



RM/IMAGES/GETTY IMAGES

■ Case Study

REACHING THE LAST MILE: IMPROVING COVID-19 VACCINE DISTRIBUTION AND UPTAKE IN INDIA

MOMENTUM Routine Immunization Transformation and Equity's
Work to Strengthen the Health System During the COVID-19 Pandemic

CONTEXT OF THE COVID-19 PANDEMIC RESPONSE

Deploying vaccines and increasing their demand, distribution, and uptake was a critical strategy of the COVID-19 response. In January 2021, the Government of India launched its COVID-19 vaccination program, and states were charged with implementing COVID-19 guidance mandated from the national level. It was a phased strategy for vaccine deployment, starting with frontline workers and older adults and then progressively moving down in age group.

While the country's COVID-19 vaccination program was successful in reaching the majority during its first few months, with 470 million doses administered as of July 2021, a portion of the population remained out of reach. Inter-state variation in vaccination coverage was significant, with some states—particularly in the northeast and among marginalized populations—still experiencing extremely low vaccination coverage.

“You don't have any access by train... the last station..., you'll have to travel for six hours and the nearest airport is around 6 to 7 hours. So, we prefer travelling by the car, so that was one problem in Orissa.”

—MOMENTUM STAFF,
KEY INFORMANT INTERVIEW (KII)

On the supply side, vaccines needed to be distributed across varying geographic terrains and far distances, presenting transportation challenges. Parts of Odisha, for example, are extremely remote and can require traveling long distances by car to access. In Rajasthan, the population is spread over a large area that includes hilly and desert terrains, making it difficult to reach people. Mandated lockdowns during the pandemic exacerbated these transportation challenges.

On the demand side, respondents in qualitative data collection for the learning activity (Box 1) noted that certain groups were particularly vaccine hesitant and exhibited lower vaccination rates. These groups included tribal populations, religious communities, laborers such as brick kiln workers,

transgender populations, and adolescents, primarily in the states of Jharkhand, Chhattisgarh, and Odisha, but also in Punjab and Nagaland. Reaching these groups to raise awareness about the importance of vaccines and administer vaccinations was challenging due to linguistic differences and lower literacy levels, as well as the far distances many unvaccinated people had to travel to reach health centers and the transportation challenges to delivering vaccines to remote communities. Myths and misconceptions about the vaccine and COVID-19 also drove hesitancy, as did fear of adverse events after immunization (AEFI). Some people were concerned about the quality of the vaccine, particularly given its newness, or believed the vaccine could cause COVID-19 or infertility. As such, challenges persisted, particularly for marginalized populations, many of whom had received limited accurate information about and access to COVID-19 vaccines and, in general, had less access to health services.

“But in few pockets of the states, like the communities which are far off, like vulnerable population, the marginalized people and especially the labor class, they had the fear that vaccine will cause them the wage loss... and they won't be able to work. Then second challenge, which was among the adolescents when they said that it would stop their menstruation cycle and they will not be able to conceive in the females. And in males, the [third] challenge was that the impotency will be happening if the vaccination will be done. Then fourth challenge was, it was not a challenge, but people were not ready to accept that there was COVID in the far-off villages... that there is a vaccine available which will prevent them from COVID.”—MOMENTUM staff, KII

This case study draws upon KIIs with project staff and partners about their experiences in potentially strengthening the health system while implementing activities focused on improving COVID-19 vaccination uptake among hard-to-reach communities in India.

Box 1: Overview of COVID-19 HSS Learning Activity

MOMENTUM Knowledge Accelerator led a multi-country learning activity guided by Bertone et al.'s framework¹ to document the factors facilitating or inhibiting the implementation and outcomes of health systems strengthening (HSS)-oriented COVID-19 activities. Key informant interviews and focus group discussions were conducted with various health system actors for case studies across three MOMENTUM projects in India and Sierra Leone. The findings from the other two case studies and multi-country analysis are available [here](#).

