Policy Brief

Mobilizing Action to Address Low Child Immunization through Problem Driven Iterative Adaptation (PDIA) Approach: A Case Study of Meghalaya

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Abstract: Historically, immunization, particularly Full Child Immunization Coverage (FIC) has been challenging for Meghalaya, one of the smaller tribal states nestled in North-East India. Between the years 2015-2019, immunization coverage in Meghalaya was not satisfactory[8]. Lower rates translated into an increase in Infant Mortality Rate (IMR) as well as Maternal Mortality Rate (MMR), with MMR. In 2020, Meghalaya sought to turn things around with a dedicated intervention. This action plan was grounded in problem-solving, iterations and feedback loops, an approach unlike any state strategies used before. This approach was broadly called Problem Driven Iterative Adaptation (PDIA). Following this, in only six months, Meghalaya has been able to achieve 90% immunization coverage (Unit, 2020) from 61.4% coverage in 2015-16. While these figures mark the preliminary successes of an ongoing intervention, they also speak of the systemic improvements within state health machinery. This case is a rare example of a public healthcare division's transition from a demotivated, overwhelmed unit to an energized, empowered team. Through extensive personal interviews and close reviews of implementation processes, the policy brief attempts to highlight unique practices, adaptations and accountability measures that have proven successful in building state capability while enabling local agents to become effective problem-solvers. Several findings from this study may also act as a baseline for future studies on building state capability and sustainability of public service delivery mechanisms.

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[8] State Health Management Information System (HMIS) data on Child Immunization coverage – 2015-2021

Introduction

The achievement of Full immunization Coverage (FIC) of children has been challenging for Meghalaya. It should be noted that between 2015-2019, immunization coverage in Meghalaya stood at no.24 in India, as seen from the corresponding table.

Table 1: 25 States & UTs in terms of Child Immunization coverage (2015-16) (In descending order)

Sl. No.	States	Immunization coverage in % (2015-16)
1.	Puducherry	91.2
2.	Punjab	89.1
3.	Lakshadweep	89.0
4.	Goa	88.4
5.	West Bengal	84.4
6.	Sikkim	83.0
7.	Kerala	82.1
8.	Chandigarh	79.5
9.	Odisha	78.6
10.	Chattisgarh	76.4
11.	Jammu & Kashmir	75.1

12.	Andaman & Nicobar Islands	73.2
13.	Tamil Nadu	69.7
14.	Himachal Pradesh	69.5
15.	Delhi	68.8
16.	Telangana	67.5
17.	Daman & Diu	66.3
18.	Manipur	65.8
19.	Andhra Pradesh	65.3
20.	Karnataka	62.6
21.	Haryana	62.2
22.	Jharkhand	61.9
23.	Bihar	61.7
24.	Meghalaya	61.4
25.	Uttarakhand	57.6

Source: HMIS based report from immunization Dashboard, ITSU, MoHFW, GoI

In 2019, low immunization rates cost Meghalaya a performance grant of Rs 25 crore, owing to the state's inability to achieve the FIC target set by the Government of India (GOI).

The Problem

With respect to low child immunization coverage in Meghalaya, the major problems identified were:

1) A top-down approach where policies were drafted by the State leadership without much space for iterations by those working on the ground. In simple terms, a one-size fits all approach.

2) Lack of leadership at the field level causing less accountability in many cases. In short, a disempowered local functionary.

3) A non-collaborative approach whereby departments were seen to be working in silos, leaving unrealised, the huge potential of a collaborative, inter departmental system.

4) Lack of a granular performance monitoring mechanism, with no impetus to do things differently, or to find out why things were happening the way they were.

5) Frequent change in leadership- political and administrative that may act as setbacks for an ongoing project.

The situation demanded immediate attention and in 2020, Meghalaya sought to turn things around with a dedicated intervention. This action plan was grounded in problem-solving, iterations and feedback loops, an approach unlike any state strategies used before.

Where previously the state viewed such complex problems with resignation, accepting low immunization coverage as a permanent condition which can't be improved; this time things were a little different. Instead of trusting default explanations such as 'people refuse vaccination at the community level' and hurriedly implementing the standard solution of 'driving an awareness campaign', state leadership paused to take a step back - a crucial move needed to gain a deeper understanding of the bigger picture. By the year 2020-21, Meghalaya was able to achieve 90% immunization coverage. This is as per the report published by the Immunization Division, Ministry of Health & Family Welfare (MOHFW), GOI. The percentage jumped from 61.4% coverage in 2015-16. While these figures mark the preliminary successes of an ongoing intervention, they also speak of the systemic improvements within state machinery.

