UNICEF Supply Division Copenhagen. This included procurement of vaccines from offshore & in-country supplier till consignee points at State & Government Medical Store Depot (GMSD) level. Closely worked with Government & manufacturers to overcome challenges including modification in packaging regulations, introduction of new taxation structure like GST, and addressing urgency and country priorities.

- **Technical Support in Development of Policies, National Guidelines and Strategies:** this includes in particular the cMYP for immunization 2013-17 & 2018- 22, which provide a framework for coverage improvement, reduce gaps in the coverage and seeks out technological innovations.

- **Monitoring and evaluation:**
  - Support to the government in development of supportive supervision App and indicators dashboard (S4i), form of concurrent monitoring, to be used by officials monitoring sessions or house visits.
  - Support to the design and scale up of ANM online (ANMOL) module- in 6 states, where ANMs are provided with tablets with tools to capture all immunization session data as well as updated training material.

ii. New Vaccines Introduction (NVI) (measles-rubella vaccine, rotavirus vaccine, pneumococcal conjugate vaccine, inactivated polio vaccine): New vaccine introduction has been leveraged not only as an opportunity to protect children from new vaccine preventable diseases but also as a gateway to strengthen routine immunization. Key activities undertaken as part of NVI have helped in system strengthening through capacity building, increased oversight from the highest level, assessment of the system's capacity, regular reviews and monitoring undertaken. These include:

- Participation in **National Technical Advisory Group on Immunization (NTAGI)** which is the highest technical body on immunization related activities and new vaccines introduction In India, comprising experts from multi-disciplinary fields of vaccine, public health, and epidemiology.

- **Measles-Rubella (MR) campaign**
  - Participation in the India Expert Advisory Group on Measles & Rubella (IEAG- MR) and the Core Group on Measles-Rubella elimination constituted by MoHFW for strategic planning related toMeasles-Rubella campaign.
  - Technical support in drafting and development of Measles-Rubella vaccine operational guidelines.

- As the lead partner for Communication, UNICEF has been responsible for IEC, social mobilization and advocacy activities development of IEC guidelines, communication & training package, media strategy and social media management.
- Facilitation of all MR State level ToTs (particularly the social and behaviour change communication (SBCC), FAQs and cold chain section).
- Participation to preparedness assessment & monitoring visits by national level monitors to various states, and provided feedback to district, state and national level for corrective action.
- Organisation of media sensitisation workshops, media roundtables at the national and state level. Tracked social media news and content (and developed messages to counter rumours) for appropriate action.
- Development of audio-visual content for social media- for state/national website, YouTube, Twitter, WhatsApp, Facebook.

- **New vaccine introduction in routine immunization** (measles-rubella vaccine, rotavirus vaccine, pneumococcal conjugate vaccine, inactivated polio vaccine):
  - Participation to the expert groups of all the new vaccines introduction, and provision of technical advice in planning, prioritising states and implementation of introduction.
  - Support to the development of vaccines guidelines and IEC material
  - Support to state level training of trainers (ToTs) for all the new vaccines.
  - Key partner to assess the cold chain equipment and space status, along with NCCVMRC, Delhi, to enable the government in prioritising the supply of cold chain equipment to the states.

iii. Cold chain strengthening: cold chain forms the backbone of immunization programme which enables the vaccines to be stored in the required temperature, from the time of manufacture till the last session site where vaccine is administered to the beneficiaries. It comprises electrical (walk-in-coolers, walk-in-freezers, ice lined refrigerators, deep freezers) and non-electrical (cold boxes and vaccine carriers) equipment. Our main support encompassed:

- Provision of technical support to establish a national resource centres for cold chain logistics i.e. the National Cold Chain Resource Centre (NCCRC), Pune and National Cold Chain and Vaccine Management Resource Centre (NCCVMRC), Delhi.
- Support in assessing immunization supply chain using global WHO-UNICEF Effective Vaccine Management Tool (EVM) followed by improvement plan development.
- Support to MoHFW in development of the National Cold Chain Management Information System (NCCMIS).
- Support in development and implementation of various capacity building courses for Cold Chain Handlers, CCTs, and Programme Managers.

iv. Demand generation through advocacy and communication activities:

- **Advocacy** at the highest level to ensure due focus is given to immunization and improving child health.
  - Celebrity engagement- UNICEF Global Ambassador, Mr Amitabh Bachchan leads the advocacy activities for polio, MR as well as for the '5 Saal 7 Baar' campaign on routine immunization. Cricketer Virender Sehwag supported Mission Indradhanush and a series called 'Ek Star Aisa Bhi' addressing AEFI. Bollywood actresses Madhuri Dixit and Kareena Kapoor Khan are supporting the 'Radio4Child' platform, a joint initiative of Radio Association, All India Radio, MoHFW and UNICEF for capacity building of radio jockeys on immunization and child protection.

- Support the state governments in identifying and training spokespersons, generally SIO or DIO, Medical Officers, on media management, crisis communication, and handling rumours in case of any AEFI.
- Media engagement (print, digital, radio, TV, social media), to raise awareness on immunization, by: undertaking field visits of journalists; workshops with top-tier dailies e.g. Amar Ujala, Dainik Jagran and Dainik, media capacity building through **CAS course for media** and journalism students to strengthen their evidence-based reporting skills.
- Pre-launch media workshops for vaccines for sensitization
- Release of opinion articles, interviews, op-eds on vaccine safety by Union Health Ministers, senior doctors or paediatricians in English, Hindi, Odiya and Assamese language dailies. **Panel discussions and talk shows** facilitated by Government, partners and health experts held on widely-watched TV news channels, including Urdu channels (News18 Urdu, DD Urdu, Zee Salaam) to address vaccine hesitancy.

- **Communication activities** for dissemination of programme messages and to give adequate visibility to the programme through various print and electronic media
  - Support to the government in the development of various Information, Education and Communication (IEC) materials on routine immunization, Mission Indradhanush (MI), Measles Rubella campaign, rotavirus, polio campaigns, and a specific section on 'risk perception' for immunization.
  - Development of a complete IEC package for theMeasles-Rubella campaign, including: Communication guidelines, FAQs for health workers (ANM), leaflets for frontline workers (ASHA, AWWs), teachers handbook, Myths Vs Facts booklet for Medical Officers & teachers, religious leaders booklet, campaign information card, vaccination certificate, doctors poster for involvement of private sector, poster for school and community activity, banners and hoardings, leaflets for community, for miking & announcements.
  - Development of communication planning tools and format along with the SOPs for routine as well as campaign activities.
  - Development and implementation of the comprehensive BRIDGE guideline & tool kits, to support interpersonal communication skills development for ASHA, ANM and AWWs.
  - Involvement of radio jockeys to spread awareness around immunization, and air key messages, jingles, and spots. Engagement with religious leaders for social mobilization, developed small AV clips and sound bytes for dissemination through WhatsApp.

v. Polio eradication activities:

- Support in the development and adaptation of communication material, and in social mobilization activities since the inception of polio programme.
- Through the Social Mobilization Network (SMNet), UNICEF has intensely supported the polio campaigns to achieve the maximum coverage of the children, and in addressing mistrust, rumours and hesitancy.
- Under the polio transition plan, SMNet is now supporting the States in strengthening routine immunization by creating awareness and demand generation. As part of the plan, the SMNet in Bihar and UP have now moved from GPEI funds to the respective State Government support mainly, complemented with GAVI support.

UNICEF has also played a critical role in supporting evidence generation, and the development of strategic documents, training modules and reports as mentioned below:

- National Cold Chain Assessment Report 2014
- Module for Cold Chain Handlers 2016
- Training package on TVaCC
- Training package & Standard Modules on Repair & Maintenance of Walk-in-Coolers (WICs) and Walk-in-Freezers (WIFs) 2016
- Training package & Standard Modules on Repair & Maintenance of Ice Lined Refrigerators (ILRs) and Deep Freezers (DFs) 2016
- BRIDGE course for ASHAs on enhancement of interpersonal skills 2016
- Communication Guidelines for Measles-Rubella campaign 2017
- National Effective Vaccine Management Assessment 2018
- Coverage Evaluation Survey 2018
- Vaccine Wastage Study 2019
- Contribution to Medical Officers' handbook, Health Workers Handbook, Guidelines on use of Adrenaline by ANMs

2. Rationale and objectives of the evaluation

UNICEF provides comprehensive support to the GoI in the design, implementation and evaluation of immunization activities across the country, in line with the Country Programme Document signed with the GoI. The evaluation of the UNICEF's support to the immunization programme is a priority for the India Country Office (ICO), as it will provide robust evidence to inform our support to the government going forward.

The evaluation will be undertaken by the UNICEF India Country Office to assess its contribution to strengthening immunization in India from 2014 to pre-COVID19 (end 2019). In reviewing the areas of engagement during the current country cycle (2018-2022), the evaluation will serve to streamline UNICEF's support for the remaining period of the plan cycle so that due focus is given to those areas that need the most attention. It will also serve as a base to plan the next UNICEF country plan for India 2022 onwards.

Key objectives of the evaluation

1. To assess the relevance, effectiveness, efficiency, equity-focus and sustainability of the UNICEF's support to the National Immunization Programme in India, from 2014 to pre-COVID19 (end 2019).
2. To document lessons learned and produce clear recommendations to further improve the UNICEF's support to immunization in India.

3. Use of Findings

As mentioned earlier, UNICEF is a key partner to the GoI under immunization programme. The findings from the evaluation will help to re-align the UNICEF's support and its processes towards the programme for better health outcome.

The evaluation will appraise the extent to which the UNICEF's support to the government has been relevant, effective, equity-focused and sustainable in contributing to enhance the national immunization programme objectives in India**. The findings will be utilized as lessons learned, for UNICEF to effectively support the government going forward, in improving and expanding its immunization programme**.

In particular, in the short term the findings will be shared with the government and other relevant stakeholders and disseminated internally within UNICEF Country Office as well as the UNICEF Health Network in the country for discussion and knowledge sharing. Findings will also prove valuable for use at Regional and/or Global level.

In the medium term, the findings of the evaluation will inform the mid-term review of the UNICEF Country Program 2018-22 with regard to its immunization support to the government. UNICEF will also actively use the findings to design its new country plan, from 2022 onwards.

4. Publication Plan

At this stage there is no intention to publish the results academically since the results are meant for programmatic purposes. However, if this intention changes, this will be discussed with the Contractor before the contract ends.

Any reports or publications resulting from the evaluation will adhere to UNICEF's publications policies and guidelines. UNICEF shall be entitled to all intellectual property and other proprietary rights for this evaluation, including all of the data collected and analysis and findings. Credit for the evaluation, its results, and forms of publications will be given to UNICEF.

5. Scope of Activity

5.1. Scope

What – The evaluation will focus on the five key areas of work that have characterized UNICEF's support to the immunization program in India: Coverage and equity; New vaccines introduction; Cold chain strengthening; Communication and Demand Generation; Polio Transitioning. The evaluation also intends to assess the UNICEF approach towards partnerships forged for programme improvement at national and state level.

The evaluation will assess the UNICEF contribution to immunization in India, and not the national immunization program per se.

The evaluation will not seek to assess the impact of UNICEF’s support during 2014-2019 on immunization programme as the programme is driven by the government. It will, however, attempt to assess the main outcomes of the UNICEF’s support strategies, in view of strengthening those support in future.

There is no existing Theory of Change (ToC) for the evaluation. The contractor will develop an analysis framework based on the diverse programmatic aspects as to what a theory of change would have been. As part of the deliverables, the selected Contractor will develop a new ToC for 2020 onwards based on the evaluation findings.

The evaluation is designed to assess UNICEF’s support to strengthen Universal Immunization Programme, which is a gender-neutral programme. The policies and guidelines of the programme are aimed at universal coverage of the beneficiaries, irrespective of gender, race, caste, religion or other such barriers. UIP periodically reports on the equity measures through surveys to track

the progress towards universal access to immunization, like gender, place of residence, social class, and wealth quintile. These measures facilitate comparisons and reporting of equity across sub-groups under the programme.

It is acknowledged that this evaluation may also provide certain findings which may be pertinent to strengthen the programme from the government's purview, therefore, any such learnings will be shared with the government at appropriate platforms. At the same time, these learnings for the government will be channelized into UNICEF' future priority areas for streamlining the support. An annex on the lessons learned for broader immunization programme strengthening in the country should be a part of the final report and will form one key deliverable of the evaluation.

Where – The evaluation will be designed to assess UNICEF's support at national level to immunization programme and also will focus on five (5) states, namely Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan and one North-Eastern state (to be selected at inception).

Selected states contribute to a major portion of the birth cohort of the country, have comparatively weaker health indicators, high number of unvaccinated/partially vaccinated children, large number of polio high risk areas, and are high focus/priority states of the government as well as of GAVI Health System Strengthening (HSS) support and major part of UNICEF's support and resources are focused in these states.

All of the UNICEF's supported activities are designed at the national level (policy, planning and strategy development) and implemented at the state level. Therefore, all selected states are relevant for assessment across all support areas, except for polio transition, which is focused in Bihar and UP due to SMNet presence.

When – The evaluation will examine the support provided by UNICEF to the immunization programme from 2014 to end 2019.

5.2. Evaluation Questions:

The Illustrative Key Evaluation Questions (KEQ) and possible sub-questions under each of the 'OECD-ADC' criteria for evaluating development assistance (except impact) are presented below. Note that the evaluation questions will be further refined during the inception phase.

Relevance:

1. How well aligned was UNICEF's support for the immunization programme with the priorities of the national government and State governments within UNICEF mandate?
   - Did UNICEF's support on priorities that the national and State governments had over the 2014-2019 period? Were there priorities that UNICEF worked on that were not the priorities for the national and state governments?
   - Was the UNICEF approach to partnerships relevant in terms of supporting the priorities of national and State governments?
   - Were the key areas of UNICEF's support aligned to where there was a real need of programme strengthening?
   - How well did UNICEF respond or adapt to changing needs and priorities of the immunization programme between 2014-2019? What factors influenced UNICEF's adaptiveness?

2. How relevant was UNICEF's support for the immunization programme in addressing inherent equity gaps or taking into consideration the disparities with regard to caste, residence, gender, religion, wealth?
   - To what extent did UNICEF's support research/identify equity gaps in immunization outcomes?
   - To what extent, and in what ways, did UNICEF incorporate equity dimensions to reach the marginalised children into the activities it undertook and targets/goals it set?

Effectiveness:

3. To what extent was UNICEF's support effective in achieving its intended results, both at national and at state levels, in the five key areas of work of UNICEF? (Coverage and equity; New vaccines introduction; Cold chain strengthening; Communication and Demand Generation; Polio Transitioning).
   - To what extent were the activities by UNICEF delivered as planned, under each of the five key areas of work of UNICEF, at both national and state level?
   - To what extent were the outputs of UNICEF's support achieved, under each of the five key areas of work of UNICEF, at both national and state level?
   - What factors determined the achievement or non-achievement of planned activities and outputs?

4. To what extent has UNICEF's support contributed to improved strategy, planning and implementation of the immunization programme at national and state level
   - To what extent has UNICEF's support contributed to improved strategy development and planning of the immunization programme at national level?
   - To what extent has UNICEF's support contributed to improved planning and implementation of the immunization programme at state level?
   - To what extent has UNICEF's support contributed to strengthened communication, social mobilization and media engagement activities under the immunization programme, with specific focus on measles elimination & rubella control?

5. To what extent has UNICEF's support to the immunization programme contributed to broader health system strengthening at both the national and state level?
   - How has UNICEF's supported capacity building under the immunization programme in new vaccines, cold chain system, interpersonal communication for frontline workers been in strengthening the broader health system?
   - How effective was UNICEF's support under the immunization programme in strengthening the Health Management Information System for cold chain data, S4i, Immunization dashboard, CES Survey?
   - How effective is the institutionalization of the National Cold Chain and Vaccine Management Resource Center (NCCVMRC) supported by UNICEF to support immunization programme?
   - How effective was UNICEF in leveraging partnerships for health system strengthening?

6. What unintended consequences or effect did UNICEF's support to the immunization programme have, both positive and negative?
   - Were there any activities and outputs of UNICEF's support that were unintended/unexpected? Why did these occur?

- Has UNICEF's support in each of the five key areas of work contributed to unexpected positive or negative changes in strategy, planning and implementation of the immunization programme, both at national and state level? If so, how and why?

7. How effectively has UNICEF's support responded to gender, equity and human rights in its approach to support the immunization programme, both at national and state level?
   - To what extent were gender and equity of UNICEF outputs achieved? What factors influenced achievement or non-achievement of these dimensions/aspects of outputs?
   - To what extent was UNICEF, as part of collaborating partners, successful in being able to influence both national and state government to focus on reaching marginalized children to ensure equitable access to vaccines?

Efficiency:

8. To what extent was UNICEF's support to the immunization programme efficient, in each of the five key areas of work, at both national and state-level?
   - To what extent were UNICEF activities delivered in a timely and organized manner?
   - To what extent was UNICEF's support sufficiently resourced, from a human resources and financial perspective?
   - What were some of the key issues/bottlenecks in UNICEF's support, and what factors caused these?