¹ Bertone, Mary Paola, Natasha Palmer, Krista Kruja, and Sophie Witter. 2022. "[How Do We Design and Evaluate Health System Strengthening? Collaborative Development of a Set of Health System Process Goals.](#)" *International Journal of Health Planning and Management* 38, no. 2: 1-10.

AN INTERVENTION TO IMPROVE ACCESS TO COVID-19 VACCINATIONS FOR HARD-TO-REACH COMMUNITIES

Intervention Overview

The USAID-funded MOMENTUM Routine Immunization Transformation and Equity project began work in India in August 2021. The main focus of the project's intervention was to provide technical assistance to ramp up COVID-19 vaccination for priority vulnerable populations—or so-called last-mile populations—including, but not limited to, remote or tribal communities, adolescents, transgender individuals, truckers and other laborers, migrants, religious populations, and geographically hard-to-reach areas and tightly knit communities in 18 states (298 districts) in India.

“70 to 80% of the vaccination coverage is easy to approach for any type of the vaccination. So, our main focus of this... project was to immunize that 20% or 10% population which is difficult to reach due to some hard-to-reach areas or due to some myth and misconception [about COVID-19 or the vaccine].”

—MOMENTUM STAFF, KII

MOMENTUM Routine Immunization Transformation and Equity project staff included state-level teams comprised of managers, communications officers, and data analysts; technical assistance staff worked to train or supplement government health officials and cold-chain officers at the national and state levels. MOMENTUM collaborated with 26 subawardees (“the NGOs”) that played a significant role in implementation, particularly as the local implementing partners at sub-state divisions of government administration, the district- and block-levels, to support last-mile service delivery, as well as social mobilization and community engagement activities for equitable vaccine coverage. The NGOs were community-based organizations already working for the welfare of their communities that possessed deep understanding of the contexts in which they operated. As one respondent noted, “they understand very well about the local culture, local languages, local needs” (MOMENTUM staff, KII). As a result, they offered valuable insights on who needed vaccines and how best to reach them.

The intervention was not a health systems strengthening activity per se, but rather a short-term investment in response to the emerging COVID-19 pandemic. Many respondents noted the urgency with which activities had to be initiated because the intervention began during a COVID-19 surge¹ and the peak of the Government of India's vaccination program. As one MOMENTUM KII staff respondent described, “This was an emergency grant and we had to roll out the things very fast. ... [W]e are sailing on the boat while we are building it.” Despite the challenges, MOMENTUM Routine Immunization Transformation and Equity India project teams were able to implement the following activities, supporting a variety of government stakeholders at the national and subnational levels:

- Provision of technical support to government vaccine delivery logistics, including in-person training of and direct support to cold chain officers.
- Monitor and report vaccine supply, delivery, availability, demand, and coverage through analysis of Government of India data from platforms like the COVID Vaccine Intelligence Network (Co-WIN) and the



¹ A second wave of COVID-19 beginning in July 2021 prompted many people to seek vaccination.

Electronic Vaccine Intelligence Network (EVIN), as well as MOMENTUM vaccine coverage and demand data to inform the Government of India's vaccine procurement decisions.

- Monitor, review, and report on AEFIs, and support causality assessment meetings to investigate adverse events at the state and national levels. In selected states, expedite the case classification process by deploying additional human resources.
- Strengthen capacity to ensure that intervention project staff, district-level government health officials, and health care workers were promptly reoriented and retrained when government vaccine strategy or guidelines changed. MOMENTUM staff attended national-level government trainings and shared the information.
- Implement community engagement and mobilization to raise awareness of the importance COVID-19 vaccines, dispel myths regarding COVID-19 and immunization in general, and generate vaccine demand among last-mile populations. This activity included identifying and working with community leaders and influencers, hosting vaccine awareness events, and organizing vaccine drives. Local NGO sub-awardees and frontline health workers led implementation.

MOMENTUM collaborated closely with the NGO staff, training them and health care workers on strategies for reaching specific vulnerable and marginalized populations. For example, MOMENTUM trained an NGO that focused on reaching disabled people in selected states to train other subawardee NGOs in the same techniques. In this way, MOMENTUM enabled these stakeholders, and the health system they operate in, to reach these last-mile populations more effectively in the future.