This immunization coverage takes into account all forms of child immunization, barring the COVID-19 vaccination for children, which was not available until January 2022. It may be noted that this study was conducted between 2020-2021.

Methodology

The policy brief uses two sets of data as baseline information:

1) The immunization percentage of Meghalaya in the National Family Health Survey-4 (NFHS-4) 2015-16.

2) The immunization data quoted in the paper 'Immunization Dashboard'- July 2020 by Immunization Division, Ministry of Health & Family Welfare, Government of Meghalaya.

For the end line information, the State Health Management Information System (HMIS) data

from the Department of Health & Family Welfare has been used, along with the immunization data quoted from the report titled 'Immunization Dashboard'- July 2020 by Immunization Division, Ministry of Health & Family Welfare, Government of Meghalaya.
Data from the baseline as well as the end line was analysed and compared to highlight the effects of the interventions taken to improve child immunization coverage.
Further, after verifying the baseline and end line data, stakeholders from state, district, block and community level were extensively interviewed while also observing their activities at the ground level. Notes of review meetings were collected and analysed to see how strategies were conceptualised and implemented at all levels of public service delivery.

The Beginning of Change

A key element responsible for the jumpstart of the immunization intervention was the sense of urgency expressed by the leadership- both political and administrative, whereby an energetic environment was first created by the Covid-19 task force which came into force from February 2020.
The COVID-19 pandemic steered the administrative as well as the political leadership to put in place a robust system of granular performance monitoring, which can be termed as the Problem Driven Iterative Adaptation (PDIA).
By leveraging the COVID-19 pandemic crisis for momentum, the state leadership mobilized actors at the community level, motivating officials and frontline workers at the grassroots to go into "mission mode." Flexible decision-making structures used during Covid-19 were also leveraged to tackle low child immunization rates.
Much like Covid-19 management where transmission is mitigated via awareness methods implemented in the community, any change in immunization coverage takes place at the household level. For dealing with health emergencies, it is critical to strengthen Frontline Worker (FLW) preparedness to reach out to populations in remote and rural parts of the state.
An important reason behind low immunization rates in Meghalaya was also the lack of support to frontline workers whose actions determine the spread and reach of vaccination in villages. As per NFHS-4 data (National Family Health Survey-2015-2016), before intervention, Meghalaya's full immunization coverage was 61.4% but after intervention, the coverage increased to 90%. The key stakeholders here include the following:

Primary Health Centres (PHCs): The PHCs in India are envisaged to provide an integrated curative and preventive health care to the rural population with emphasis on preventive and promotive aspects of health care. The PHCs are established and maintained by the respective State governments. (Vikaspedia, 2020)

Accredited Social Health Activists (ASHAs): ASHA is a trained female community health activist. Selected from the community itself and accountable to it, the ASHA is trained to work as an interface between the community and the public health system (Vikaspedia, 2020). Apart from the PHC and ASHA, the State Immunization Officers, Social Influencers including community and faith-based leaders played key roles in policy diffusion at the ground level to achieve full child immunization coverage across the State.

Problem-solving On the Go

A large part of the intervention's success can be attributed to the state's leadership- both administrative and political, whose drive to

redesign flawed of ineffective processes led to the creation of a transparent and enabling work environment. This change from the way state structures previously operated can be observed in the team's technique to diagnose, break-down and solve the very complex problem of low immunization coverage. Given below is a series of challenges faced by the state taskforce, and the step-by-step approach to tackle each obstacle that was thrown its way of achieving full child vaccination status.

Hurdle 1: Prioritising immunization as a key issue and identifying next steps

Problem: Although Immunization efforts were being driven by the State health machinery, the issue was not being taken up on a mission mode. This evidently caused low child immunization coverage.

Solution: The state mobilised a dedicated task force along the same lines as Covid-19, termed as the 'State Immunization Team' jointly led by the Secretary, Health & Family Welfare Department and Director, National Health Mission (NHM) of Meghalaya [9] (Personal Communication, May 2021). The creation of a separate, committed team served a two-fold purpose - (i) Improving immunization rates was now its top and only priority (ii) This decentralized structure created space for feedback, experimentation, and constant iteration. The challenge before them was to formulate a comprehensive plan that addressed the smaller complexities of improving immunization while delivering impressive results.