9. To what extent was UNICEF able to effectively collaborate and coordinate with key stakeholders, and leverage existing partnerships, to be as efficient as possible for programme strengthening and coverage improvement?
   - Considering the other key stakeholders and partners supporting the immunization programme, both at national and state level, was there a clear and appropriate division of responsibilities?
   - To what extent, and in what ways, did UNICEF proactively leverage key partners to ensure efficient use of existing platforms and resources for cold chain and communication activities

Sustainability:

10. To what extent has UNICEF's support prioritized the sustainability of immunization programme in India?
    - In which ways has UNICEF focused on sustainability in each of its five key areas of work? Are there areas/activities where sustainability was not a focus, and why so?

11. To what extent are the achievements of UNICEF's support sustainable at scale, both at national and state level?
    - If UNICEF were to stop its support tomorrow, what achievements would continue and what achievements might be stopped?
    - How successful has UNICEF been in transitioning polio assets (SMNet) to support routine immunization and to ensure sustainability in UP and Bihar?
    - How successful has the approach adopted by UNICEF to institutionalize cold chain management been to ensure sustainability?
    - What factors might threaten the sustainability of UNICEF achievements under the immunization programme?

As mentioned earlier, this evaluation does not seek to assess the impact of UNICEF contribution, rather, it seeks to capture the learning and recommendations for course-correction of the UNICEF's support to the immunization programme.

6. Methodology:

6.1. Approach or design

For this evaluation, Contractor's proposed methodology to be implemented within the given time frame. The contractor will have to provide a justification behind the proposed evaluation design and provide an evaluation framework, where the research questions are mapped against indicators and data collection methods. Contractor needs to explain how the proposed design will help in answering the evaluation questions and meet the evaluation objectives. The evaluation will follow a mix method methodology using both qualitative and quantitative analysis (for secondary data review). The evaluation will review secondary data sets related to various interventions and will collect primary data from field visits. Since the support of UNICEF to immunization programme is country wide, it is difficult to identify counterfactual: what would have happened without UNICEF's support. Rather, the focus will be on examining whether UNICEF's support was able to achieve the outputs and outcomes as intended. Approaches such as process tracing or contribution analysis may be appropriate in this scenario. The proposed design, methodology and tools will be elaborated in the inception report following consultations with key stakeholders (Programme team and Evaluation Specialist from SPME Section) and the UNICEF Evaluation Reference Group and after reviewing the available data and gaining a deeper understanding of what is feasible.

Theory of Change: The Contractor would be required to prepare, during the inception period, an analysis framework based on the programmatic expanse as to what the theory of change would have been for this evaluation. Based on the evaluation findings, the development of a theory of change for the programme support 2020 onwards would be one of the key deliverables of the evaluation.

6.2. Data collection, Sampling Methodology and Quality Assurance

Both quantitative and qualitative data will be captured through primary and secondary sources. The Contractor should apply an appropriate mix of methodologies in deriving answers and are encouraged to propose other innovative approaches to data collection, which must be contextualized to the area of data collection and be field-appropriate. Data collection tools need to be developed in English and Hindi language, field testing of tools and training of data collection team to be completed before data collection commences.

This evaluation will also entail desk review of immunization programme performance of the mentioned years (2014-19) to understand the background of the programme, and triangulation of data. Sources to be reviewed include key strategy and policy documents (e.g. National Vaccine Policy 2011, MoHFW Annual Reports, Roadmap for achieving 90% FIC in India, Comprehensive Multi- Year Plan of UIP 2018-22, Operational Guidelines for Introduction of New Vaccines (PCV, IPV, MR), National Effective Vaccine Management Assessment 2018 etc. to name a few), administrative and monitoring data (Coverage Evaluation Survey 2009, National Family Health

Survey 4 (2015-16), conducted every 2-3 years, that provide national-state-district level programme performance data against identified socio-demographic variables) and other relevant materials that will allow for the systematic analysis of UNICEF's activities to strengthen the immunization programme in the country during the said period (e.g. UNICEF CPAP 2013-17 and 2018-22; CPD documents). Secondary data includes, but not limited to: UNICEF and/or MOHFW internal activity reports; training reports; GAVI quarterly reports; media publications and reports; routine coverage data sets; existing published and grey literature; etc.

Primary data collection- trends observed during the desk review will need to be triangulated via other sources, including the collection of new data from key informants (including UNICEF staff, government officials, partners, service providers etc.) via interviews, questionnaires etc. This can be used to fill knowledge gaps about UNICEF's support which could not be assessed from secondary data.

The respondent groups for primary data collection shall be the service providers of the immunization programme, which comprise:

- Senior and mid-level government officials at national level and states level
  - National level- Deputy Commissioners, MoHFW
  - State & District level
    - Mission Directors (NHM) at States level
    - State Immunization Officer
    - Cold Chain Officer
    - District Immunization Officers/Nodal for Immunization
    - Cold Chain Technician
  - Nodal person at the Cold Chain Resource Centres- Delhi and Pune
- UNICEF State Offices- Health Specialist, Health Officer, C4D Specialist, C4D Officer, Consultant
- Partners- development partners (other UN agencies, BMGF etc.)

The anticipated plan for primary data collection is summarized below:

MOHFW	3 to 6
Mission Directors	5
State EPI Officer	5
State IEC Officer / Focal Point	5
Cold Chain Officers	5
District Immunization Officers	15-20 (3-4 from each state)
District IEC Officer / Focal person	15 to 20
District Vaccine Cold Chain Manager (VCCM)/Focal person	15 to 20
Centers (NCCVRC & NCCRC)	4
Partners (WHO, UNDP, JSI, ITSU, BMFG, others)	10 to 15
UNICEF staff / Consultants from State Offices	25 to 30 (Heath Specialists and Officers)
Total	**107-135**

The above-mentioned units will be the key informants in this evaluation. This list encompasses nearly all the key informants, however, any modification or addition to the list will also be detailed during the inception phase.

6.3. Risks and Limitations

Following risks are stated below, the Contractor is required to detail out further risks and provide mitigation plans for all:

- Involvement of the key informants in on-going high priority government activities or programmes which may delay or obstruct data collection due to unavailability of responders.
- Weather and climatic conditions (such as a heatwave, monsoon or natural disasters) may disrupt the evaluation and/or cause delays, and inhibit movement of data collectors, key informants, and the community at large.
- Lack of time for in-depth interviews, absence of quantifiable data or clear milestones to demonstrate change.
- There are multiple risks involved while collecting qualitative data. Some of these include, social desirability bias, interviewer or experimenter effect, issues of recall, etc. The Contractor must detail out the risks involved and provide mitigation strategies before any data collection commences.
- Inconsistency in administrative data
- Data loss due to poor handling of data. The Contractor is required to provide details on all data protection and data storing (for primary data) measures envisaged.
- In order to ensure quality control of data management, UNICEF teams will conduct on-field audits to ensure all practices stated by the Contractor in the evaluation design and work plans are followed. In addition, the Contractor must ensure that the data is collected in the local language/dialect and must minimise information loss during translations.
- While collecting data from 'implementers', i.e. the key informants, there are chances that they say what we want to hear or what is good for the programme. Contractor to specify how they are going to control for this. At the same time, the Contractor is encouraged to 1) triangulate findings and 2) come up with a strategy of identifying what is 'true' if two stakeholders have conflicting statements.
- Leakage of information is a possibility as data is entered at multiple levels, travels from field to the evaluation team and changes various formats.

The evaluation team will need to have clear, well thought out plan for data collection and follow it closely.

Quality assurance mechanism: The Contractor needs to outline what quality assurance mechanisms are intended to be put in place to ensure that data is of high quality and also that the analysis is conducted in as independent and objective way as possible to draw solid conclusions.

7. Ethical Considerations

Ethics/IRB clearance will need to be obtained prior to data collection, as appropriate. Ethical considerations will need to be included in the inception report and the Contractor is required to follow the guidance outlined in the UNICEF Procedure for Ethical Standards in Research, Evaluation and Data Collection and Analysis and the UNEG Ethical Guidelines for Evaluation. It is the responsibility of the independent evaluators to ensure there is no conflict of interest when carrying out this activity.

In compliance with the human rights- based approach, the Contractor is required to be familiar with human subjects training and lay ou their plan to ensure ethics of conducting research with human subjects during the course of the evaluation. Both the assessment team and the Evaluation Reference Group are expected to follow the ethical principles and considerations outlined in the UNEG Ethical Guidelines for Evaluation. In addition, the UNEG norms and standards will be observed.

Standard consent procedures will be followed throughout the evaluation. Stakeholders will be strongly encouraged to participate in interviews; however, in keeping with ethical standards of data collection, interviewers will outline the voluntary nature of participation in the interview and explain that participants are free to withdraw from the evaluation after providing consent at any time. All results will be reported at aggregate level and no identifying information will be disclosed. Overall, the evaluation does not involve more than minimal risk to subjects and has more benefits than risks. UNICEF expects the Contractor to adhere to strict standards even when local settings permit looser standards.

The Contractor must detail all data protection and data storing (for primary data) measures taken. Only the Contractor and UNICEF will access to the data during the evaluation, which will ultimately be with UNICEF on report finalization.

All contracted evaluation team members will need to clearly identify any potential ethical issues and approaches, as well as the processes for ethical review and oversight of the evaluation process in their proposal.

8. Schedule of Tasks

8.1 Inception document: The inception document should include an evaluation framework and analysis plan. UNICEF seeks a design that fits all five states keeping in mind the geographical and demographic variations. The evaluation needs to be a mixed methods approach - qualitative in nature based on a literature review (using existing secondary data sets for quantitative trends analysis) and thekey informant interviews (functionaries of the system). While developing the evaluation design, the Contractor is advised to adhere to all five 'OECD-DAC Criteria for Evaluating Development Assistance'.

The Contractor in consultation with UNICEF, will provide the final design specifying data collection and analysis methods as well as analysis standards taking into consideration key evaluation questions and the context of the programme. There will be a need to agree on the detailed design, analytical methods, and tools between the selected Contractor and the UNICEF Evaluation Reference Group. A draft study protocol and all data collection tools are expected to be submitted to the Evaluation Reference Group for their review. This should also contain the analysis framework to understand what a theory of change would have been for this evaluation as there is no existing theory of change.

The contractor needs to obtain approvals in the inception phase and detailed previously in section 7- Ethical considerations.

8.2 Develop Work Plan: As part of the inception phase, a work plan must be submitted to UNICEF detailing the data collection protocol, with all data collection activities listed against a

timeline, and with details of work allocated to team members. In addition, all data collection tools must be tested in Hindi.

8.3 Train Local Data Collection Teams: The Contractor's local data collection teams must be fully prepared and supported by the Contractor. This will include training workshops, the adaptation and translation of data collection instruments, and on-line technical support whenever needed.

8.4 Collect Data: Accuracy of data entry is of paramount importance, including setting up of data entry, data screening, and data clean-up protocols. All data will be conducted in the local language and subsequently translated into English. The data will be coded individually and then

brought together for analysis. Verification and triangulation of collected information will be conducted to ensure the quality of data.

8.5 On-Field Reporting: Once the evaluation has begun, the Contractor will be required to update UNICEF with data collection and field activity updates, in an agreed upon format (which may be digital). This Progress Report or Dashboard will have daily/weekly activity logs along with updated field plans. This will be followed by a brief implementation report.

8.6 Draft Report: The Contractor will be required to present preliminary findings (as PowerPoint presentation) in a meeting before the draft report is shared. A draft report will include an executive summary, methods, limitations, findings, discussion, learnings, any innovative processes followed in any of the states and recommendations. This will be presented to the Evaluation Reference Group which will then provide feedback to the evaluating Contractor. In addition, the report must conform to the UNICEF-Adapted UNEG Evaluation Reports Standards. A sample structure of the evaluation report is included in Annex-3.

The first revised draft report will be based on feedback received from the Evaluation Reference Group. This revised draft report will be externally assessed by an independent Contractor managed by the Regional Office for South Asia with the view to help improve its quality.

A second revised draft report incorporating feedback from the independent Contractor will be submitted to UNICEF. It may be noted that there may be more than one version of these draft documents, based on feedback from UNICEF and based on the satisfactory revision of reports.

8.7 Analysis: The analysis methods and analysis standards mentioned in the inception report are to be adhered to. The analysis standards or criteria will help in making conclusions. Triangulation should be used to strengthen answers to the descriptive/process key evaluation questions, but also to those examining the effects of UNICEF's support by ruling out alternatives, explaining exceptions in the findings etc. Systematic qualitative data analysis methods, such as qualitative comparative analysis, and software such as NVivo should be used during this phase to reduce bias in the reporting of results. The results should be synthesized and reported in summary tables, charts, matrices, diagrams etc. that outline the main findings. Long, descriptive narratives should be avoided. Verification and triangulation of collected information will be conducted to ensure the quality of data. A plan must be submitted by the evaluating Contractor as part of the technical proposal, outlining the data analysis plan.

8.8 Final Report and Presentation: Professionally edited and copy-edited final versions of both, technical and non-technical reports with all feedback incorporated will be submitted to UNICEF. The report must include the executive summary. The findings will be represented in summary tables, graphs, charts, diagrams outlining main findings. Long, descriptive narratives are to be avoided.

Along with these reports, a stand-alone PowerPoint presentation of up to 20 minutes with complete speaking notes with evaluation details will also be submitted to UNICEF. The PowerPoint presentation will be succinct and engaging with the goal of providing audience members with an overview of the intervention, key findings from the evaluation, lessons learned, and recommendations.

Cutting, pasting, and touching up bullet points, charts, and other information from the PowerPoint presentation into a Word Document does not equal a report and such work will be rejected.

Electronic copies of all data sets, including all materials required to permit additional analysis is to be submitted as well. This will include de-identified, clean, and labelled final datasets, with codebook variable names, data cleaning notes, and error logs.

9. Duration of contract

Due to COVID-19 situation. The contract will be implemented in two phases, initial duration of this contract will be from 26th May 2020 to 31 August 2020. Phase-II will be implemented subject to satisfactory performance of the Contractor, availability of funds and once lockdown has been lifted by mutually agreeing on timelines with the Contractor.

The total duration of the activities will not exceed 10 months (lockdown period will not be factored).

10. Deliverables

10.1 Principle deliverables

1. Inception report (including literature review, data analysis plan, framework for possible theory of change for the evaluation), proposed methodology, protocols and data collection tools (work plan).
2. Data collection report
3. Preliminary Report, as PowerPoint presentation, for ERG review and discussion with stakeholders
4. Final Report as per the UNICEF Evaluation Report Standards with professional editing and copy-editing which will be reported on GEROS, including Executive Summary and theory of change 2020 onwards, lessons learnt document as annex/ Chapter, this may include lessons for broader immunization programme strengthening.

10.2 Supporting deliverables

1. Audit trail of comments on the draft Inception Report (to keep track of comments and how they are being addressed)
2. Draft report of the evaluation as per the UNICEF Evaluation Report Standards
3. Audit trail for any edits to the draft report

4. Convening of an expert roundtable (for the forward- looking component of the evaluation, UNICEF will provide the venue in Delhi)
5. A brief version of the report/factsheet
6. PowerPoint presentation of the findings of the evaluation
7. Attendance of 1- 2 meetings with key stakeholders to communicate the findings
8. Raw data, fact sheets, tables

11. Management and Supervision

11.1 Technical Supervisors:

Maaike Bijker, Research & Evaluation Specialist - Social Policy, Monitoring and Evaluation Unit,

Rija Andriamihantanirina - Immunization Specialist

11.2 Reference Group(s): An Evaluation Reference Group with at least 6-8 members will be formed to oversee the evaluation process and ensure compliance to United Nations Evaluation Group (UNEG) Norms and Standards. It is an independent group of UNICEF and non-UNICEF experts (consisting of UNICEF Programme Specialists, technical experts, government representatives) constituted for a specific evaluation by UNICEF India. From the government, UNICEF envisions the empanelment of various officials, especially members of the national steering committee, and state NHM mission directors.This group will serve as an advisory body which will support the evaluation by 1. providing strategic direction and technical inputs, 2. monitoring progress and quality, 3. Supporting dissemination of finding, as applicable, and 4. bringing critical issues to the notice of the Research & Evaluation Specialist, UNICEF, New Delhi.

11.3 For local logistics, the UNICEF State offices will provide necessary support to the evaluation team, such as making introductions to key informants and stakeholders. However, the Contractor will ensure 'independent selection' of respondents in order to ensure that the responses received are not biased toward or against UNICEF.

In addition, state Health Specialists from each of the states being evaluated will be part of an 'internal review group', who will assist in reviewing key deliverables and monitoring progress and quality of the evaluation.

11.4 The Supply and Procurement Section will remain the focal point for all administrative, financial, and commercial queries and correspondence, including contract amendments, if required.