“We held one workshop... for all the sub-awardees... like how to work with the disabled people there. ... So, we learn from them how to communicate with them, what are the appropriate terminologies, how you can influence them, or how you can get in-road to them.”—MOMENTUM staff, KII

Collaboration and Coordination With Stakeholders Across the Health System

Health systems can be strengthened by increased coordination and collaboration with internal and external stakeholders. MOMENTUM project staff coordinated with several stakeholders throughout the design and implementation of activities. (Box 2.) During the first few months of the intervention, MOMENTUM staff held planning meetings with Ministry of Health officials to identify and select the 18 priority states for intervention activities.² MOMENTUM staff then worked closely with and sought input from the NGOs to identify last-mile populations. Throughout implementation, MOMENTUM staff coordinated closely with district- and state-level government officials. State-level MOMENTUM staff liaised with district health officials to obtain approvals for intervention activities and briefed government officials at least weekly to share project information or update vaccine supply to inform government-led distribution efforts.

“We take the feedback from the sub-awardees on the weekly basis. They send us the report that how many people were benefited... for the vaccination, for awareness messages, or awareness activities. By collecting all these things, on the monthly basis, I share a report with the state immunization officer, and district officials... we have worked in this area last month and this was the outcome.”—MOMENTUM staff, KII

“So, we worked along with government, we have not worked separately. We worked with the government, and we used to have regular meetings because we... sit in the same premise where the government official sits and for

² Selection criteria included the disease burden level, COVID-19 vaccine coverage at the time of selection, and whether other donors were already working in the area.

district they used to go once in a week and brief the district officials. What is happening in the field and what they are planning and what is their longer plan? So, this all is always briefed to the district and the state.”—
MOMENTUM staff, KII

State task force meetings by government health officials included all partners and donor staff leading COVID-19-related efforts in the state. MOMENTUM staff presented regularly at these meetings, participating and also helping to steer the direction. The topics for these meetings shifted over time depending on priority. In Rajasthan, for example, their initial focus was to identify new cases; later it shifted to vaccination coverage before changing again to pockets of the population still requiring vaccination and how these findings could inform routine immunization activities.

*“All partners come together, they share their feedback of working areas, how the activity was going, what were the challenges there, and how they can be overcome... we meet together, and we share experiences and learn [from] each other, learning and replicate in the field.”—*MOMENTUM staff, KII

MOMENTUM also established regular processes for collaboration and coordination with key stakeholders. MOMENTUM staff and the NGOs maintained coordination through one-on-one weekly or monthly virtual meetings, which provided a forum to discuss progress and challenges, what the NGOs accomplished in the last period, and what they were planning in the coming period. The project also held quarterly review meetings in different regions, providing several subawardee NGOs working in a particular region with an opportunity to meet and exchange experiences.

In addition to established meetings between MOMENTUM, the NGOs, and government partners, informal communication mechanisms also existed. NGO field staff and MOMENTUM state-level managers, for example, communicated through WhatsApp groups. The project also facilitated conversations between other local NGOs, development agencies, and corporations with Panchayat, or local units of government administration.

Encouraging Adaptability and Flexibility to Reach Communities

Health systems need to be adaptable and flexible to changing contexts and needs. MOMENTUM had to be innovative and adapt activities to reach all priority populations in each of the geographically diverse states where it was working. Many respondents noted the importance of coordinating with the NGOs during the process of designing and deploying adaptations so they would be culturally and linguistically appropriate for particular populations. The NGOs were also very familiar with geographic and other physical challenges present in each district or target community.

Box 2: Key Intervention Partners

- Government of India Universal Immunization Program.
- Government of India state- and district-level health officials.
- Health care workers, including community health workers like Accredited Social Health Activists (ASHAs) and Anganwadi Workers.¹
- Community leaders, including panchayats², influencers, and champions.
- Faith leaders and religious organizations.
- Private-sector employers of day laborers.
- Local NGOs (i.e., subawardees).
- USAID staff.
- Other donors like the World Health Organization, United Nations Child Fund (UNICEF), Bill & Melinda Gates Foundation, and the Norway India Partnership Initiative.
- Consultants to support specific aspects of project work (e.g., data analytics).