Hurdle 2: Breaking down the larger problem into manageable areas of improvement

Problem: The State was initially using a one-size fits all approach for effecting immunization coverage, neglecting a crucial fact that each of the 11 districts faced its own set of challenges.

Solution: As stated by the Joint Director, Maternal & Child Health & Family Welfare[10] (Personal Communication, May 2021), one of the first steps was to conduct extensive field visits to isolate pockets of low immunization coverage. By doing so, the state identified key focal points of engagement (for example: East Khasi Hills is the largest district in Meghalaya with one of the lowest immunization rates and the need was to probe the reasons for low coverage. This vital information was crucial to the planning of viable strategies tailored to the needs & demands of the local community as opposed to selling a state solution.

Hurdle 3: Lack of training of medical officials & immunization officers

Problem: Frequent trainings play a crucial role in not only capacity building, but also in keeping health practitioners being abreast of the latest practices (here, in terms of immunization). Lack of training was a major gap in inefficient health service delivery for achieving full child immunization coverage.

Solution: The extensive research and field visits soon revealed an important capacity gap - several of the head immunization officials lacked training. Recognising capable and confident health officials as a crucial arm of the intervention, the state organized training and sensitization sessions using the 'Routine Immunization' handbooks. The key point to note here is that the accountability fostered among state players travelled across the

[9] Source: Interview with the Health & Family Welfare Department, Government of Meghalaya

[10] Source: Interview with the Joint Director, Maternal & Child Health & Family Welfare, Government of Meghalaya

system, with training, eventually reaching even field officials.

Hurdle 4: Reinstating faith among communities in public healthcare system

Problem: Lack of heath service delivery to the last mile rural population, coupled with unaddressed myths and beliefs pertaining to health services such as vaccination posed great challenges for full immunization of children. As per senior field health officials, some major reasons for vaccine hesitancy in rural areas are:

- Religious beliefs causing people to restrain from the vaccine or any outside/external stimuli.
- The belief by the older community members that since they survived without any form of vaccination, their children would survive too.
- The onset of fever in children after vaccination caused mothers/family members to not opt for any future doses of vaccines.
- Lack of trust in public service as a whole.

Solution: While the intervention team had identified key target areas, mobilised trained officials and created a concrete plan, community resistance was still a large factor at play. By launching the '5 times in 1 year' vaccination awareness campaign, the state collaborated with community headmen and religious leaders, particularly the Church to demystify preconceived notions surrounding immunization. The team realised that reinstating faith in the public healthcare system was essential to improving the state of immunization in Meghalaya.

It may be worthy of mentioning that faith-based leaders played an important role in demystifying the myths about vaccination among people. The Church particularly played a significant role, given the fact that Meghalaya has a predominant Christian population.

For targeting vaccine hesitancy, the State public health administration promoted efforts to engage faith-based organizations, especially the Churches. Meetings and discussions were held with religious leaders, sensitising them about the importance of full immunization for children, while answering their queries. They were then requested to impart the same knowledge and benefits of immunization on the health of children. This was found to greatly improve the participation of respective congregations in the interventions and thus promote positive health outcomes.

To reach a high level of vaccination coverage worldwide, organizations such as UNICEF now advocate enhancing trust in immunization by, among other things, seeking partnership with religious leaders and groups. Religious leaders are highly esteemed, and their authority can convince members of their congregations to accept or reject vaccination. (Ruijs, Hautvast, Kerrar, Velden, & Hulscher, 2013)

Hurdle 5: Supporting frontline workers (FLWs) comprising ASHAs, Auxiliary nurse midwife (ANMs) & Anganwadi Workers (AWWs)

Problem: While FLWs are the eyes, ears and arms for last mile health service delivery, they faced several challenges which in turn, adversely affected the immunization rates.

- Low proportion of FLWs per households in some villages made it challenging for them to achieve targets.
- Difficulty in reaching out to hard-to-reach rural areas with difficult terrain.

- Delay in payment of salaries/honorariums to FLWs, causing demotivation.

Solution: Frontline Healthcare Workers (FLWs), often known as Community Health Workers play a crucial role in last mile delivery of health services in India, especially in rural areas where access if often limited.