11.5 The Contractor will be responsible for:

- Providing its own computers/laptops/tablets for data collection
- Accommodation, food, travel and appropriate insurance of the evaluation team. This includes life and health insurance.
- Copying of information in hard or electronic form.
- Ensuring the team leaders and data collectors have appropriate ethics training.
- Obtaining ethics/IRB clearance for the evaluation.

The "satisfactory completion" of each of these tasks, is subject to Evaluation Reference Group's approval.

12 Official travel involved

Due to COVID-19 situation. Travel for Phase-II activities will be initiated after the lockdown has been lifted, by mutually agreeing on timelines.

The evaluation entails field visit to the five states, Delhi and Pune during data collection, including visits to Delhi for meetings (by the team leader), for consultation with UNICEF and partners to discuss the findings and conclusions, before finalizing the report and its recommendations. Visit to Delhi for expert roundtable (team leader and other evaluation team members), as applicable.

13 Timelines | Deliverables | Payment Schedule

ALL DELIVERABLES TO BE VERIFIED AND APPROVED BY UNICEF PRIOR TO SUBMISSION OF INVOICES

Phase-I

22 July 2020 - Submission and acceptance of Pre-inception report - Rs. 382,600/-

20 August 2020 - Submission and acceptance of final inception report with final protocols and draft tools - Rs. 573,900

Contract value for Phase-I – Rs. 956,500

Phase-II

Following deliverables and payment scheduled will be initiated after the lockdown has been lifted by mutually agreeing on timelines subject to Contractor's performance and availability of funds.

November 2020 - Submission and acceptance of Implementation/Data collection report on completion of field work - Rs. 956,500

January 2021 - Submission and acceptance of presentation on preliminary findings - Rs. 1,147,800

March 2021 - Submission and acceptance of final evaluation report (technical & non-technical) incorporating feedback on the preliminary findings from UNICEF and key stakeholders along with final presentation - Rs. 765,200

Contract value for Phase-II – Rs. 2,869,500

Total agreed value not to exceed Rs. 3,826,000/- which comprises of Phase-I & II.

Contract will be amended or a separate contract will be issued for the above mentioned balance amount and deliverables in Phase-II, once the timelines have been mutually agreed by UNICEF and Contractor.

B. IRB APPROVAL

An IRB approval was received from Sigma board post addresal of all requirements such as presentation of the evaluation details, addresal of queries and recommended changes on 10th of June 2021.

Sigma-IRB (Institutional Review Board)
(A Division of Sigma Research and Consulting Pvt Ltd)
C 23, South Extension I, Second Floor
New Delhi-110049
t (+ 91 11) 41063450
www.sigma-india.in
CIN No: U74140DL2008PTC182567

APPROVAL DOCUMENT

DATE: 10.06.2021

TO: Pallavi Dhall, Kantar

PROJECT TITLE: Evaluation of UNICEF's support to strengthen immunization program in India

IRB Number: 10009/IRB/21-22

Thank you for submitting the protocol: **Evaluation of UNICEF's support to strengthen immunization program in India**

I am pleased to inform you that the above mentioned study has been approved by the Committee in accordance with the compliance of the Title 45, Code of Federal Regulations, sub-part A (Common Rule) of NIH.

All research activities must be conducted in accordance with the approved submission. It is your responsibility to fulfill the **following requirements of approval**:

1. Changes, amendments, and addenda to the protocol, informed consent, or other study materials must be submitted to the Sigma-IRB for re-review and approval **prior** to implementation.

2. Any unanticipated problems, adverse events, protocol violations, social harm, or any new information becoming available which could change the risk/benefit ratio must be reported to the Sigma-IRB.

The Sigma-IRB concluded that the Principal Investigator has taken sufficient safeguards to carry out the study. The Sigma-IRB approves the proposal for conducting the aforesaid study. This approval is based on your revised submission of study protocol any deviation from this protocol would require further approval of IRB. This is valid for one year from the date of approval, mentioned geographical location and presented sample. After the completion of the study please submit the study report to Sigma-IRB

Signature:
Dr U V Somayajulu (Member Secretary of Sigma-IRB) Date: 10.06.2021

Signature: Pallavi Dhall
Pallavi Dhall Principal Investigator] Date: 10.06.2021

C. IMMUNIZATION TIMELINE IN THE INDIAN CONTEXT

This section entails a chronological list of activities pertaining to immunization in India during the evaluation time period, i.e., from year 2014 to 2019. Some important activities that occurred prior to 2014 have also been incorporated.

Before 2014			
Year	**Key Contributing Partner Name**	**Immunization milestone**	**Key areas of UNICEF activities**
2001	UNICEF, The CORE group, Rotary International, WHO, Government of India, IPE Global	**Social Mobilisation Network (SMNet)** was formed as a direct intervention in Uttar Pradesh, building support for the polio programme	Polio Transitioning
2002	UNICEF	Amitabh Bachchan became the goodwill ambassador for the polio campaign	
2009	UNICEF, MoHFW, IKEA Social Initiative, ORG – Centre for Social Research, NIHFW, Population Resource Centres	A "**Coverage evaluation survey"** was conducted to assess the utilization of maternal and child health services in India.	Coverage and Equity
2011	MoHFW, UNICEF, WHO, IAP, NII, ICMR	**National Vaccine Policy document** launched in April 2011 provided broader policy guidelines and framework to guide the creation of evidence base to justify need for Research and Development (R&D), production, procurement, quality assessment of vaccines for UIP in India	Coverage and Equity
2011	GoI	Introduction of **five-in-one Pentavalent vaccine** in Tamil Nadu and Kerala in December of 2011. Five million children in India were vaccinated with the pentavalent shots till March 2013.	New vaccines introduction
2011	WHO	2012-2013 was declared as '**Year of intensification of Routine Immunization (IRI)**' (July 2011)	Coverage and Equity
2011	GoI	JE vaccine was introduced in the Universal Immunization Programme as a single dose along with Diphtheria-Pertussis-Tetanus /Oral Polio Vaccine (DPT/OPV) booster.	New vaccines introduction
2012	GoI	Government of India declared 2012 as "Year of Intensification of Routine Immunization"	Coverage and Equity
2012	MoHFW, BMGF, PHFI	When 2012 was declared as the "Year of intensification of Routine Immunization", **Immunization Technical Support Unit** was established to further the intentions of improved immunization reach	Coverage and Equity

2012	BMGF, GAVI, UNICEF, WHO, United States National Institute of Allergies and Infectious Diseases	**Global Vaccine Action Plan 2011-2020** provided a framework to provide equitable access to vaccines for people in all communities	Coverage and Equity
2013	MoHFW, UNICEF, WHO, BMGF, ITSU, Cambridge Economic Policy Associates (GAVI appointed consultants)	**Health Systems Strengthening Support Proposal** 2013-16 was submitted to GAVI	Coverage and Equity
2013	MoHFW	**NHM Mission** was launched encompassing the **National Rural Health Mission** and **National Urban Health Mission** with an aim to provide universal access to equitable, affordable & quality health care services	Coverage and Equity
2013	MoHFW, WHO, UNICEF, ITSU	**Comprehensive Multi-Year Strategic Plan 2013-17** was drafted with a goal to reduce mortality and morbidity due to VPDs	Coverage and Equity
2013	MoHFW, UNICEF	National report for **Rapid Survey on Children** (RSoC) 2013-14 was conducted. Starting from November 2013, the data collection of this study ended in May 2014 according to its "Fact Sheet"	Coverage and Equity
2013	GoI, UNICEF, Government of Maharashtra	**National Cold Chain Resource Centre** (NCCRC), Pune, was established in November, 2013	Cold chain strengthening
2013	MoHFW, NIHFW, UNICEF	Establishment of **National Cold Chain and Vaccine Management Resource Centre (NCCVMRC)**	Cold chain strengthening
2013	GAVI	An amount of $107 million was approved by GAVI on 4 October 2013 for the Health Systems Strengthening Support from 2013-16	Coverage and Equity
2013	GAVI	As stated in the decision letter by GAVI dated 21 October 2013, an amount of $28.88 million was approved for the year 2014 for **NVS Pentavalent**	New vaccines introduction
2013	GoI	In 2013, a two-dose JE vaccine strategy was introduced, with the first dose (JE-1) to be given along with measles-containing vaccine (MCV-1) between 9 and 12 months and second dose (JE-2) along with DPT/OPV booster and second dose of MCV (MCV-2) for 16-24 months	New vaccines introduction

2014			
Month	**Contributing Partner Name**	**Immunization milestone**	**Key areas of UNICEF activities**
January	UNICEF, Deloitte	**Evaluation of Social Mobilization Network (SMNet)** was done to determine its impact on activities including support for routine immunization and coverage of polio immunization activities	Polio Transitioning
January	MoHFW	Proposal for **National Penta scale-up support** submitted to GAVI	New vaccines introduction
March	MoHFW, UNICEF, WHO, BMGF, Rotary International, CDC	WHO certified **SEAR polio free**- three years after the last case of wild poliovirus infection, detected in the West Bengal	Polio Transitioning
June	MoHFW, UNICEF, AROI	To build awareness on Routine immunization, a two-day workshop was organized by UNICEF in partnership with AROI (Association of Radio Operators of India) for over 40 radio jockeys	Communication and Demand generation
June	UNICEF, AROI	Following the workshop, UNICEF partnered with AROI to promote immunization programme in various states	Communication and Demand generation
June	UNICEF	Madhuri Dixit and Kareena Kapoor Khan were appointed as UNICEF celebrity advocates	Communication and Demand generation
July	GAVI	GAVI agreed to support the **Penta scale-up** till 2015 by providing an additional amount up to $ 100 million.	New vaccines introduction
August	MoHFW, UNICEF, PHFI, Medical colleges	Resource material for Rashtriya Bal Swasthya Karyakram (RBSK) were published. The job aids provide a supportive set of tools for the Mobile Health Team to be used as a handy reference	Communication and Demand generation
September	NCCVMRC-NIHFW, UNICEF, WHO, ITSU, UNDP, BMGF, GAVI	**National cold chain assessment 2014** provided the status of cold chain across the country	Cold chain strengthening
September	MoHFW, ITSU	A proposal to seek NVS support for **India – rotavirus vaccine in the year 2013-17** was submitted to GAVI	New vaccines introduction
September	MoHFW	IPV introduction plan/ **Proposal to seek NVS support for IP)** was submitted to GAVI	New vaccines introduction

October	UNICEF, MOHFW, NCCTC, NCCVMRC-NIHFW and NHSRC	Workshop on **"Capacity building of cold chain equipment manufacturers and professional institutes in India on WHO-Performance, Quality and Safety (PQS) standards"** was done by UNICEF	Cold chain strengthening
October	GAVI	GAVI approved the proposal submitted by GoI for the renewal of cash support for HSS for 2015 in a decision letter dated 28 October, 2014	Coverage and Equity
November	GAVI, MoHFW	**Pentavalent vaccine scale-up** began by introduction of vaccine in Madhya Pradesh and Rajasthan • Phase two of the scale-up happened in 2015 with the introduction of the 5-in-1 vaccine in the 16 remaining Indian states.	New vaccines introduction
December	MoHFW	Expansion and roll-out of **Acute Flaccid Paralysis linked laboratory to support Measles surveillance** was useful in monitoring the progress of polio eradication	Coverage and Equity
December	MoHFW, WHO, UNICEF, Rotary International, IMA, IAP, NSS, NCC	**Mission Indradhanush** was announced with a vision to ensure 90% full immunization coverage	Coverage and Equity
December	MoHFW, WHO, UNICEF, US CDC, United Nations Foundation and American red cross	**India expert advisory group on Measles and Rubella** was constituted	New vaccines introduction
December	GAVI	For Pentavalent scale up in 2015, the programme terms in a revised decision letter by GAVI (dated 19 December 2014) included an additional condition- the GoI shall provide full financial support for the **pentavalent vaccination programme** from 2016 onwards	New vaccines introduction

2015			
Month	**Contributing Partner Name**	**Immunization milestone**	**Key areas of UNICEF activities**
January	MoHFW, ITSU	Proposal form for **GAVI NVS support for India – Pneumococcal and Measles Rubella vaccine** was submitted along with the Introduction plans for the respective vaccines	~~Coverage and Equity~~ New vaccines introduction

January	MoHFW, IIPS	**NFHS-4** (2015-16) provided the immunization coverage in the country	Coverage and Equity
March	MoHFW, NIHFW, UNICEF	Formal inauguration of **National Cold Chain and Vaccine Management Resource Centre (NCCVMRC)** by Union Minister of Health & Family Welfare	Cold chain strengthening
March	MoHFW	Publicity campaign for "Mission Indradhanush" was launched on 23 March 2015. The media campaign included plans for television and radio adverts, banners, posters, hoardings, and a song composed by Javed Akhtar and sung by Sonu Nigam and Alka Yagnik.	Communication and Demand generation
April	GAVI	The number of vaccine doses pentavalent vaccine was revised to 96,335,000 on 20 April 2016. The number of doses was increased by 550,000 doses from the previous decision letters because of a negotiated reduction in price of pentavalent vaccine.	New vaccines introduction
	MoHFW, UNICEF, WHO, ITSU, UNDP	**Mission Indradhanush**- **Operational guidelines** were published which provided the strategies for implementation of Mission Indradhanush and attaining the envisaged 90% full immunization coverage	Coverage and Equity
April	WHO, UNFPA, CDC, BMGF, GAVI, PATH, UNICEF	India was validated for Maternal and Neonatal Tetanus Elimination in April 2015 and was certified free of maternal and neonatal tetanus by WHO in July.	Coverage and Equity
April	MoHFW, WHO, UNICEF, Rotary International, ITSU	Initiation of **1st phase of Mission Indradhanush** • 4 rounds in April, May, June, July	Coverage and Equity
May	UNICEF	As an extension of the #babiesneedyou campaign, UNICEF launched the 'Ek Star Aisa Bhi' campaign with the former captain of the Indian cricket team, Virender Sehwag	Communication and Demand generation
June	GAVI, GoI	Partnership Framework Agreement between GoI and GAVI was signed for Health Systems Strengthening on 12th June 2015	Coverage and Equity
June	GAVI, GoI	Partnership Framework Agreement between GoI and GAVI for NVS, Measle rubella campaign and Pneumococcal routine was signed on 12 June 2015 and NVS, IPV Routine was signed on 16th June 2015	New vaccines introduction

September	MoHFW, UNICEF, AIR, AROI	First ever Radio4Child awards were organised to recognize creative and innovative programming on the issue of Routine Immunization. The second edition of these awards were conducted in November 2017.	Communication and Demand generation
October	MoHFW, WHO, UNICEF, Rotary International, ITSU	**2nd phase of Mission Indradhanush** began • 4 rounds in Oct, Nov, Dec, Jan-2016	Coverage and Equity
	WHO, UNICEF, MoHFW	**Operational guidelines for introduction of IPV** were published	New vaccines introduction
November	MoHFW, WHO, UNICEF	As a **strategy on polio eradication**, a sequential removal of trivalent oral polio vaccines (tOPVs) was planned and to reduce risks associated with type 2 polio virus, IPV was introduced	Polio Transitioning
November	MoHFW, WHO, UNICEF, ITSU, BMGF	A **Vaccine Introduction Working Group (VIWG)** was constituted to review the progress of all activities related to the introduction of new vaccines	New vaccines introduction
November	UNICEF, GPEI	**Guidance note on cold chain logistics and vaccine management during polio supplementary immunization activities (SIA)** was published	Cold chain strengthening
December	WHO, UNICEF, PATH, INCLEN, GHS, UNDP	**Operational Guidelines- Introduction of Rotavirus Vaccine** in the UIP was prepared and introduced	New vaccines Introduction
	MoHFW, WHO, ITSU, UNICEF, Rotary International, CDC	**Continuation of polio SIAs** were recommended by the IEAG in phases from March 2015 to 2017	Polio Transitioning
	UNDP, ITSU, GAVI	**Electronic Vaccine Intelligence Network (eVIN)** rollout in 12 states 2015-2017. The rollout in remaining states was planned in 2017-2021.	Cold chain strengthening