¹ Community workers in India’s Integrated Childhood Development Services through the Ministry of Women and Child Development who provide health and nutrition information.

² Local elected bodies at the village level.

“Different challenges were there in the different geographical areas be[cause] India is a totally diverse country. If we have 18 [project] states, I think all states have different challenges. So one rule cannot be applicable across the country. ... So, we have modified our strategies based on the needs of the state as well as the districts. So, we are very flexible. We are having adaptability to change ourselves as per the program need.”

—MOMENTUM STAFF, KII

To identify adaptations, the NGOs, community members, and health care workers communicated directly about challenges and inhibitors to vaccination, collaborating to come up with a solution, and informing government health officials about the intervention adaptation. As a result, they made a series of adaptations. (Table 1.)

For example, a MOMENTUM staff member describes the process by which one adaptation—use of a camel cart—was identified.

“With the geography of Rajasthan, Jaisalmer and Barmer are very far off districts and there is quite a lot of distance between one village to another village and there is very less population density. So, we designed camel cart in the second phase.... It is a cart which is in driven by camel and we had covered it with all the COVID messages, the awareness messages and ANM [auxiliary nurse midwife] used to sit in that cart and go from one point to

another point and do the vaccination of the people.”—MOMENTUM staff, KII

In the project’s second phase, the cart was used to transport health workers in hard-to-reach areas so they could provide counselling and deliver vaccines.

Table 1: Adaptations for Priority Population Groups

PRIORITY POPULATION	ADAPTATION
Laborers, truckers, or migrants	<ul style="list-style-type: none"> • Awareness-raising meetings or activities at night (Ratri Chaupal) or during lunch breaks. • Vaccine camps held after work hours or on national days off.
Students/Adolescents	<ul style="list-style-type: none"> • Bal Melas (school-based event) with awareness-raising activities such as henna, debate, and poster competitions and prizes. • School-based vaccine camps.
Vaccine-hesitant or tribal communities	<ul style="list-style-type: none"> • Street plays (nukkad nataks), folk dances, folk music, folk art. • Mobile vans for awareness-raising messages. • Working with local panchayats and community leaders. • Awareness-raising meetings or activities at night (ratri chopal).
Religious communities	<ul style="list-style-type: none"> • Working with faith gurus/leaders.
States with many local dialects	<ul style="list-style-type: none"> • Street plays (nukkad nataks), folk dances, folk music, folk art. • Translation of materials into local dialects or use of visual aids for awareness-raising messages. • Working with local community youth as translators.
Geographically remote communities	<ul style="list-style-type: none"> • Mobile vans for awareness-raising messages. • Using four-by-fours, camel carts, motorcycles, or boats to deliver vaccine supply. • Door-to-door vaccination campaigns.

Other adaptations or examples of flexibility within the intervention included MOMENTUM staff regularly analyzing vaccine supply data and informing government counterparts in real time where vaccine supply could be transferred to provide greater coverage. At times when the COVID-19 vaccine supply was particularly low, MOMENTUM continued its activities and community mobilization work by pivoting to support improvements to routine immunization efforts within the same last-mile populations.

Oversight, Monitoring, and Reporting

A core function of health systems is oversight and monitoring to ensure they respond to the needs of populations. The COVID-19 vaccination efforts required new systems for oversight, monitoring, and reporting to reach last-mile communities in addition to existing national systems. The NGOs provided written reports on a weekly and monthly basis, including reporting on number of activities completed, number of people reached, vaccination coverage, community mobilization efforts completed, and success stories. The intervention utilized a variety of methods to monitor and report on activity implementation. MOMENTUM staff utilized an open data kit-based mobile application (designed by MOMENTUM Routine Immunization Transformation and Equity) to track the data being collected and management logistics such as whether the NGO reports were submitted on time. Reporting data were disaggregated by priority population group and gender.



Due to the rapid and urgent start-up of the intervention at the peak of the COVID-19 pandemic, MOMENTUM did not have time to develop an advanced system for collecting activity data from the NGOs. The project used Google Sheets, which was challenging for some partners.

“Getting the reports from all the NGOs, from the district, from the block on the weekly basis was one of the challenges with us. ... If any change is to be done in the Google sheet, then it has to be done for entire states and entire districts... If you are working in 200 districts, then you have to change for entire districts. So a lot of work was there and limited resources are there. ... If any age group is added, we have to add the age group. If any vaccine has been added, we have to add the vaccine group. And so, with the involvement of the program, we have to adapt ourselves. So that was challenging for us.”—MOMENTUM staff, KII

MOMENTUM conducted site visits to monitor the NGOs’ activities to ensure they were being carried out as planned and using correct messaging. In some instances, MOMENTUM staff were accompanied by state-level government health officials, typically immunization officers, to showcase the intervention’s grassroots work. MOMENTUM staff also verified, via random or purposive household-level monitoring either in person or by phone, that data reported by the NGOs was accurate. These monitoring structures allowed project staff to remain abreast of ongoing activities and associated challenges.

MOMENTUM staff utilized the data collected from the NGOs, as well as data regularly analyzed from the government’s digital vaccine platform, CO-WIN, in required reporting to government officials at all levels. At the vaccination drive’s peak, data collected and verified through intervention activities was analyzed, summarized, and shared with government officials at the district, state, and national levels. MOMENTUM state program managers also provided daily updates to district officials about COVID-19 vaccination coverage and supply. MOMENTUM staff developed monthly reports for district- and state-level officials that summarized monitoring data and updates related to “how innovatively we did things, good stories, good learnings, then some numbers which we could reach, what innovatively we did to reach this particular community” (MOMENTUM staff, KII).

“On day-to-day basis, daily, our teams at the national level are supporting the Ministry for vaccine distribution supply and all the logistics with coordination from manufacturer to the distribution at the state level and then from the state level down to that level.”

—MOMENTUM STAFF, KII

“Whenever they [MOMENTUM staff] make the field visits, they used to take along the sub-awardees also. ... After going to the district, we usually... meet the district officials the CMO (Chief Medical Officer) or the person who is in charge of immunization called District Immunization Officer, because that person is the important person who can change the plan and all everything. So whatever information we shared, we shared basically at the grassroot level with the local medical officer, panchayat, and then at the district level with the district immunization officers... and made necessary advocacy to add certain sessions there in where they need most.”—MOMENTUM staff, KII

OUTCOMES

Strengthened Capacity to Better Prepare for Future Pandemic Responses

This intervention helped strengthen the capacity of human resources at several levels of the health system, resulting in a workforce that is better prepared for future pandemic responses. Specifically, MOMENTUM’s technical support helped strengthen the capacity of the NGOs, various government staff, and health workers in successfully deploying vaccines over a much larger scale than India was previously used to or equipped for, and in generating demand among populations who were typically left out of vaccination campaigns.

THE NGOS

MOMENTUM Routine Immunization Transformation and Equity provided technical assistance and capacity strengthening to the NGOs carrying out the planned activities. NGO staff’s operational and technical skills improved through processes for monitoring and supportive supervision processes established by MOMENTUM. Moving forward, the NGOs should have the needed proficiency to continue the work—assuming they receive adequate funding—and can continue to leverage the relationships built during the intervention with other health system actors, government counterparts, and community members.

“Now [the NGOs] are highlighted to the health ministry and to the State government. ... Now it is highlighted that these 25, 26 people [the NGOs] at these geographies can work. So definitely, if there is any scope... to have a contract with them, definitely they can do at state level.”