2016			
Month	**Contributing Partner Name**	**Immunization milestone**	**Key areas of UNICEF activities**
January	GAVI, MoHFW	**GAVI-India strategic partnership** from 2016-2021 was proposed to accelerate the introduction of new vaccines to protect children against pneumonia, diarrhoea and MR	Coverage and Equity
January	MoHFW, UNICEF, NCCVMRC	**Module for Cold Chain Handlers Handbook** was prepared to enable cold chain handlers to efficiently manage the vaccines and cold chains supply system.	Cold chain strengthening
February	MoHFW	Establishment of a **core group for polio legacy transition** planning for WHO-NPSP.	polio transitioning
February	BMGF, ITSU, MoHFW, UNICEF, WHO, JSI, The CORE Group	**Immunization Handbook for Medical Officers** (Reprinted in 2017) was to improve the capacity of the health workers by providing them necessary skills and knowledge to be effective leaders of the immunization programme	Coverage and Equity
March	MoHFW, WHO, UNICEF, JSI, GHS, PATH	India was the **first country in WHO's SEAR to introduce the rotavirus vaccine** in UIP. The introduction of RVV happened in a phased manner, as suggested by NTAGI.	New vaccines introduction
April	MoHFW, WHO, UNICEF, Rotary International	**Expansion of Inactivated Polio Vaccine (IPV) pan country** **Trivalent OPV (tOPV) was switched to bivalent OPV (bOPV) on 25th April 2016** as a withdrawal of type 2 Oral Polio Vaccine (OPV2)	New vaccines introduction
April	UNICEF, MoHFW	To improve and automatize the data collection and management by ANMs, **ANM Online (ANMOL)** was launched	Coverage and Equity
May	MoHFW	Revised proposal for **Pneumococcal Vaccine (PCV) and Measles Rubella Vaccine (Measles-Rubella vaccine Introduction Plan)** was submitted to GAVI	New vaccines introduction
July	UNICEF	A multimedia campaign was launched by UNCEF reinforcing the message of complete immunization through the tag line: Paanch Saal, Saat Baar. This campaign was supported by Mr. Amitabh Bahchan.	Communication and Demand generation
August	GAVI	For the programme duration of 2015-16, a decision letter related to NVS, IPV routine stated that $4,242,340 and $12,289,204 were allocated for 5 doses vials and 10 dose(s) vials, respectively.	New vaccines introduction

September	GAVI	GAVI committed to provide $180 million for 2017-19 out of the total approved amount of $500 million allocated from 2016- 2021	New vaccines introduction
October	UNICEF	**Procurement Guidelines: Walk-In Cold Rooms (WIC) and Freezer Rooms (WIF)** was prepared to ensure effective and efficient procurement of WICs and WIFs	Cold chain strengthening
November	GAVI	Approved on 11 October 2016, $115 million for MR support were allocated from the total allocation of $500 million for the period 2016 - 2021. An additional support was provided by Serum Institute of India by donating 20 million Measles-Rubella vaccine doses for the government of India which was confirmed in November 2016	New vaccines introduction
	UNICEF, MoHFW, WHO, GAVI, FHI360	IPC Skills Training in Routine Immunization for Frontline Workers (ANM, ASHA, AWW) was provided for BRIDGE based on National BRIDGE guidelines formulated by MoHFW and UNICEF	Communication and Demand generation
	MoHFW, WHO, UNICEF, ICMR, NCCRC, JSI, BMGF, UNDP, NCCVMRC, CHAI, Serco Foundation	**National Cold Chain & Vaccine Logistics Action Plan was formulated in 2016** is a guide for planners and policymakers to develop an effective and efficient immunization supply chain system	Cold chain strengthening

2017			
Month	**Contributing Partner Name**	**Immunization milestone**	**Key areas of UNICEF activities**
February	MoHFW, IAP, WHO, UNICEF, UNDP, CDC, IMA, Lions Club international	First meeting of India expert Advisory Group (IEAG)-MR (2017-2019) was held inaugurated to provide technical oversight to attain the overall objective of measles elimination and rubella control	New vaccines introduction
February	MOHFW, UNICEF, WHO, Red Cross, UNDP, BMGF, ITSU	**National Operational Guideline for Measles Rubella** were formulated as tool to guide the implementation strategy towards eliminating Measles and Rubella	New vaccines introduction
February	MoHFW, UNICEF, WHO, BMGF, ITSU, Lions clubs, IAP, IMA	Launch of **Measles-Rubella** vaccination campaign and introduction of the vaccine in five states and union territories including Karnataka, Tamil Nadu, Pondicherry, Goa and Lakshadweep.	New vaccines introduction

		The next round of introduction was taken up during August 2017 in selected states.	
March	MoHFW	The coverage of health services under the **National Health Policy, 2017** includes the target of immunization of 90% new-born children by 2025.	Coverage and Equity
April	MoHFW	**Health Systems Strengthening Support Proposal 2017-21** was submitted to GAVI	Coverage and Equity
April	ITSU, MoHFW	A revised **Proposal Form for GAVI NVS support for India – Rotavirus vaccine** was submitted to GAVI**.** The form was originally submitted in 2016.	New vaccines introduction
April	MoHFW, WHO, UNICEF, UNDP, ITSU, JSI, GHS and NIHFW	**"National operational guidelines for introduction of PCV"** served as the tool for the introduction of PCV under UIP	New vaccines Introduction
May	MoHFW, WHO, ITSU, UNICEF, GHS, UNDP	**Pneumococcal conjugate vaccine was added to the immunization programme** in Bihar, Himachal Pradesh, Madhya Pradesh, 19 districts of UP and 18 districts of Rajasthan.	New vaccines introduction
May	UNICEF	Amitabh Bachchan became the face for the Union health ministry's measles-rubella (MR) campaign	Communication and Demand generation
July	GAVI	GAVI agreed to provide a support of **$100 million** under the **HSS programme** for 2017-21 in a decision letter dated 24 July 2017	Coverage and Equity
July	GAVI	GAVI approved an amount of $6,961,500 for **Phase 3** of **Rotavirus Vaccine support** under NVS	New vaccines introduction
August	MoHFW, IAP, IMA, WHO, UNICEF, PATH	Till August 2017, campaign activity for **JE vaccination** in adults was completed in 31 districts	New vaccines introduction
	UNICEF	**Communication guidelines for Measles-Rubella** campaign were prepared to facilitate the communication campaign	Communication and Demand generation
August	MoHFW, UNICEF, WHO	Communication campaign for Measles and Rubella was happening. The campaign included circulating cartoons and Gifs over WhatsApp in the local language, orientation sessions for teachers, meetings in schools, community meetings in the local languages	Communication and Demand generation

	MoHFW, WHO, UNICEF, JSI, ITSU	**Operational Guidelines for Intensified Mission Indradhanush** were published	Coverage and Equity
October	MoHFW, WHO, UNICEF, Rotary International, UNDP, Global Health Strategies, IPE Global, ITSU, NSS, NCC	The **Intensified Mission Indradhanush was launched** as a strategic initiative to further intensify the immunization programme and was monitored under the Proactive Governance and Timely Implementation (PRAGATI)	Coverage and Equity
November	GAVI	For the Measles-Rubella vaccine Campaign, GAVI approved $7 million for 2018 from the requested $8.5 million, categorised under MR operational support.	New vaccines introduction
	MoHFW, WHO, UNICEF, Indian Red Cross, UNDP, BMGF, ITSU	Formation of the **National Taskforce on Measles and Rubella** and the **National Verification Committee**	New vaccines introduction
	NCCVMRC, NIHFW, NCCRC, UNICEF	**Training Module on Repair & Maintenance of WICs, WIFs** provides a technical guidance to refrigeration technicians/ mechanics who are responsible to maintain and repair of cold rooms/freezer rooms	Cold chain strengthening
	NCCVMRC, NIHFW, NCCRC, UNICEF	**Training Modules on Repair & Maintenance of Ice Lined Refrigerators (ILRs) and Deep Freezers (DFs)** were published	Cold chain strengthening
	MoHFW, JSI	A comprehensive document for **"Frequently Asked Questions on Immunization**" for Health Workers & Other Front-line Functionaries was published	Communication and Demand generation

2018			
Month	**Contributing Partner Name**	**Immunization milestone**	**Key areas of UNICEF activities**
March	GAVI	Approval of PCV programme support for the year 2018. Out of the total support of $500 million for 2016 – 2021, $180 million were allocated for the PCV support in year 2018	New vaccines introduction
April	MoHFW, WHO, UNICEF, Rotary International, ITSU	Mission Indradhanush launched in villages and UTs identified under **Gram Swaraj Abhiyan (GSA) and Extended GSA programmes**	Coverage and equity
April	UNICEF, IIMC, Oxford	UNICEF launched a free online course "**Critical Appraisal Skills (CAS) course"** for health journalists as a part of 'Every Child, Alive' campaign.	Communication and Demand generation

May	GAVI	GAVI support for Rotavirus vaccine to India from 2018 to 2020 was revised to $65 million from $80 million resulting from reasons including the reallocation of the $8.5 million from the Rotavirus vaccine commodity support to technical support for the Measles-Rubella campaign operational support	New vaccines introduction
May	BMGF, The CORE Group, ITSU, MoHFW, UNICEF, WHO	**Immunization Handbook for Health workers 2018** is a revised edition providing knowledge and skills on immunization for health workers on field	Coverage and Equity
May	GAVI	GAVI approved a support of $8.5 million fund for the Measles-Rubella campaign in India	Coverage and Equity
June	MoHFW, UNDP, WHO, UNICEF	To assess the impact of intensified immunization activities on the full immunization coverage **"IMI coverage evaluation survey"** was conducted in 190 IMI districts -Findings from this survey were published in January 2019	Coverage and Equity
June	ITSU, MoHFW, WHO, JSI, NHSRC, PATH and UNICEF.	**Guidelines on initial management of anaphylaxis using injection Adrenaline by ANMs** were published to provide technical knowledge and expertise to administer adrenaline	New vaccines introduction
July	NCCVMRC-NIHFW, UNICEF, MoHFW	A paperless **"National Effective Vaccine Management Assessment 2018"** was conducted using a mobile based application. This assessment was followed by "**Improvement Plan workshop**"	Cold chain strengthening
September	MoHFW, UNICEF, WHO, UNDP	**Media sensitization workshops** were organized with State & National electronic & print media journalists	Communication and Demand generation
September	UNICEF	**Immunization Roadmap** (2018–2030) was prepared in alignment with UNICEF Strategic Plan	Coverage and Equity
	MoHFW	**Operational Guidelines for Tetanus and adult diphtheria (Td)** were formulated by MoHFW	New vaccines introduction
November	MoHFW, WHO	**TT vaccine was replaced with Td vaccine** in the UIP as per WHOs recommendations	New vaccines introduction
December	MoHFW, UNDP, GAVI	"**Techno-economic assessment of eVIN"** provided learnings for scale up of the programme in remaining states basis its efficiency	Cold chain strengthening
	WHO, UNICEF, UNDP, JSI, BMGF, ICMR, NCCVMRC, MoHFW, ITSU	**Comprehensive multi-year strategic plan** (cMYP) 2018-22 was launched to further the goal of achieving FIC	Coverage and Equity

	NCCVMRC, UNICEF	**Supportive Supervision for Immunization (S4i)** dashboard which contains monitoring data from Mission Indradhanush as well as Routine Immunization was developed and shared with states to be utilized for concurrent monitoring	Coverage and Equity
	UNICEF	To promote the demand of Measles and Rubella Vaccine, UNICEF prepared Measles-Rubella campaign IEC materials and prototypes	Communication and Demand generation

2019			
Month	**Contributing Partner Name**	**Immunization milestone**	**Key areas of UNICEF activities**
January	MoHFW, ITSU, WHO, UNICEF, UNDP	**Roadmap for achieving 90% full immunization coverage in India** was prepared	Coverage and Equity
January	MoHFW, ITSU, NIHFW, WHO, UNICEF, UNDP, JSI, Global Health Strategies, CORE Group	While MR SIA started in a phased manner from Feb 2017, by 2019 34 states/UTs had been covered	Coverage and Equity
March	MoHFW, JSI, WHO, UNICEF, UNDP, ITSU, NCCVMRC	**Operational Guidelines- Introduction of Rotavirus Vaccine (Rotasiil)** in the UIP were produced to ensure effective delivery of RVV	New vaccines introduction
May	GAVI	GAVI approved India's **renewal request for HSS support** for years 2019 and 2020 in a decision letter dated 22nd May 2019	Coverage and Equity
October	MoHFW, UNICEF, UNDP, WHO, ITSU	**Operational guidelines- strengthening immunization systems to reach every child** outlines the strategy for prioritization of achieving 90% FIC	Coverage and Equity
	UNICEF	**Training package for Training on Vaccine & Cold Chain Management (TVaCC)** was prepared	Cold chain strengthening
November	UNICEF, NCCRC	**National ToT on Vaccine & Cold Chain Management (T-VACC) at NCCRC, Pune, Maharashtra** was conducted on 9th November 2019	Cold chain strengthening
	UNICEF	**Vaccine Wastage Study**	Cold chain strengthening

Others			
Year	**Contributing Partner Name**	**Immunization milestone**	**Key areas of UNICEF activities**

2020	UNICEF	**Tribal Needs assessment study** was aimed at exploring the reasons for low immunization coverage in tribal population. The results of this study were expected in January 2020.	Coverage and Equity
2020	UNICEF	**Evaluation of the Communication Processes used for Measles-Rubella (MR) campaign** was expected to end by April 2020 and seek findings and lessons to improve further actions.	Communication and Demand generation
2020	UNICEF	**BRIDGE Evaluation** seeks recommendations to programme improvement by understanding the relevance, effectiveness, efficiency and sustainability of the training programme focussed on improving the IPC skills of FLWs. The results were expected by May 2020.	Communication and Demand generation

D. OECD-DAC EVALUATION MATRIX FOR THE EVALUATION

Key Evaluation Questions	Sub-Questions	Indicators	Sources of Information
Relevance *To understand whether the immunization activities undertaken by UNICEF, reference to the five key areas, were aligned with the goals and priorities at global, regional, national, state and individual level*			
Q1. How well aligned was UNICEF support to global and regional priorities?	**Q1A. How did UNICEF support on global and regional priorities that over the 2014-2019 period?** **Q1B. Were there priorities that UNICEF worked on different priorities from the global and regional priorities?**	- Level of alignment of UNICEF priorities with global and regional priorities, starting from 2014 - Type of alignment of UNICEF priorities with global and regional priorities, starting from 2014 - Number of non-aligned UNICEF and global, regional priorities -Reasons for gaps between UNICEF priorities vs. global and regional priorities	UNICEF CPAP 2013-17 and 2018-22, CPD documents UNICEF Global Immunization Roadmap (2018-30) ROSA priorities SDGs IA 2030 GAVI 5.0 IDIs with: • GAVI SCM • Joint Commissioner (UIP, Immunization) • RCH Advisor • Mission Director (NHM) • Partners • UNICEF Staff
Q2. How well aligned was UNICEF's support for the immunization programme with the priorities of the national government and State governments?	**Q2A. How did UNICEF support on priorities that the national and State governments had over the 2014-2019 period?** **Q2B. Were there priorities that UNICEF worked on different priorities from the national and state governments?**	- Level of alignment of UNICEF priorities with national and state and government plans/ priorities, starting from 2014 - Type of alignment of UNICEF priorities with national and state and government plans/ priorities, starting from 2014 - Number of non-aligned UNICEF and national, state priorities -Reasons for gaps between UNICEF priorities vs. national and state and government plans/ priorities	Comprehensive Multi-Year Plan of UIP 2018-22 GoI 12th Five Year Plan Multi-Year Strategic Plan 2013-17 Roadmap for achieving 90% FIC in India UNICEF CPAP 2013-17 and 2018-22, CPD documents UNICEF Global Immunization Roadmap (2018-30) UNICEF State-specific Rolling work plan (2014-19) IDIs with: • GAVI SCM • Joint Commissioner (UIP, Immunization) • RCH Advisor • Mission Director (NHM) • State EPI Officers • District Immunization Officer • Partners • UNICEF Staff
			MOM around planning and strategizing