— MOMENTUM STAFF, KII

“And we have oriented those NGOs to build their capacity for the future also. So... when the project wanes off, they can have other opportunities in the system... because they have now the good relation with the health system. So, their expertise or their local context can be utilized. So, we have built the capacity of the NGOs not only for the technical but administrative and managerial financial, also.”—MOMENTUM staff, KII



SUMIT SARKISAVAT/GETTY IMAGES

GOVERNMENT STAFF AND HEALTH WORKERS

MOMENTUM also strengthened the capacity of existing government health officials, government medical store staff, cold chain officers, and frontline health care workers.

“We have provided to them expert human resources, the capacity building... so they are very well trained and ready enough to tackle if any such situation comes up in future and in no time, we can roll out these vaccinations or any such major things.”—MOMENTUM staff, KII

For cold chain officers specifically, MOMENTUM provided training and support to improve cold chain systems and the processes to handle large quantities of vaccines, which could carry over to improve management of routine immunization efforts.

“We used to [only] get some few doses of limited vaccines... and now to have this huge quantity of COVID vaccines different to store them and every vaccine has the different antigen criteria... so all these cold chain officers are also trained in [health] system supplies.”—MOMENTUM staff, KII

Health care workers’ training largely focused on improving their ability to reach and communicate with last-mile populations, especially those with hesitancy about vaccines and immunizations. Training also was provided in how to properly input data into existing vaccination/health records platforms. Additionally, staff at the national, state, and district levels were trained to better utilize and learn from the data in their digital systems, which should set them up to continue evidence-based vaccine decision making and programming.

Improved Equitable Vaccine Coverage

MOMENTUM’s regular tracking and analysis of data from the government’s digital vaccine platforms informed vaccine logistics management and helped address issues with mismatched vaccine supply and demand in certain states and communities.

“There is a vaccine and logistic consultant [provided by MOMENTUM], and he was very useful for us because every second day he used to keep a record of all the vaccine. How much vaccine is lying in our districts and from where there is shortage of vaccine or where there is excess vaccine lying there. So, we used to transfer vaccine from one district to another and the information or the analysis that this consultant used to do proved quite useful for us.”—Government official, KII

The project also successfully designed and deployed community mobilization efforts that were adapted to the specific needs of last-mile populations, contributing to equitable delivery of vaccination services across India. As a result, and in close collaboration with the Government of India, MOMENTUM supported the successful delivery and administration of COVID-19 vaccinations to priority population groups, administering more than 15.5 million vaccine doses. Learning from the COVID-19 efforts, such as mapping and reaching vulnerable communities and involving local actors, particularly the local NGO sub-awardees to enhance the demand, was used to make positive changes to routine immunization.

“They were successful in convincing and mobilizing the beneficiaries. We used to review their activities quite frequently, almost every week and every alternate day also. And yes, as the JSI team and the sub, ... [was] helpful in increasing the coverage of vaccination in some of our... high risk areas... or the vulnerable populations.”—Government official, KII

Previous immunization efforts in India focused primarily on young children. MOMENTUM’s COVID-19 response activities created an opportunity to gain experience developing and implementing immunization strategies for adolescent and adult populations. The intervention successfully reached 56.4 million people reached with SBCC messaging for COVID-19 vaccination.



“We learned how to... generate the demands. That is one big thing, because COVID vaccination, I think it was the biggest vaccination drive among the adults. We all worked with immunization obviously before, but those were basically restricted to your population under 5, maybe maximum under 15. But we never worked with adult population in mass scale. So COVID gave us a learning how to work with our population as a whole, not being segregated, how to target all the age groups.”—MOMENTUM staff, KII

MOMENTUM mobilized last-mile populations to understand the importance of immunization and take active ownership of their health. MOMENTUM advocated that the newly established COVID-19 vaccine sites also be used for routine immunization, since the placement of the sites was purposeful for reaching marginalized populations that otherwise would not have access to any vaccination or immunization services. The project also leveraged learnings from its COVID-19 vaccination efforts on mobilizing communities for other immunization challenges like measles, polio, and routine immunization.

“We were able to get these people into the system of getting their COVID-19 vaccination and other health services as well. So, I can say that yes, this was in real sense, strengthening of the health system, because now we can say that all people are able to come to the health system to take services, not only COVID 19 vaccination, routine immunization as well and other health facilities as well. So yes, to this is in real sense equitable distribution of the health facilities.”

—MOMENTUM STAFF, KII

“What we learned during the [MOMENTUM intervention]... how to mobilize, how to target, how to focus on the local level, how to localize the effort that we are trying to leverage that learning in mobilizing the beneficiary for routine immunization. Right now, what we are doing, the measles elimination or measles catch-up campaign is going in multiple states vertically right now it's going on in Jharkhand and Rajasthan just finished it. So... we are also helping out the government by these efforts like the relationship we have built with the local people or local area or local communities that we are leveraging for mobilizing children for immunization, also. Like we have identified community trucker, community people not initially covered for routine immunization, we have identified them for COVID vaccination. Now we are trying to include them in routine immunization sessions also.”—MOMENTUM staff, KII

It is unclear whether the Government of India plans to or can provide more funding to the NGOs to continue the community-mobilization activities for routine immunization or other vaccine drives. However, one government official said that *“we can continue [the camel cart activity] further because there is problem of transport in the desert areas and camel is one such animal which transports so many things in desert areas. So, we can continue it further for even our vaccination purposes”*—(KII), although they did not specify how.

FACTORS THAT INFLUENCED A HSS RESPONSE

Facilitating Factors

Even though the intervention was designed as a short-term emergency response investment, it served to strengthen components of and processes within the health system. Respondents mentioned several factors that facilitated a health-system strengthening response.

- **Partnering with entities that have an existing presence in target communities.** MOMENTUM’s approach of working with the NGOs that have an existing presence among last-mile populations helped the project improve vaccination coverage and strengthened the capacity of local health system actors going forward. The project’s significant practice of coordinating with faith gurus, young people who speak the local language, community leaders, and other influencers serving as vaccine champions helped facilitate other hesitant groups and individuals to get vaccinated. Moreover, respondents noted that working with local NGOs on this project helped prepare a workforce to support future immunization efforts.

“So this project... and the achievement is mainly through localizations and reaching to the community involving community influencers, involving faith based organizations, involving... local NGOs, local community people, local welfare organizations.”—MOMENTUM staff, KII

“God forbid any other pandemic comes up in futures. We are ready with this pool of NGOs and there's this staff. Every NGOs has multiple field staff from hundreds to 500 to 800 or even thousands at field level to support for immunization so these NGOs are a resource.”—MOMENTUM staff, KII

- **Close collaboration with state governments.** Having project staff within state and district offices allowed MOMENTUM to work alongside state immunization officers. Additionally, the government’s strong prioritization of addressing COVID-19 and interest in COVID-19-related data facilitated buy-in for project

activities seeking to strengthen immunization systems. The project tracked vaccine shortages and excesses and provided this information to the government, who used it to make decisions about vaccine distribution.

- **Thinking critically about population needs.** The diversity across the 18 implementation states regarding rules, culture, and language required the dedication of extensive resources to develop mobilization efforts tailored to specific contexts and groups. Reaching different priority populations requires thinking critically about those populations' unique needs and the approaches that will best serve them. The project worked closely with partners to identify strategies and then adapt them to better reach hard-to-reach populations. These partnerships help strengthen systems responses for future pandemics.



MAYUR KAKADE/GETTY IMAGES

Inhibiting Factors

Factors inhibiting a health-systems strengthening response included those related to human resources and operations. Respondents noted that the government faces challenges with a lack of sufficient human resources to continue this work, especially to serve remote or hard-to-reach areas. For example, one state health official would cover a huge population or geography. Additionally, high turnover presents challenges such as the frequent training/re-training of staff. As one respondent described it, *“The government... they have a lot of these vacancies at the highest level—like supply chain officers are not a lot”* (MOMENTUM staff, KII). This high turnover prevents government officials from taking full ownership of activities.