	Q2C. How well did UNICEF respond or adapt to changing needs and priorities of the immunization programme between 2014-2019? What factors influenced UNICEF's adaptiveness?	- Number of changes in UNICEF priorities with coverage and new vaccine introduction - Type of changes in UNICEF priorities with coverage and new vaccine introduction - Number of changes in procedures and operations during implementation of programmes/ campaigns - Type of changes in procedures and operations during implementation of programmes/ campaigns	National Family Health Survey 4 (2015-16) National Vaccine Policy 2011 UNICEF CPAP 2013-17 and 2018-22, CPD documents Mid-term review of CPD documents IDIs with: • GAVI SCM • Joint Commissioner (UIP, Immunization) • RCH Advisor • Mission Director (NHM) • State EPI Officers • District Immunization Officer • State IEC Officer • District IEC Officer • Partners • UNICEF Staff
Q3. How relevant was UNICEF's support for the immunization programme in addressing inherent equity gaps or taking into consideration the disparities with regard to caste, residence, gender, religion, wealth?	**Q3A. To what extent did UNICEF's support research/identify equity gaps in immunization outcomes?** **Q3B. To what extent, and in what ways, did UNICEF incorporate equity dimensions to reach the marginalized children into the activities it undertook and targets/goals it set?** **Q3C. Were the key areas of UNICEF's support aligned to where there was a real need of programme strengthening?** **Q3D. What specific areas were not a part of UNICEF support? Why?**	- Number of study reports supported by UNICEF - Number and type of measures used to serve marginalized children and communities - Number and type of resources allocated to address equity gaps - Reliability, frequency, coverage and reporting of data across demographics - Existence of disaggregated data - Type of role played by UNICEF in SIA - Level of appropriateness of UNICEF's support vis-a-vis coverage, gaps and need	UNICEF Annual reports HMIS data MOM around planning and strategizing Tribal Need assessment study National Family Health Survey 4 (2015-16) IDIs with: • GAVI SCM • Joint Commissioner (UIP, Immunization) • RCH Advisor • Mission Director (NHM) • State EPI Officers • District Immunization Officer • State IEC Officer • District IEC Officer • Partners • UNICEF Staff
Q4. Was the UNICEF approach to partnerships relevant in terms of supporting the priorities of national and State governments?	**Q4A. To what extent did the choice of partners reflect these priorities?** **Q4B. Were there any key stakeholders/organizations/platforms relevant or aligned with national and**	- Type of partnerships in different domains of immunization - Number of partnerships in different domains of immunization	Annual reports for MoHFW Media publications GAVI Joint Appraisal Reports UNICEF Annual Reports IDIs with:

	state government priorities that UNICEF did not work with? Why? **Q4C. Was there a continued commitment in improving UIP by all partners?** **Q4D. Were partnerships made by UNICEF relevant?** **Q4E. To what extent did partnerships play a key role for working towards equity gaps? How?**	- Level of alignment of partnership support with national and state government - Number of non-aligned partnership support priorities with national and state government	• GAVI SCM • Joint Commissioner (UIP, Immunization) • RCH Advisor • Mission Director (NHM) • State EPI Officers • District Immunization Officer • Partners • UNICEF Staff
Effectiveness *To gauge the extent to which UNICEF, through its support to the UIP, was able to achieve key outcomes in each of the five key areas of work*			
Q5. To what extent was UNICEF's support effective in achieving its intended results, both at national and at state levels, in the five key areas of work of UNICEF?	**Q5A. To what extent were the activities by UNICEF delivered as planned, under each of the five key areas of work of UNICEF, at both national and state level?**	- Number of targets set and achieved for each year - Number of targets set and not achieved for each year	UNICEF CPAP 2013-17 and 2018-22, CPD documents UNICEF GAVI Grant Agreement 2017 UNICEF Annual Reports IDIs with: • UNICEF Staff
	Q5B. What factors determined the achievement or non-achievement of planned activities and outputs?	- Number of allocated human resources - Amount of allocated monetary resources - Perceptions of stakeholders on level of UNICEF influence - Perceptions of stakeholders on type of UNICEF influence	MOM around Planning and Strategizing Grant Proposals submitted to GAVI
	Q5C. What kind of evidence does UNICEF have on the performance of their support? **Q5D. What have UNICEF's responses been to the findings?** **Q5E. How have they been incorporated into programming?**	- Review of monitoring data - Review of UNICEF performance reports - Review of minutes	UNICEF quarterly reports IDIs with: • UNICEF Staff/Consultants from State Offices
			National Family Health Survey 4 (2015-16)

Q6. To what extent has UNICEF's support contributed to improved strategy, planning and implementation of the immunization programme at national and state level	**Q6A. To what extent has UNICEF's support contributed to improved strategy development and planning of the immunization programme at national level?**	- Increase in immunization coverage between 2014 to 2019 - Type of responsibilities of UNICEF in the five key areas - Evidence of UNICEF influence on GoI policies and program - Examples of UNICEF strategies being integrated at national and state plans	HMIS data
			IDIs with: • Deputy Commissioners, MoHFW • Partners
	Q6B. To what extent has UNICEF's support contributed to improved planning and implementation of the immunization programme at state level?		IDIs with: • Mission Directors (NHM) • State EPI Officers • Partners
	Q6C. How has UNICEF's support contributed to strengthened communication, social mobilization and media engagement activities under the immunization programme, with specific focus on measles elimination & rubella control?		Acknowledgement in reports and guidelines published by MoHFW
			Media publications around Measles-Rubella campaign
			IDIs with: • State IEC Officer/ Focal person • District immunization officers • District IEC Officer/Focal person
Q7. To what extent has UNICEF's support to the immunization programme contributed to broader health system strengthening at both the national and state level?	**Q7A. How has UNICEF's support to the immunization programme contributed to the building blocks of HSS?**	- Increase in immunization coverage between 2014 to 2019 - Number of operational guidelines developed/supported development - Number of training reports for capacity building - Level of UNICEF's involvement in capacity building as reported by stakeholders - Systematic review on frequency, coverage, reliability of HMIS, Cold chain, S4i, Immunization dashboard, CES survey	Training manuals and assessment reports
			Catalyzing Media Discourse on Routine Immunization
			BRIDGE Evaluation
	Q7B. How is UNICEF bringing all its work under the five key areas together to integrate them at the community level?		HMIS data
			Immunization dashboard
	Q7C. How has UNICEF supported capacity building under the immunization programme in new vaccines, cold chain system, interpersonal communication for frontline workers been in strengthening the broader health system?		National Cold Chain Assessment report
			National Effective vaccine management assessment report
			Standard Modules on Repair & Maintenance of WICs, WIFs, ILRs, DFs
			Handbook for Vaccine & Cold Chain Handlers 2016
			National Effective Vaccine Management Report 2018

	Q7D. How effective was UNICEF's support under the immunization programme in strengthening the Health Management Information System for cold chain data, S4i, Immunization dashboard, CES? **Q7E. How effective is the institutionalization of the NCCVMRC, Delhi and NCCRC, Pune supported by UNICEF to support immunization programme?**		IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM) • State EPI Officers • State IEC Officer/ Focal person • District Immunization Officers • District IEC Officer/Focal person • District Vaccine Cold Chain Manager (VCCM)/Focal person • Cold Chain Technician at Centers (NCCVMRC & NCCRC) • Cold Chain Officer at Centers (NCCVMRC & NCCRC) • Partners
	Q7F. How effective was UNICEF in leveraging partnerships for health system strengthening? **Q7G. How effective was UNICEF support in advocacy for leveraging funds for activities from National or State government?**	- Stakeholder views on partnerships - Level of alignment of UNICEF's immunization goals and plans with those of partners - Number of instances where UNICEF and partners were unable to leverage funds - Type of budget allocation	IDIs with: • Mission Directors (NHM) • Partners • UNICEF Staff/Consultants from State Offices GAVI Joint Appraisal Reports UNICEF Annual Reports
Q8. What unintended consequences or effect did UNICEF's support to the immunization programme have, both positive and negative?	**Q8A. Were there any activities and outputs of UNICEF's support that were unintended/ unexpected? Why did these occur?** **Q8B. Has UNICEF's support in each of the five key areas of work contributed to unexpected positive or negative changes in strategy, planning and implementation of the immunization programme, both at national and state level? If so, how and why?**	- Stakeholder views on consequences of UNICEF support on immunization - Type of feedback received from states	Feedback letters from states IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM) • State EPI Officers • State IEC Officer/ Focal person • Partners • UNICEF Staff/Consultants from State Offices

Q9. How effectively has UNICEF's support responded to gender, equity and human rights in its approach to support the immunization programme, both at national and state level?	**Q9A. To what extent were gender and equity of UNICEF outputs achieved? What factors influenced achievement or non-achievement of these dimensions of outputs?** **Q9B. Did activities that explicitly focus on equity actually achieve their outputs?** **Q9C. Is there any evidence that those outputs translated into intended outcomes, that address inherent equity gaps?** **Q9D. Was success different in different states, and across different areas of work? How?**	- Increase in numbers of children vaccinated in un-served/low-coverage pockets post intervention - Reduction in gap between immunization coverage in general and marginalized populations	National Family Health Survey 4 (2015-16) HMIS data
	Q9E. To what extent was UNICEF, as part of collaborating partners, successful in being able to influence both national and state government to focus on reaching marginalized children to ensure equitable access to vaccines? **Q9F. Did partnerships play a role in bridging equity gaps? How?**	- Level of alignment of UNICEF's immunization goals and plans with those of partners - Number of non-aligned immunization goals and plans of UNICEF and partners	IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM) • State EPI Officers • Partners • UNICEF Staff/Consultants from State Offices
Efficiency *To assess whether UNICEF optimally utilized its human, financial and time resources to deliver its planned immunization activities in a timely and organized manner*			
Q10. To what extent was UNICEF's support to the immunization programme efficient, in each of the five key areas of work, at both national and state level?	**Q10A. To what extent were UNICEF activities delivered in a timely and organized manner?** **Q10B. How did UNICEF ensure that the activities to support UIP were**	- Number of instances where planned work was timely delivered - Number of instances where planned work was not timely delivered	IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM) • State EPI Officers • District Immunization Officers • UNICEF Staff/Consultants from State Offices UNICEF Annual Reports

	delivered as planned as per the timespan? **Q10C. What activities saw a substantive delay? What were the reasons?** **Q10D. Was there a need for to adapt and revise efforts in order to make them more efficient? Was UNICEF able to do so in a timely manner?** **Q10E. What factors influenced UNICEF's adaptiveness to change?**	- Number of instances where planned work was delivered in an organized manner - Number of instances where planned work was not delivered in an organized manner - Examples of efficient usage of existing platforms and resources to support UIP	UNICEF CPAP (2013-17 and 2018-22), CPD documents
Q11. To what extent was UNICEF's support sufficiently resourced, from a human resources and financial perspective?	**Q11A. To what extent did UNICEF deliver activities within the planned monetary resources allocated to immunization support?** **Q11B. What were some of the areas/activities which required more /fewer financial resources? Why?**	- Number of financial resources deployed - Number of instances of lack of funds - Number of instances where expenditure exceeded planned budgetary/financial resource allocation	Financials, Human resource data UNICEF Supply Annual Reports UNICEF Annual Reports
	Q11C. Were UNICEF's human resources well utilized to deliver activities for immunization support? **Q11D. Was human resource allocation justified for each activity/area? How?** **Q9E. What were some of the areas/activities which required more/fewer human resources than planned? Why?**	- Number of human resources deployed - Level of adequacy of technical skills of human resource - Number of instances where HR support was provided during the implementation of programs - Number of instances of unmanageable workload, long-term vacancies	IDIs with: • UNICEF Staff/Consultants from State Offices
	Q11F. What were some of the key issues/bottlenecks in UNICEF's support on the demand and supply side of immunization, and what factors caused these?	- Type of steps taken to cater these challenges - Number of challenges that were resolved	IDIs with: • UNICEF Staff/Consultants from State Offices Grant Proposals submitted to GAVI

		- Number of challenges that were not resolved	
Q12. To what extent was UNICEF able to effectively collaborate and coordinate with key stakeholders, and leverage existing partnerships, to be as efficient as possible for programme strengthening and coverage improvement?	**Q12A. To what extent, and in what ways, did UNICEF proactively leverage key partners to ensure efficient use of existing platforms (service, community and media delivery platforms) and resources for immunization activities?** **Q12B. How well did UNICEF plan and coordinate work with partners?** **Q12C. Were there any inefficiencies because UNICEF did not work with certain partners (or if UNICEF only worked with the same set of partners)?**	- Level of awareness of stakeholders on UNICEF's strategies - Number of UNICEF collaborations with partners who had specific comparative advantages on certain key areas of support - Frequency of meetings between partners, set meeting schedules and agendas - Level of responsiveness to last-minute requests for delivering inputs/products - Case studies of leveraging existing partnerships	IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM) • State EPI Officers • District Immunization Officers • Partners • UNICEF Staff/Consultants from State Offices UNICEF Strategic Plans
	Q12F. In what supply and demand side domains, if any, does UNICEF have a comparative advantage vis-à-vis other partners? To what extent was this advantage leveraged efficiently?	- Evidence of development of new platforms/ management information system/ key innovations w.r.t. strategy, planning and implementation of UIP - Level of field presence and working across different sectors in addition to health	IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM) • State EPI Officers • State IEC Officer/ Focal person • District Immunization Officers • District IEC Officer • District Vaccine Cold Chain Manager (VCCM)/Focal person • Cold Chain Technician at Centers (NCCVMRC & NCCRC) • Cold Chain Officer at Centers (NCCVMRC & NCCRC) • Partners • UNICEF Staff/Consultants from State Offices
Q13. How efficiently did UNICEF respond to equity-based challenges?	**Q13A. Were there inputs/resources (time, financial resources, human resources) that UNICEF exclusively allocated to addressing gender and equity-based challenges in immunization?** **Q13B. Should there have been more or less allocation of inputs/resources**	- Type of resources allocated to address equity-based immunization challenges - Number of resources allocated to address equity-based immunization challenges	IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM) • State EPI Officers • State IEC Officer/ Focal person • District Immunization Officers • District IEC Officer • Partners

	on activities explicitly addressing gender and equity-based challenges in immunization. Why?		• UNICEF Staff/Consultants from State Offices
Sustainability *To understand the extent to which UNICEF support prioritized the sustainability of immunization programme in India, while focusing on sustainability in each of its five key areas of work*			
Q14. To what extent has UNICEF's support prioritized the sustainability of immunization programme in India?	**Q14A. How has UNICEF focused on sustainability in each of its five key areas of work? Are there areas/activities where sustainability was not a focus, and why so?** **Q14B. Did UNICEF support have exit plans incorporated into programme planning as well as implementation? What is the exit strategy looking ahead at the next five-year period?** **Q14C. How successful has the approach adopted by UNICEF to institutionalize communication and demand generation been to ensure sustainability (adoption and maintenance of up taking immunization services and other positive practices on Routine Immunization)?** **Q14D. How sustainable has UNICEF support been specifically in terms of addressing equity gaps - taking into consideration the disparities with regard to caste, residence, gender, religion, wealth?**	- Type of steps taken by UNICEF to ensure sustainability - Number of immunization processes institutionalized by UNICEF for uptake by GoI - Number of identifiable areas of sustainability focus during 2014 -2019 - Evidence of achievements from UNICEF support specifically on equity being sustained	Roadmap for achieving 90% FIC in India IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM) • State EPI Officers • Partners • UNICEF Staff/Consultants from State Offices
Q15. To what extent are the achievements of UNICEF's support sustainable at scale, both at national and state level?	**Q15A. If UNICEF were to stop its support tomorrow, what achievements would continue and what achievements might be stopped?** **Q15B. In each of the five areas of UNICEF support (and their corresponding activities), which have seen a transition in UNICEF support? How?**	- Number of achievements that would continue if UNICEF support stops - Number of achievements that would discontinue if UNICEF support stops - Stakeholder views (State EPI Officers; State IEC Officer/ Focal person, District Immunization Officers) - Examples of innovations with respect	Documentation by partners like GAVI and UNDP For example- "India Transformation through innovation" by GAVI IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM) • State EPI Officers

	Q15C. Which areas have witnessed a complete exit of UNICEF support? What has been the impact of UNICEF's discontinued support? **Q15D. What areas have seen a complete adoption and ownership by the government, signaling full integration into UIP?** **Q15E. In the areas where UNICEF still delivers considerable support, to what extent would the achievements of UNICEF be sustained if it were to stop all support?** **Q15F. With respect to the UIP, what has been learnt between 2014-19, that might be of use when UNICEF will carry out future work around immunization?**	to intervention in context of immunization - Number of incidents of increased demand of vaccines among target group - Increase in percentage of children immunized in the intervention blocks and districts - Level of success in transition of polio assets (SMNet) to support immunization	• State IEC Officer/ Focal person • District Immunization Officers • District IEC Officer • District Vaccine Cold Chain Manager (VCCM)/Focal person • Cold Chain Technician at Centers (NCCVMRC & NCCRC) • Cold Chain Officer at Centers (NCCVMRC & NCCRC) • Partners • UNICEF Staff/Consultants from State Offices
	Q15G. How successful has UNICEF been in transitioning polio assets (SMNet) to support routine immunization and to ensure sustainability in UP and Bihar?		UNICEF Office of Innovation Annual Reports (2017) Evaluation of SMNet "Role of Social Mobilization (Network) in Polio Eradication in India" by Indian Pediatrics IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM) • State EPI Officers • State IEC Officer/ Focal person • District Immunization Officers • District IEC Officer/Focal person • Partners • UNICEF Staff/Consultants from State Offices
	Q15H. How successful has the approach adopted by UNICEF to institutionalize cold chain management been to ensure sustainability?	- Level of UNICEF support in institutionalizing cold chain resource centres - Type of evidence from cold chain assessment reports	National Cold Chain Assessment report National Effective vaccine management assessment report IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM)