Operational challenges included an inability to support scale-up of activities through the NGOs and to be more flexible at district level, in part due to the national-level approvals needed for project activities. Respondents also noted that it was unclear whether the national or sub-national government entities would be providing any funding directly to the NGOs to continue their work, even though government officials praised that work during the intervention.

RECOMMENDATIONS FOR FURTHER ACTION

Respondents identified several needs and recommendations for sustainably addressing future pandemics and maintaining an improved immunization system.


- **More human resources.** Laboratories and health care facilities require adequate staffing. There is also a need to establish a district- or state-level immunization committee or team for routine immunization, like the state task forces established to monitor the COVID-19 vaccine roll-out.
“You know, this is a tribal, dominant state....We are continuously recruiting the people down the line. We need a full-time maintenance officer. We need engineers also for the fridge, mechanics, and other things. ... These types of things are less right now in a system. We want to take these type of human resources for the continuity of the scheme or for the continuity of the cold chain. And these types of manpower should be supported by any agency or even for the system also.”—Government official, KII
- **Equipment and supplies.** Laboratories and health care facilities require adequate equipment. Vehicles are needed to transport project staff and government officials in the field. More focus is needed on supply chains at the grassroots level and efficient management of cold chains.
“Labs should not work only for the pandemic management... for prevention. Cold chain is very important, the HR for the cold chain maintenance is very important... the mechanics, the engineers, ... the immunization officers should have a full-time job.”—Government official, KII
- **Ongoing support for partnerships.** It was noted that trust between government officials, health care workers, local NGOs, corporations, and community leaders is critical. The partnerships and relationships established through MOMENTUM’s work should be supported and maintained beyond the COVID-19 pandemic.
- **Continued awareness-raising on immunization.** Respondents expressed the need for continuous awareness about the importance of vaccination and support for adult routine immunization, so community vaccine confidence and uptake is set prior to another pandemic. While supply-side improvements are critical, these advancements must be paired with awareness-raising activities to maintain and increase demand for vaccines.
“If [there is] any pandemic in the future, we should have a very continuous awareness program for any vaccination. Even communities would understand what a pandemic is. So now we should start something. What is infectious disease management?”—Government official, KII
- **Funding.** Projects supporting vaccination efforts should begin earlier in the pandemic lifecycle. Moreover, funding should continue for a longer duration of time and include funding of demand-creation and awareness-raising activities.


MOMENTUM Knowledge Accelerator is funded by the U.S. Agency for International Development (USAID) as part of the MOMENTUM suite of awards and implemented by Population Reference Bureau (PRB) with partners JSI Research and Training Institute, Inc. and Ariadne Labs under USAID cooperative agreement ##7200AA20CA00003. For more about MOMENTUM, visit www.usaidmomentum.org. The contents of this brief are the sole responsibility of PRB and do not necessarily reflect the views of USAID or the United States Government.


The authors would like to thank the individuals who supported data collection efforts and provided technical feedback on this publication, including Gopal Soni, Ankita Meghani, Jessica Shearer, Grace Chee, and the JSI India team (MOMENTUM Routine Immunization Transformation and Equity). Furthermore, they would like to thank Lara Vaz (MOMENTUM Knowledge Accelerator) and the USAID Steering Committee members (Shawn Malarcher, Rachel Marcus, Neetu Hariharan, Marc Cunningham, Adaline Muyeed, and Kaitlyn Moberly) for their inputs on activity design and implementation. Special thanks to all key informants who participated in interviews and focus groups to inform this work.


Suggested Citation

Bishop, Stephanie, Maia Johnstone, Megan Ivankovich, Gaby Nguyen, and Nina Yamanis. 2023. *Reaching the Last Mile: Improving COVID-19 Vaccine Distribution and Uptake in India: MOMENTUM Routine Immunization Transformation and Equity’s Work to Strengthen the Health System During the COVID-19 Pandemic*. Washington, DC: USAID MOMENTUM Knowledge Accelerator.

 @USAID_MOMENTUM

 @USAIDMOMENTUM

 USAID MOMENTUM

 USAID MOMENTUM