	Q15I. What were some important outcomes of UNICEF's investment in cold chain between 2014-19?	- Number of evidence of contribution towards service delivery improvement under UIP - Type of outcome due to UNICEF's support to cold chain activities	• State EPI Officers • District Vaccine Cold Chain Manager (VCCM)/Focal person • Cold Chain Technician at Centers (NCCVMRC & NCCRC)
	Q15J. What factors might threaten the sustainability of UNICEF achievements under the immunization programme? **Q15K. What factors might threaten the sustainability of demand generation achievements?**	- Type of factors influencing outcomes around sustainability - Number of factors influencing outcomes around sustainability	Financial sustainability from "WHO-UNICEF Guidelines for Comprehensive Multi-Year Planning for Immunization" Roadmap for achieving 90% FIC in India UNICEF Immunization Roadmap (2018- 2030) IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM) • State EPI Officers • District Immunization Officers • Partners • UNICEF Staff/Consultants from State Offices
Q16. To what extent can the sustained achievements of UNICEF be integrated in the UIP at the national, state and district level?	**Q16A. What are the steps taken by MoHFW for sustaining UNICEF achievements under UIP in the times to come?** **Q16B. What is the government's expectation of UNICEF support over the next five years?** **Q16C. To what extent are the achievements of these activities sustainable, independent of UNICEF?**	- Level of financial capacity of MoHFW to manage and sustain all achievements - Level of staff knowledge of MoHFW to manage and sustain all achievements - Number of immunization areas that can be sustained without UNICEF's support	IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM) • State EPI Officers • State IEC Officer/ Focal person • District Immunization Officers • District IEC Officer • District Vaccine Cold Chain Manager (VCCM)/Focal person • Cold Chain Technician at Centers (NCCVMRC & NCCRC) • Cold Chain Officer at Centers (NCCVMRC & NCCRC) • Partners • UNICEF Staff/Consultants from State Offices
Q17. To what extent did UNICEF's approach to partnerships consider sustainability? Are the results achieved through these partnerships in fact sustainable?	**Q17A. Were partnerships designed to have an exit strategy?** **Q17B. What efforts has UNICEF undertaken to build the capacities of their local partners?**	- Level of awareness of stakeholders on UNICEF's strategies - Number of immunization areas where sustainability was not a priority - Type of expectations of partners and MoHFW officials around sustainability	IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM) • State EPI Officers • State IEC Officer/ Focal person • District Immunization Officers • District IEC Officer

	Q17C. What is the expectation(s) of key partners from UNICEF support over the next five years? **Q17D. In order to make our achievements more sustainable, how can UNICEF leverage partnerships over the next five years?**	- Case studies of leveraging existing partnerships around sustainability	• District Vaccine Cold Chain Manager (VCCM)/Focal person • Cold Chain Technician at Centers (NCCVMRC & NCCRC) • Cold Chain Officer at Centers (NCCVMRC & NCCRC) • Partners • UNICEF Staff/Consultants from State Offices
Coherence *To gauge the extent to which UNICEF worked coherently to support the work of external partners around immunization as per global, regional, national and state priorities; and the internal work of UNICEF around other interventions*			
Q.18. How does UNICEF's work fit with the work of external partners (global partners, regional partners, government, partner programmes/ interventions)?	**Q18A. How does UNICEF share objectives with other partners?** **Q18B. Are all activities and areas of work clearly defined? How do UNICEF's activities and key areas of work complement that of other partners?** **Q18C. Are any efforts are being duplicated? What and how?** **Q18D. Do the efforts of all partners fall under a single umbrella of work? What is UNICEF's position/place in this?** **Q18E. What areas of work that stand out and do not fit well with the others?** **Q18F. What are the gaps in the intervention/programme space?**	- Level of continued commitment in improving UIP by all partners - Level of alignment of UNICEF's immunization goals and plans with those of partners - Number of non-aligned immunization goals and plans of UNICEF and partners - Level of clarity and appropriateness in division of responsibilities among UNICEF and its partners to avoid duplication in the immunization interventions - Type of evidence of improved result/ Change in performance owing to the complementarity of interventions - Number of non-complementary interventions of UNICEF and partners	UNICEF Immunization Roadmap GAVI Joint Appraisal Reports MOMs indicating division of work among partners UNICEF CPAP 2013-17 and 2018-22, CPD documents UNICEF Progress Reports on Communication for Development (C4D) WHO/UNICEF Joint Reporting Format IDIs with: • Deputy Commissioners, MoHFW • Mission Directors (NHM) • State EPI Officers • Partners • UNICEF Staff/Consultants from State Offices
Q19. How does UNICEF support to the immunization programme	**Q19A. To what extent is UNICEF's support for the immunization programme aligned with other**	- Level of interlinkages between different Interventions of UNICEF	MOMs indicating division of work among UNICEF teams Rolling work plans

align with/fit with other interventions being carried out by UNICEF?	**interventions being carried out by UNICEF?** **Q19B. Which UNICEF teams work together to support the immunization programme in India? Do they have clearly defined objectives/activities?** **Q19C. How are all activities and areas of work defined among different UNICEF teams? Are the activities and key areas of work complementary?** **Q19D. How do individual interventions fit together w.r.t UNICEF's overall work on health system's strengthening in India?** **Q19E. What efforts are being duplicated? What are the gaps?**	- Level of integration of UNICEF's immunization strategies into other sectors catered by UNICEF - Type of dependency of internal UNICEF teams on each other - Number of non-aligned internal teams in UNICEF - Number of evidence of improved result/ Change in performance owing to the combined efforts of different teams	IDIs with: • UNICEF Staff/Consultants from State Offices

E. STAKEHOLDER MAP

Being a technical partner of GoI**, UNICEF** is one of the key stakeholders in the **immunization** programme in India and has been involved in most of the activities related to immunization that occurred between the year 2014-2019. Most of the immunization activities conducted in India during this period were led by MoHFW and funded by GAVI. The funds under GAVI were disseminated under the **new vaccine support** and support targeting **health systems strengthening (HSS)**.

The below table maps the list of stakeholders who have worked along with UNICEF to contribute to various immunization activities identified between 2014 to 2019. The immunization activities have been enlisted chronologically under the five areas of UNICEF activities. The following tables do not include activities where the only stakeholder involved was UNICEF, GAVI or MoHFW. All activities undertaken by UNICEF, GAVI, or MoHFW are, however, included in the timeline (see Annexure C)

Year	Key area of Activity	Immunization activities	UNDP	WHO	BMGF	Rotary International	ITSU	CDC	NGOs/ CSOs	Others
2009	Coverage and Equity	A "**Coverage evaluation survey"** was conducted to assess the utilization of maternal and child health services in India.								IKEA Social Initiative, ORG – Centre for Social Research, NIHFW, Population Resource Centres
2011		**National Vaccine Policy** launched in April 2011 provided broader policy guidelines and framework to guide the creation of evidence base to justify need for Research and Development (R&D), production, procurement, quality assessment of vaccines for UIP in India		✓						ICMR, IAP, NII

Year	Key area of Activity	Immunization activities	UNDP	WHO	BMGF	Rotary International	ITSU	CDC	NGOs/ CSOs	Others
2011	Coverage and Equity	2012-2013 was declared as '**Year of intensification of Routine Immunization (IRI)**' (July 2011)		✓						
2012		When 2012 was declared as the "Year of intensification of Routine Immunization", **Immunization Technical Support Unit** was established to further the intentions of improved immunization reach			✓					PHFI
2012		**Global Vaccine Action Plan 2011-2020** provided a framework to provide equitable access to vaccines for people in all communities		✓	✓					United States National Institute of Allergies and Infectious Diseases
2012		**Health Systems Strengthening Support Proposal** 2013-16 was submitted to GAVI		✓	✓		✓			Cambridge Economic Policy Associates

2013		**Comprehensive Multi-Year Strategic Plan 2013-17** was drafted with a goal to reduce mortality and morbidity due to VPDs		✓			✓			
2014		~~submitted~~								

Year	Key area of Activity	Immunization activities	UNDP	WHO	BMGF	Rotary International	ITSU	CDC	NGOs/ CSOs	Others
2014	Coverage and Equity	**Mission Indradhanush** was announced with a vision to ensure 90% full immunization coverage		✓		✓			✓	IMA, IAP, NSS, NCC
2015		**NFHS-4** was conducted in 2015–16								IIPS
2015		**Mission Indradhanush-Operational guidelines** were published which provided the strategies for implementation of Mission Indradhanush and attaining the envisaged 90% full immunization coverage	✓	✓			✓			

2015		India was validated for Maternal and Neonatal Tetanus Elimination in April 2015 and was certified free of maternal and neonatal tetanus by WHO in July.		✓			✓			UNFPA, CDC, PATH
2015		Initiation of **1st phase of Mission Indradhanush** in April		✓		✓	✓		✓	
2015		Launch of **2nd phase of Mission Indradhanush** in October		✓		✓	✓		✓	
2016		**Immunization Handbook for Medical Officers** (Reprinted in 2017) was to improve the capacity of the health workers by providing them necessary skills and knowledge to be effective leaders of the immunization programme		✓	✓		✓		✓	

Year	Key area of Activity	Immunization activities	UNDP	WHO	BMGF	Rotary International	ITSU	CDC	NGOs/ CSOs	Others
2017	Coverage and Equity	**Operational Guidelines for Intensified Mission Indradhanush** were published		✓			✓		✓	

2017		The **Intensified Mission Indradhanush was launched** as a strategic initiative to further intensify the immunization programme and was monitored under the Proactive Governance and Timely Implementation	✓	✓		✓	✓		✓	Global Health Strategies, IPE Global, NSS, NCC
2018		**Gram Swaraj Abhiyan (GSA) and Extended GSA programmes** were launched		✓		✓	✓		✓	
2018		**Immunization Handbook for Health workers 2018** is a revised edition providing knowledge and skills on immunization for health workers on field		✓	✓		✓			The CORE Group
2018		To assess the impact of intensified immunization activities on the full immunization coverage **"IMI coverage evaluation survey"** was conducted in 190 IMI districts	✓	✓						
2018		**Comprehensive multi-year strategic plan** (cMYP) 2018-22 was launched to further the goal of achieving FIC	✓	✓	✓		✓		✓	ICMR, NCCVMRC

Year	Key area of Activity	Immunization activities	UNDP	WHO	BMGF	Rotary International	ITSU	CDC	NGOs/ CSOs	Others
2018	Coverage and Equity	**Supportive Supervision for Immunization (S4i)** dashboard which contains monitoring data from Mission Indradhanush as well as Routine Immunization was developed and shared with states to be utilized for concurrent monitoring								NCCVMRC
2019		**Roadmap for achieving 90% full immunization coverage in India** was prepared	✓	✓			✓			
2019		While MR SIA started in a phased manner from Feb 2017, by 2019 34 states/UTs were covered	✓	✓			✓		✓	NIHFW, Global Health Strategies, CORE Group

2019		**Operational guidelines- strengthening immunization systems to reach every child** outlines the strategy for prioritization of achieving 90% FIC	✓	✓			✓			

Year	Key area of Activity	Immunization activities	UNDP	WHO	BMGF	Rotary International	ITSU	CDC	NGOs/ CSOs	Others
2014	New Vaccines Introduction	A proposal to seek NVS support for **India – Rotavirus vaccine in the year 2013-17** was submitted to GAVI					✓			
2014		**India expert advisory group on Measles and Rubella** was constituted		✓						US CDC, UN Foundations, American Red cross
2015		**Operational guidelines for introduction of IPV** were published		✓						
2015		A **Vaccine Introduction Working Group (VIWG)** was constituted to review the progress of all activities related to the		✓	✓		✓			

		introduction of new vaccines								
2015		**Operational Guidelines-Introduction of Rotavirus Vaccine (Rotasiil)** in the UIP was prepared and introduced	✓							PATH, INCLEN, GHS
2016		India was the first country in **WHO's SEAR to introduce the rotavirus vaccine in UIP**. The introduction of RVV happened in a phased manner, as suggested by NTAGI.		✓					✓	GHS, PATH

Year	Key area of Activity	Immunization activities	UNDP	WHO	BMGF	Rotary International	ITSU	CDC	NGOs/ CSOs	Others
	New Vaccines Introduction	. .								
2016		**Expansion of Inactivated Polio Vaccine (IPV)**								
2017		Launch of **Measles-Rubella (MR)** vaccination campaign		✓	✓		✓		✓	Lions clubs, IAP, IMA

2017		First meeting of India expert **Advisory Group (IEAG)-MR** was held to provide technical oversight to attain the overall objective of measles elimination and rubella control	✓	✓				✓		IAP, IMA, Lions Club international
2017		**National Operational Guideline for Measles Rubella** were formulated as tool to guide the implementation strategy towards eliminating Measles and Rubella	✓	✓	✓		✓			Red Cross
2017		**"National operational guidelines for introduction of PCV"** served as the tool for the introduction of PCV under UIP	✓	✓			✓		✓	GHS, NIHFW

Year	Key area of Activity	Immunization activities	UNDP	WHO	BMGF	Rotary International	ITSU	CDC	NGOs/ CSOs	Others
2017	New Vaccines Introduction	**Pneumococcal conjugate vaccine was added to the immunization programme** in Bihar,	✓	✓			✓			GHS

		Himachal Pradesh, Madhya Pradesh, 19 districts of UP and 18 districts of Rajasthan.								
2017		Till August 2017, campaign activity for **JE vaccination** in adults was completed in 31 districts		✓						IAP, IMA, PATH
2017		Formation of the **National Taskforce on Measles and Rubella** and the **National Verification Committee**	✓	✓	✓		✓			Indian Red Cross
2018		**Guidelines on initial management of anaphylaxis using injection Adrenaline by ANMs** were published to provide technical knowledge and expertise to administer adrenaline		✓			✓		✓	NHSRC, PATH
2018		**TT vaccine was replaced with Td vaccine** in the UIP		✓						
2019		**Operational Guidelines-Introduction of Rotavirus Vaccine (Rotasiil)** in the UIP were produced to ensure effective delivery of RVV	✓	✓			✓		✓	NCCVMRC

Year	Key area of Activity	Immunization activities	UNDP	WHO	BMGF	Rotary International	ITSU	CDC	NGOs/ CSOs	Others
2013	Cold chain strengthening	**National Cold Chain Resource Centre** (NCCRC), Pune, was established in November, 2013								Government of Maharashtra
2013		Establishment of **National Cold Chain and Vaccine Management Resource Centre (NCCVMRC) at Delhi**								NCCVMRC-NIHFW
2014		**National cold chain assessment 2014** provided the status of cold chain across the country	✓	✓	✓		✓			NCCVMRC-NIHFW
2014		Workshop on **"Capacity building of cold chain equipment manufacturers and professional institutes in India on WHO-Performance, Quality and Safety (PQS) standards"** was done by UNICEF								NCCTC, NCCVMRC-NIHFW and NHSRC
2015		Formal inauguration of **National Cold Chain and Vaccine Management Resource Centre (NCCVMRC)** by Union Minister of Health & Family Welfare								NIHFW

Year	Key area of Activity	Immunization activities	UNDP	WHO	BMGF	Rotary International	ITSU	CDC	NGOs/ CSOs	Others
2015	Cold chain strengthening	**Guidance note on cold chain logistics and vaccine management during polio supplementary immunization activities (SIA)** was published								GPEI
2015		**Electronic Vaccine Intelligence Network (eVIN)** rollout in 12 states 2015-2017. The rollout in remaining states was planned in 2017-2021.	✓				✓			
2016		**Module for Cold Chain Handlers Handbook** was prepared to enable cold chain handlers to efficiently manage the vaccines and cold chains supply system								NCCVMRC
2016		**National Cold Chain & Vaccine Logistics Action Plan was formulated in 2016** is a guide for planners and policymakers to develop an effective and efficient immunization supply chain system	✓	✓	✓				✓	ICMR, NCCRC, NCCVMRC

Year	Key area of Activity	Immunization activities	UNDP	WHO	BMGF	Rotary International	ITSU	CDC	NGOs/ CSOs	Others
2017	Cold chain strengthening	**Training Module on Repair & Maintenance of WICs, WIFs** provides a technical guidance to refrigeration technicians/ mechanics who are responsible to maintain and repair of cold rooms/freezer rooms								NCCVMRC-NIHFW, NCCRC
2017		**Training Modules on Repair & Maintenance of Ice Lined Refrigerators (ILRs) and Deep Freezers (DFs)** were published								NCCVMRC-NIHFW, NCCRC
2018		A paperless **"National Effective Vaccine Management Assessment 2018"** was conducted using a mobile based application. This assessment was followed by "**Improvement Plan workshop**"								NCCVMRC-NIHFW
2018		"**Techno-economic assessment of eVIN"** provided learnings for scale up of the programme in remaining states basis its efficiency	✓							

2019		**National ToT on Vaccine & Cold Chain Management (T-VACC)**								NCCRC

Year	Key area of Activity	Immunization activities	UNDP	WHO	BMGF	Rotary International	ITSU	CDC	NGOs/ CSOs	Others
2014	Communication and Demand generation	To build awareness on Routine immunization, a two-day workshop was organized by UNICEF in partnership with AROI for over 40 Radio Jockeys								AROI
2014		Following the workshop, UNICEF partnered with AROI to promote immunization programme in various states								AROI
2014		Resource material for Rashtriya Bal Swasthya Karyakram (RBSK) were published								PHFI, Medical colleges
2015		Radio4Child awards were organised to recognize creative and innovative programming on the issue of Routine Immunization.								AIR, AROI

2016		IPC Skills Training in Routine Immunization for Frontline Workers (ANM, ASHA, AWW) was provided for Boosting Routine Immunization Demand Generation (BRIDGE) based on National BRIDGE guidelines		✓						FHI360
2017		Communication campaign for Measles and Rubella was happening. The campaign included circulating cartoons and Gifs over WhatsApp in the local language, orientation sessions for teachers, meetings in schools, community meetings in the local languages		✓					✓	
2017		A comprehensive document for **"Frequently Asked Questions on Immunization"** for Health Workers & Other Front-line Functionaries was published**)**	✓	✓	✓		✓		✓	NCCVMRC, CHAI
2018		**Media sensitization workshops** were organized with State & National electronic & print media journalists								

Year	Key area of Activity	Immunization activities	UNDP	WHO	BMGF	Rotary International	ITSU	CDC	NGOs/ CSOs	Others
2001	Polio transitioning	**Social Mobilisation Network** was formed as a direct intervention in Uttar Pradesh, building support for the polio programme		✓		✓				The CORE Gros IPE Global
2014		Evaluation of **Social Mobilization Network (SMNet)** was done to determine its impact on activities including support for routine immunization and coverage of polio immunization activities								Deloitte
2014		WHO certified **SEAR polio free**- three years after the last case of wild poliovirus infection, detected in the West Bengal		✓	✓	✓		✓		
2015		As a strategy on polio eradication, a **sequential removal of trivalent oral polio vaccines** (tOPVs) was planned and to reduce risks associated with type 2 polio virus, IPV was introduced		✓						
2015		**Continuation of polio SIAs** were recommended by the IEAG in phases from March 2015 to 2017		✓		✓	✓	✓		

F. REPOSITORY OF LITERATURE REVIEWED

Country Plan Documents
Country Programme Action Plan (2013-17) And Annexures
Country Programme Action Plan (2018-22)
Country Programme Document (2013-17)
Country Programme Document (2018-22)
UNICEF Country Programme 2013-2017: Summary Results Matrix
UNICEF Annual Report India 2014-2019
Rolling Working Plan-ICO And State
Yearly State Wise RWP for Year 2014 To 2019
Minutes of Meeting Around Immunization Planning and Strategizing
Minutes of Immunization Action Group (IAG) (2015-2020)
India Expert Advisory Group on Measles and Rubella (IEAG- MR) (2014-2020)
IEAG Meeting for Polio Eradication (2015, 2018, 2019)
MOM Related to Measles-Rubella campaign
MOM Related to Introduction of New Vaccines (2014-2015)
National Technical Advisory Group on Immunization (2013-2017)
Pneumococcal Conjugate Vaccine (2016-2018)
Rotavirus Vaccine (2016-2019)
Technical Specification Committee (2015-2017)
Proposed Surveys for Evaluation of Immunization Coverage (2017)
Review Meeting on Mission Indradhanush (2015)
Hosting GAVI Board Meeting in India (2019)
Donor Reports/Agreements
GAVI Quarterly Reports (2018, 2019,2020)
GAVI Joint Appraisal Report India (2014 To 2019)
GAVI Annual Progress Report by MoHFW 2013-14, 2014-15
CDC Interim Report (2016-2019)
Decision Letters for HSS and NVS between 2014-19
Progress Report for Teck Resources (2016)
The Eradication of Poliomyelitis in India (2016)- Annual Progress Reports by USAID
UNICEF Polio Programme Report to Rotary International's India National PolioPlus Society for Communication and Mobilization for Polio/Immunization/Convergence (2016 And 2017)
Alliance Partnership Strategy with India, 2016-2021
Application Form for India: Health System Strengthening (HSS) Support In 2016
Supplementary Guidelines for Measles Second Dose and Measles-Rubella Applications in 2015
Baseline Assessment of GAVI Supported Health System Strengthening Project 2017 - 2021
WHO/UNICEF Joint Reporting Format
MOU And Agreements
UNICEF GAVI Grant Agreement (2017)
India Partnership Strategy (2016-2021)

Cold Chain Training Data
Cold Chain Training Data (2014-2017)
National Effective Vaccine Management (EVM)- Improvement Plan Review
Overview of Mission Indradhanush & Immunization- UIP Program Achievements and Barriers
National Cold Chain & Vaccine Logistics Action Plan 2016 - 2021
EVM Improvement Plan: Summary and Review Meetings 2016
State wise EVM Implementation Plans
Committees & Technical Assistance
Constitution of Technical Committee to lay down the Sops/Criteria for adoption of new technologies of Cold Chain Equipment
Report of the Technical Committee on Sop/Criteria for adoption of new technologies of Cold Chain Equipment
Establishment of Sub-Committees for Action Plan for Improving Immunization Coverage in 100 High Focus Districts
Operational Guideline- Strengthening Immunization Systems to Reach Every Child
Engagement of Celebrities to Support Measles-Rubella campaign
MOM Regarding Shelf-Life Clause of Vaccines (2020)
Minutes of Meeting for Formation of Action Plan for Improving Immunization Coverage in 100 Focus Districts
Meeting of Core Group on Communications for Measles-Rubella campaign
Complain Regarding 0.5 ml ADS (PRICON) From the State of Haryana
Complaint Regarding 0.1ml AD Syringes (PRICON) From the State of Andhra Pradesh
Constitution of a Group for drafting concept note on Vaccine Security
Operational Guidelines- Intensified Mission Indradhanush
Operational Guidelines- Mission Indradhanush
Training Module on Repair & Maintenance of WICS, WIFS 2017
Training Modules on Repair & Maintenance of ILRS, DFS, VS 2016
Operational Guidelines on BRIDGE Course for FLWS on Enhancement of Interpersonal Skills
Operational Guidelines for Introduction of New Vaccines (PCV, IPV, MR)
Communication Guidelines for Measles-Rubella Campaign 2017
Immunization Handbook for Medical Officers 2017
Handbook for Vaccine and Cold Chain Handlers 2016
MR Campaign
IEAG-MR 1st Meeting
Deployment of UNICEF SMNet Consultant to the state for Measles-Rubella campaign related documents
Inaugural Meeting of Expert Advisory Group on Measles & Rubella (IEAG-MR) on 19th & 20th February, 2019
Meeting of the National Task Force on Measles and Rubella
Measles-Rubella SIA Campaign- Phase 2 (2017)
FAQ For MR
Formative Evaluation of Measles Rubella Communication Campaign
Gender and Equity component in Measles and Rubella Communication Process: Mini Report

MR Evaluation Gender checklist
Secondary Datasets Around Immunization
CES 2018 for 190 IMI districts
HMIS Data
NFHS-4
MoHFW Documents
MoHFW Measles-Rubella vaccine Introduction Plan Proposal
MoHFW Health Systems Strengthening Support Proposal 2013-16
MoHFW Health Systems Strengthening Support Proposal 2017-21
MoHFW NVS Support for India – Rotavirus Vaccine Proposal 2013-17
MoHFW NVS Support for India – IPV Proposal
MoHFW Annual Reports 2014-15, 2015-16, 2016-17, 2017-18, 2018-19
Guiding Documents
Multi-Year Strategic Plan 2013-17
Comprehensive Multi-Year Plan of UIP 2018-22
12th Five Year Plan 2012-17
Roadmap for Achieving 90% FIC in India
Targeted Country Assistance Plan India 2017, 2018, 2019
UNICEF Global Immunization Roadmap 2018-30
UNICEF Costed Evaluation Plan India 2018-22
UNICEF's Engagement with GAVI, The Vaccine Alliance
National Vaccine Policy Book (April 2011)
India Polio Learning Exchange - Strategies, Material, Reports & Documents
Global Vaccine Action Plan (2011-2020)
Other Reports
National Effective Vaccine Management Assessment Report 2018
National Cold Chain Assessment Report 2014
UNICEF Evaluation of SMNet 2014
Findings from Tribal Needs Assessment Study, Evaluation of Measles-Rubella campaign, BRIDGE Evaluation
Good Practices for Health Systems Strengthening: Shaping winning strategies for changing RMNCH+A behaviors
Articles and reports referenced in the inception report
SBCC Reports
State case study: Assam
State case study: Madhya Pradesh
State case study: Rajasthan
State case study: UP
State case study: Bihar

G. DATA COLLECTION TOOLS

DG for IDI with RCH Advisor, MoHFW and Mission Directors (NHM)	DG for IDI with RCH Advisor, MD (NHM)_V
DG for IDI with Joint Commissioner (UIP, Immunization)	DG for IDI with JC (UIP, Immunization)_V
DG for IDI with Nodal Officer at Centres (NCCVMRC & NCCRC)	DG for IDI with Nodal officers at NCCVMRC
DG for IDI with Senior Country Manager of GAVI	DG for IDI with SCM of Gavi_V2.docx
DG for IDI with State EPI Officers and District Immunization Officers	DG for IDI with SEPIO, DIO_V2.docx
DG for IDI with State IEC Officer and District IEC Officer	DG for IDI with SIECO, DIECO_V2.doc
DG for IDI with State Cold Chain Officers and District Vaccine Cold Chain Handler	DG for IDI with State CCO and District VCC
DG for IDI with Partners at national and state level	DG for IDI with Partners at national a
DG for IDI with SBCC cell members, IAP President, Medical college representative	DG for IDI with SBCC cell members, IAP Pre
DG for IDI with UNICEF staff at state and district level	DG for IDI with UNICEF Staff at state a

H. DATA COLLECTION PROTOCOLS

1. Before beginning the interview, an informed consent will be recorded.
2. In the interview guide, following instructions will be provided as pointers for discussion that should be mentioned by the moderators before beginning the interview:
    - Thank the participant for sparing time from their busy schedule.
    - Introduce yourself and the organisation for which you are conducting the interview.
    - The reason for conducting the interview and the broad topic of discussion.
    - Reason for including them in the target group and approaching them for the interview.
    - Inform the participant that their opinion is valuable, and they represent a subset of people and hence there is no right or wrong response, just a unique perspective.
    - Pre-dispose the participant to the fact that some questions might appear very obvious and repetitive and request them for their cooperation.
    - The time required for the discussion.

In the interview guide, these pointers will be provided as given below:

- Thank you for sparing time from your busy schedule.
- My name is _____ I am talking to you on behalf of Public Division, Kantar and UNICEF.
- We are here to understand about your views regarding the immunization interventions and the role played by different stakeholders in India in the last few years.
- We are talking to people with profile similar to you who are highly engaged in various aspects related to immunization.
- Your opinion is valuable, to us you represent a subset of people and hence there is no right or wrong response, just a unique perspective.
- I might need to ask few questions that may appear very obvious and repetitive for the purpose of documentation; hence I would request you to kindly bear with me and provide your valuable inputs in as much details as possible.
- This interview will take between an hour to an hour and a half.

3. Towards the end of the Interview, thank the participant for their time and cooperation.

GUIDELINES FOR RESEARCHERS AND MODERATORS

1. Ensure that the participant and you are placed in a neutral location away from distractions.
2. Verbal consent should be recorded on the recorder for records.
3. Before beginning the interview, try to build a good rapport with the participant.
4. Convey and maintain a relaxed, friendly atmosphere.
5. Establish ground rules for the interview, including permission for the participant to say he/she doesn't know and permission to correct the interviewer.
6. Details such as name of the state, respondent category and date of interview have to be mentioned as the file name (in the same order) for each audio recording. (E.g., Assam_ Partners_2020-08-06)
7. All the moderators should have already completed UNICEF's free, online ethics course Ethics in Evidence Generation

I. EVALUATION MANAGEMENT – ROLES AND RESPONSIBILITIES

Table 7: Expertise and role of evaluation team

S. No	Name of Staff	Relevant Experience and Skills	Position Assigned and person days	Task Assigned
ADVISORY BOARD				
1.	**Venugopal. K** 	• **More than 27 years of experience in Social Research projects execution in data collection** • The domains where he has worked are WASH, Public Health, Urban sanitation, Poverty, HIV prevention, Primary Education, Rural governance and Political subjects. • Worked on projects funded by International Development Organizations such as **UNAID, UNICEF, BMGF, World Bank, DFID, Union & State Governments of India etc.** • Travelled extensively in the states while implementing data collection on the studies Few key projects he has done are – ○ **Coverage Evaluation Survey (CES) 2018** ○ **Rapid Survey on Children (RSoC): A survey of Nutritional Status of Children** ○ **Comprehensive National Nutrition Survey (CNNS)** ○ **Baseline Evaluation of Samuday Project on Sanitation, Water and Health Issues** ○ **Survey of Healthcare facilities under REACH programme- Bihar, RTI** ○ **MCH Midterm and end line review of Moment Project** ○ **Assessing diagnostic & treatment delay for MBPH-TB control and Care initiative** ○ Swachh Survekshan Grameen-2018, Under Swachh Bharat Mission ○ India Iodine Survey (IIS) – 2018 ○ All India Study on mental health ○ National Family Health Survey ○ Annual Health Survey	Operation Lead 2 days	• Providing administrative and operational support and guidance • Management of overall training and data collection quality • Field cost management and quality assurance following set protocol • Strategizing survey implementation and guidance operation team for field management

S. No	Name of Staff	Relevant Experience and Skills	Position Assigned and person days	Task Assigned
2.	**Priyanka Roy** 	• 16+ years of experience across health, nutrition, sanitation, hygiene, education & social/child protection in: ○ Project Monitoring, Evaluation & Reporting ○ Project Implementation ○ Resource Training & Deployment ○ Stakeholder management. ○ Team & Milestone management ○ Business Process Re-engineering • Few key projects she has done are • Country-led Formative Evaluation of the Maternal and Child Cash Transfer Programme in Chin and Rakhine States in Myanmar including value for money assessment • Develop the national monitoring framework for Midwifery Education and Service Delivery • Public Expenditure Tracking Survey (PETS) of the ICDS Scheme in West Bengal • Assess the Effectiveness of the IPC Developed for Complementary Feeding using Gaming Methods • Situational Analysis of Child Protection Scheme (ICPS) in Conflict Affected States including financial analysis	Immunization Advisor and Sectoral Expert in Documentation 15 days	• Guiding the Evaluation team in data analysis and finalization of report • Quality Assurance of overall work delivered • Guiding and finalizing report, as per the appropriate and agreed upon research method • Insights generation and review of report • Providing guidance to evaluation team for identification of key issues based on findings

S. No	Name of Staff	Relevant Experience and Skills	Position Assigned and person days	Task Assigned
3.	**Pallavi Dhall** 	• Masters in **Developmental Studies** • Nearly **9 years** of experience in area of **Impact Evaluation, Immunization and Sanitation** projects • Efficient in handling **both Qualitative and Quantitative** projects • Develop guidelines for IDI, FGD and Ethnographic research • Conduct primary and secondary research • Coordinate overall field team and field work • Coordinate with the EDP team for analysis of the data/ content. • Client Communication • Few key projects she has done are ○ **Study on unrecognized madrasas in 5 states** ○ Formative **Study on Parenting** with children and their parents for **UNICEF** ○ **Comprehensive National Nutrition Survey (CNNS)** ○ **MCH Midterm and end line review of Moment Project** ○ **Ujjawal MHealth Qualitative research study in Bihar** ○ **Formative Research – Immunization and Handwashing (All Phase)** ○ CHAI Diarrhoea Midline Survey ○ Household Survey to estimate number of out-of-school children in India (3rd Round) ○ National Annual Rural Sanitation Survey (NARSS)-SBM	Team Lead 15 days	• Supporting the Evaluation Team and Team Leader in strategizing the research design & architecture • Supervising the overall evaluation process on a constant basis • Guiding the Evaluation team in data analysis and finalization of report • Attending important meetings with UNICEF • Quality Assurance of overall work delivered • Guiding and finalizing research and data collection protocols, as per the appropriate and agreed upon research methods • Finalizing evaluation matrix and developing theory of change

S. No	Name of Staff	Relevant Experience and Skills	Position Assigned and person days	Task Assigned
4.	**Enisha Sarin** 	• More than 27 years of experience in Social Research projects execution in data collection • The domains where he has worked are WASH, Public Health, Urban sanitation, Poverty, HIV prevention, Primary Education, Rural governance and Political subjects. • Worked on projects funded by International Development Organizations such as UNAID, UNICEF, BMGF, World Bank, DFID, Union & State Governments of India etc. • Travelled extensively in the states while implementing data collection on the studies • Few key projects she has done are ○ Supporting grant proposal submission, in collaboration with the Department of Neonatology, to the Indian Council of Medical Research, and to World Health Organization ○ Lead M&E team in developing frameworks for monitoring USAID Vriddhi project ○ Led USAID/ASSIST project, on Acceptability of Family Centered Care at the newborn care unit of a premier tertiary government hospital in Delh ○ Lead Research Consultant of the Templeton supported Healthy Timing and Spacing of Pregnancy (HTSP-CoH) intervention research project (Kenya and Ghana). ○ Head of Research & Evaluation USAID ASSIST Project ○ Project lead in design and implementation of research studies at ICRW	Immunization Expert 15 days	• Providing support in terms of technical knowledge, which will assist the Evaluation team in development of research tools, protocols and report of findings with respect to immunization, vaccine, supply chain management • Building checklist documents for assessment of cold chain resource centres • Insights generation and review of report

S. No	Name of Staff	Relevant Experience and Skills	Position Assigned and person days	Task Assigned
5.	**Sanyam Kapur** 	• Sanyam is a Masters in Population Studies from International Institute of Population Sciences. • He has worked in the Development sector for around four years in the domains of project implementation and research. • He is proficient in writing technical proposals for clients and coordinate with the various functions • He has worked on developing evidence based behavioural change interventions designs; Monitoring & Evaluation studies**;** Feasibility studies; and exploratory studies. His area of specialization lies in **understanding behavioural change towards sustainable practices**. Few key projects are: ○ Vaccine hesitancy research & Pilot interventions India ○ Monitoring and Evaluation - Safal Shuruaat ○ Survey of Healthcare providers of ASHA and RMPs ○ India Iodine Survey (IIS) – 2018 • Assessing determinants of unequal access to NCD services, PHFI- 2017	Project Coordinator 20 days	• Regular client liaison • Finalizing research tools and inception report • Finalizing training manuals and imparting trainings • Maintaining training quality • Developing content and thematic analysis framework • Supervising qualitative data analysis • Coordinating between Advisory, Support and Operations teams for overall implementation of project • Preparing report of findings • Attending important meetings with UNICEF
7.	Evaluation Reference Group	To provide inputs on evaluation matrix, evaluation questions and sub-questions from the Terms of Reference (TOR) for better comprehension.		
OPERATION TEAM				

S. No	Name of Staff	Relevant Experience and Skills	Position Assigned and person days	Task Assigned
6.	**Saptarshi Guha** 	• Saptarshi has more than **20 years of experience in Social Research projects execution in data collection Social Anthropology.** • The domains where he has worked are **Public Health, MCH, livelihood, Education, Rural governance, and Political subjects.** • Travelled extensively in the states while implementing data collection on the studies. • Efficiently managing field work and assuring quality of the data collection and also managing field costs. Few key projects he has done are – ○ **Coverage Evaluation Survey (CES) 2018** ○ **Evaluation of the Antara Programme under the National Family Planning Programme of Government of India** ○ **Monitoring, Learning and Evaluation of Safal Shuruaat Programme on Immunization and Handwashing with Soap** ○ Baseline Evaluation of Samuday Project on Sanitation, Water and Health Issues ○ Survey of Healthcare facilities under REACH programme- Bihar, RTI ○ **MCH Midterm and end line review of Moment Project.**	Operation Manager 6 days	• Day to Day coordination with State Field Managers • Providing logistic support to moderators • Guiding and supporting Recruiters in appointment taking and collecting administrative data from state and district offices • Online/telephonic coordination with stakeholders for KIIs • Field Progress Monitoring • Field cost management

S. No	Name of Staff	Relevant Experience and Skills	Position Assigned and person days	Task Assigned
7.	**Dharmendra Srivastava** 	• Dharmendra has been trained in project Management & operations research. He holds BCA Honours from BU, He has worked in the area of Pricing research, Consumer experience, development research Water & Sanitation, Governance. He has worked on various large-scale national studies and multi-state projects involving core operation execution extensive as well as support to research team widely in area of effective & efficient project completion and data analysis. • His clients for some of the key projects **Ministry of Drinking Water & Sanitation (MDWS), UNICEF, Ipas Development Foundation, Nutritional International (NI).** Few key projects he has done are – ○ **Coverage Evaluation Survey (CES) 2018** ○ **MCH Midterm and end line review of Moment Project** ○ **Evaluation of the Antara Programme under the National Family Planning Programme of Government of India** ○ **Survey of Healthcare facilities under REACH programme- Bihar, RTI** ○ Assessing diagnostic & treatment delay for MBPH-TB control and Care initiative ○ India Iodine Survey (IIS) – 2018 ○ All India Study on mental health ○ National Family Health Survey ○ Annual Health Survey	Operation Manager 6 days	• Day to Day coordination with State Field Managers • Providing logistic support to moderators • Guiding and supporting Recruiters in appointment taking and collecting administrative data from state and district offices • Online/telephonic coordination with stakeholders for KIIs • Field Progress Monitoring • Field cost management
RESEARCH TEAM				
8.	**Shraddha Mandal** 	• Shraddha Mandal is Post-Graduate in Forestry Management from Indian Institute of Forest Management with Majors in Development studies • She is adept in carrying out **primary and secondary research and designing effective survey instruments.** • Her skill set lies in qualitative data analysis and report writing and managing large scale primary research studies. She is comfortable working on tools viz. Dedoose and SPSS.	Qualitative Research 30 days	• Preparing research tools • Finalization of translated tools • Preparing training manuals and impart trainings • Conduct key state level interviews • Maintaining training quality • Conducting daily debrief sessions with moderators • Cross-checking transcriptions with summary sheets and audios • Conducting thematic and content analysis

S. No	Name of Staff	Relevant Experience and Skills	Position Assigned and person days	Task Assigned
				• Writing reports and developing presentations
9.	**Priya Patil** 	• Post-Graduate in Forestry Management from Indian Institute of Forest Management with Majors in Development studies • She is adept in carrying out **primary and secondary research and designing effective survey instruments.** • Her skill set lies in qualitative data analysis and report writing and managing large scale primary research studies. She is comfortable working on tools viz. Dedoose and SPSS.	Qualitative Research 30 days	• Conducting thematic and content analysis • Data analysis, writing reports and developing presentations • Attending important meetings with UNICEF • Evaluation of research based on findings • Integration of data from different sources and data triangulation • Insights generation
MODERATORS				
10.	**Manjula Sharma**	• More than **15 years of experience in Social Research projects execution in data collection**. • The domains where she has worked are **Household Survey, Maternal Health, Skills and employment, Disability and Youth gender & citizenship** • Worked on projects funded by International Development Organizations such as Professors of Edinburgh University, RECOUP, IHBP- FHI 360, BBC Media, BMGF, CARE India, **UNICEF**, HUL, JHUCCP/HCL Foundation. **Languages known** English, Hindi, Marathi and German	Moderator 14 days	• Qualitative data collection for the project by using efficient probes • Preparation of summary sheets for qualitative activities • Giving daily debrief sessions to researchers • Facilitating collection of administrative data at the time of KIIs
11.	**Gurupreet Kaur Narang**	• More than **3 years of experience in Social Research projects execution in data collection**. • He done his **MBA** from Punjab Technical University. • The domains where he has worked are **HUL, Hansa Research Group (HRG), Kantar, Frost and Sullivan, Kadence and Aeon.** • Worked on projects funded by International Development Organizations such as **UNICEF**, **Agricultural projects on fertilizer, Aayog on healthcare** and various National and International Automobiles sector, Digital application and **Hospitality.** **Languages known** English, Hindi	Moderator 14 days	• Qualitative data collection for the project by using efficient probes • Preparation of summary sheets for qualitative activities • Giving daily debrief sessions to researchers • Facilitating collection of administrative data at the time of KIIs

S. No	Name of Staff	Relevant Experience and Skills	Position Assigned and person days	Task Assigned
12.	**Shruti Chauhan**	• More than **3 years of experience in Social Research projects execution in data collection.** • She done her **MBA** from UPT University • Currently working as Freelance Moderator • Active member of' Women's' Forum' in IILM AHL college. • **Faculty Development Program by IBS Business School on "Research Methodology using SPSS".** • Faculty Development Program by **IBS Business School on "Perspectives on Modern Teaching Techniques-Use of Case Studies and Experiential Methods."** • Worked on projects funded by International Development Organizations such as **HUL/RSB/Sanofi/Dabur** **Languages known** English, Hindi	Moderator 14 days	• Qualitative data collection for the project by using efficient probes • Preparation of summary sheets for qualitative activities • Giving daily debrief sessions to researchers • Facilitating collection of administrative data at the time of KIIs
13.	**Rd. Durba Bandopadhya**	• More than **17 years of experience in Social Research projects execution in data collection.** • She done her **PhD. in Science from Jadavpur University** • The domains where she has worked are **UNICEF**, **Jabala Action Research Organisation, West Bengal Tribal Development Ministry,** • Worked on **projects funded by HUL, Live Love Laugh Foundation, The British Academy**. • Travelled extensively in the states while implementing data collection. **Languages known** English, Hindi, Bengali and French	Moderator 14 days	• Qualitative data collection for the project by using efficient probes • Preparation of summary sheets for qualitative activities • Giving daily debrief sessions to researchers • Facilitating collection of administrative data at the time of KIIs
14.	**Priyanka Londhe**	• More than **13 years of experience in Social Research projects execution in data collection.** • She pursued P.G. Diploma in social Communications media • The domains where she has worked are**, WASH, immunization, health studies** • Worked on **projects funded by HUL, UNICEF, PHFI,** IHBP- FHI 360, and **other similar organizations across different states.** • Travelled extensively in the states while implementing data collection. **Languages known** English, Hindi, and Marathi	Moderator 14 days	• Qualitative data collection for the project by using efficient probes • Preparation of summary sheets for qualitative activities • Giving daily debrief sessions to researchers • Facilitating collection of administrative data at the time of KIIs
OPERATIONS TEAM				

S. No	Name of Staff	Relevant Experience and Skills	Position Assigned and person days	Task Assigned
15.	**Ritesh Sinha** 	• **More than 24 years of working experience.** • Holds a BA degree • Expert in conducting the Field work with field executives and field investigators • Experienced trainers for all survey training & fluency in local dialect and state languages. • Efficient in assuring quality of fieldwork schedule and monitoring of data collection • Understanding the project • planning the field work • Identifying the suitable Interviewers and Team Leaders • Training and briefing of the Research tools • Supervising & monitoring a group of Executives	State Manager-UP 5 days	• Training recruiters cum note takers regarding the evaluation • Preparing and sharing daily field movement plan with the Operations Manager • Coordinating with the Recruiters and ensuring collection of administrative data by them • Daily monitoring of fieldwork • Sharing field progress report the Operations Manager • Quality assurance of data collection
16.	**Amit Varma** 	• **More than 16 years of working experience.** • Holds MBA master's degree • Expert in conducting the Field work with field executives and field investigators • Experienced trainers for all survey training & fluency in local dialect and state languages. • Efficient in assuring quality of fieldwork schedule and monitoring of data collection • Understanding the project • planning the field work • Identifying the suitable Interviewers and Team Leaders • Supervising & monitoring a group of Executives	State Manager-Bihar 5 days	• Training recruiters cum note takers regarding the evaluation • Preparing and sharing daily field movement plan with the Operations Manager • Coordinating with the Recruiters and ensuring collection of administrative data by them • Daily monitoring of fieldwork • Sharing field progress report the Operations Manager • Quality assurance of data collection

S. No	Name of Staff	Relevant Experience and Skills	Position Assigned and person days	Task Assigned
17.	**Swarup Roy** 	• **More than 19 years of working experience.** • Holds a BA degree • Expert in conducting the Field work with field executives and field investigators • Experienced trainers for all survey training & fluency in local dialect and state languages. • Efficient in assuring quality of fieldwork schedule and monitoring of data collection • Understanding the project • planning the field work • Identifying the suitable Interviewers and Team Leaders • Training and briefing of the Research tools • Supervising & monitoring a group of Executives	State Manager- Madhya Pradesh 5 days	• Training recruiters cum note takers regarding the evaluation • Preparing and sharing daily field movement plan with the Operations Manager • Coordinating with the Recruiters and ensuring collection of administrative data by them • Daily monitoring of fieldwork • Sharing field progress report the Operations Manager • Quality assurance of data collection
18.	**Uday Kant** 	• **14 years of working experience in Field.** • Holds a BSc degree • Expert in conducting the Field work with field executives and field investigators • Experienced trainers for all survey training & fluency in local dialect and state languages. • Efficient in assuring quality of fieldwork schedule and monitoring of data collection • Good with understanding the requirements of research protocols to be maintained at field.	State Manager- Rajasthan 5 days	• Training recruiters cum note takers regarding the evaluation • Preparing and sharing daily field movement plan with the Operations Manager • Coordinating with the Recruiters and ensuring collection of administrative data by them • Daily monitoring of fieldwork • Sharing field progress report the Operations Manager • Quality assurance of data collection

S. No	Name of Staff	Relevant Experience and Skills	Position Assigned and person days	Task Assigned
19.	**Dipankar Sharma** 	• **More than 16 years of working experience.** • Holds an Engineering degree • Expert in conducting the Field work with field executives and field investigators • Experienced trainers for all survey training & fluency in local dialect and state languages. • Understanding the project • planning the field work • Identifying the suitable Interviewers and Team Leaders • Training and briefing of the Research tools • Supervising & monitoring a group of Executives	State Manager-Northeast 5 days	• Training recruiters cum note takers regarding the evaluation • Preparing and sharing daily field movement plan with the Operations Manager • Coordinating with the Recruiters and ensuring collection of administrative data by them • Daily monitoring of fieldwork • Sharing field progress report the Operations Manager • Quality assurance of data collection

J. STAKEHOLDER MAP FOR SELECTING STUDY PARTICIPANTS

Table 8: Partners and stakeholders at national level

PARTNERS AT NATIONAL LEVEL	STAKEHOLDERS AT NATIONAL LEVEL
- WHO	RCH Advisor, MoHFW
- UNDP	Joint Commissioner (UIP)
- BMGF	Joint Commissioner (Immunization)
- ITSU	Professor NIHFW & Nodal Officer, NCCVMRC, Delhi
- JSI	Coordinator & Team Lead, NCCVMRC, Delhi supplemented by Tech Officer (Immunization Supply Chain)
- Rotary International	Nodal, NCCRC, Pune
- PATH	Coordinator, NCCRC, Pune
- CORE Group	

Table 9: Partners and stakeholders at state and district level

STATE	PARTNERS	STAKEHOLDERS	
	State level		District level
Assam	- WHO	Director Health Services Family Welfare	District Immunization Officer
	- UNDP	Joint Director Health Services (UIP)	Addl. CM&HO
	- Tea Garden Assoc (Assam Branch Indian Tea Assoc)	IEC (SEPIO/Jt. Dir. manages IEC portfolio)	District IEC/Nodal Officer
	- Medical Colleges	State Cold Chain Officer	District Cold Chain Technician/Vaccine Cold Chain Manager
	- NGOs (Voluntary Health Association of India)		UNICEF Consultants - Health Specialist - C4D or CAP Specialist
Bihar	- WHO	Mission Director (NHM)	District Immunization Officer
	- UNDP	State EPI Officer	District IEC/Nodal Officer
	- Rotary International	State IEC Officer/Nodal Officer	District Cold Chain Technician/Vaccine Cold Chain Manager
	- PATH	State Cold Chain Officer	UNICEF Consultants - Health Specialist - C4D or CAP Specialist
	- Medical Colleges (AIIMS)		
	- Bihar Voluntary Health Association (BVHA)		
	- CARE		
	- Alliance for Immunization		
	- IAP		
Madhya Pradesh	- WHO	Mission Director (NHM)	District Immunization Officer
	- UNDP	State EPI Officer/Additional Director	District Media Officer
	- JSI	Director IEC Bureau	District Cold Chain Technician/Vaccine Cold Chain Manager
	- CHAI	State Cold Chain Officer	UNICEF Consultants - Health Specialist - C4D or CAP Specialist
	- Rotary International		
	- Medical Colleges		
	- IAP		

	- CSOs (Ayaan Welfare Society, Mahaveer Jan Utthan Samiti, Narsingh Technical Society)		
Rajasthan	- WHO	Mission Director (NHM)	District Immunization Officer
	- UNDP	Project Director (Immunization) (Equivalent to SEPIO)	District IEC/Nodal Officer
	- SIHFW	Director IEC	District Cold Chain Technician/Vaccine Cold Chain Manager
	- Rotary International	Nodal Officer for Immunization	UNICEF Consultants - Health Specialist - C4D or CAP Specialist
	- ARAVALI: Association for Rural Advancement through Voluntary Action and Local Involvement	State Cold Chain Officer	
	- NGOs (Vani)		
UP	- WHO	Mission Director (NHM)	District Immunization Officer
	- Technical Support Unit	State EPI Officer	District IEC/Nodal Officer
	- UNDP	General Manager (Routine Immunization)	District Cold Chain Technician/Vaccine Cold Chain Manager
	- Rotary International	IEC handled by GM (Routine Immunization)	UNICEF Consultants - Health Specialist - C4D or CAP Specialist
	- CORE Group	State Cold Chain Officer	
	- Medical Colleges		
	- IAP President UP Chapter		

Consulting

- Communications capability
- Behaviour change
- Digital government
- Public services improvement

Research, data and analytics services

- Research methods
- Policy research
- National statistics and longitudinal panels
- Social media analytics
- Data management and open data

The Development Practice

- Needs assessment
- Program evaluation & impact assessment
- Communications for development (C4D)

Opinion, Political and media advisory

- Elections
- Public opinion
- Reputation and trust research
- Media partnerships