In Indian States, FLWs comprise women belonging to rural communities, and they are within the purview of two ministries namely the Ministry of Health and Family Welfare (MoHFW) and the Ministry of Women and Child Development (MoWCD). The FLWs comprise of the following functionaries at the community level:

i. **Anganwadi workers (AWWs)** have varying responsibilities, from conducting regular health surveys of families and maintaining files and records to spreading awareness on health, nutrition, family planning, and child growth and development. They are responsible for immunization of children as well as their pre-school education.

ii. **Accredited Social Health Activists (ASHAs)** go door to door visiting the poorest and most vulnerable, counselling couples and pregnant women, supporting peer educators at the village level, helping with village health plans, providing medical care for minor ailments such as diarrhoea and first aid for minor injuries, and mobilizing people for immunizations.

iii. **Auxiliary Nurse Midwives (ANMs),** unlike AWWs and ASHAs, play a supervisory role, and participate in a range of health activities such as maternal health, child health, and family planning services, nutrition and health education.

Given the FLW's embeddedness in the community, it was crucial for the state to support ASHAs to travel to remote areas in order to facilitate door-to-door visits for the identification of beneficiaries.

The state faced two primary challenges when it came to motivating FLWs - (i) A long drawn out and unexplained delay in ASHA wages culminating into the possibility of a workers strike and (ii) Several ASHA workers and their families believed it unsafe to travel to certain hard-to-reach areas. Mediators in the health system played a key role by seeking feedback and launching an effective communication channel between the state and local actors. Ideas and suggestions from FLWs were gathered and communicated to the top resulting in - (i) Timely delivery of ASHA wages and (ii) Monetary incentives for ASHAs to commute to far distances and hard-to-reach areas.

Hurdle 6: Diversion of attention to COVID-19 management

Problem: The onset of COVID-19 pandemic led to a literal overhaul in the health system, which was, earlier not the centre of focus by the State leadership.

Solution: With the Covid-19 outbreak becoming a national emergency, the leadership used the increased emphasis on health issues to refocus attention on the need for immunization.

On being interviewed for this paper, the then Secretary, Health & Family Welfare Department, Government of Meghalaya stated,

> *"We are so afraid of COVID and have done so much action because there is no vaccine. But there are many diseases, which are more deadly, for which we have a vaccine. Yet many in the State are not receiving it."*

Discussions on maternal and child health were mixed in as related issues in regular Covid-19 meetings which were initially held daily and then bi-weekly, creating a sense of urgency to mobilise state officials at all levels.

Picture 1: A glimpse of the virtual review meetings with the Deputy Commissioners of all 12 districts, and State administrative officials of Health & Family Welfare, Social Welfare (Women & Child Development) and Community & Rural Development Departments

The 'State Immunization Team' was uniquely positioned to harness the energy surrounding Covid-19 and used it to power an equally important intervention. Instead of simply implementing a state-driven solution to improve coverage, their approach allowed for continuous iterations, surfacing of opposing opinions and a strong feedback loop connecting the state, local agents, and the community.

Deviating from the Norm

From this iterative process emerged important instances of positive deviance, i.e., successful, locally designed solutions generated by state agents which were vastly different from previous strategies used by the health department. State innovations and ideas included:

Village Health & Nutrition Days (VNHDs): As per the existing norm of the National Health Mission (NHM) under the Ministry of Health and Family Welfare, Government of India (Mission, n.d.), VHND is to be organized once every month (preferably on Wednesdays, and for those villages that have been left out, on any other day of the same month) at the Anganwadi Centres (AWCs) in the village.
Therefore, in order to increase child full immunization coverage in Meghalaya, the State Immunization team used this pre-existing awareness tool for communities and re-activated VNHDs to ensure that immunization took place in every village, and every mother who attended the VHNDs with their child/children was to be vaccinated. So far, 50% villages in Meghalaya conduct frequent VNHDS[11].

Longer Tenure of Senior Health Officials: As per interviews conducted with senior health officials of the State, a noted hindrance in the discharge of duties was either their frequent transfers or deputation from one district to another, or retirement.
By managing rotations to be less frequent, senior health officials were given the opportunity to better understand their districts and its challenges as well as build trusting relationships with their teams.

Building Capability of Local Institutions: Transferring power to local structures, for instance asking individual Primary Healthcare Centres to identify the next steps of action made local officials feel recognised and

[11] Department of Health & Family Welfare, Government of Meghalaya

empowered. This shift meant that local institutions were generating community-customised plans to improve immunization coverage.

Using Technology to Support, Not Drive State Efforts: Information Technology and data-based decision-making is being used in the State as seen with the launch of the MOTHER
App in 2019 (meghealth.gov.in, 2021) (CDFI, 2020) which uses data of expecting mothers in the State and tracks the progress of the pregnancy while ensuring proper antenatal care and also encouraging institutional delivery. The app is also being used to alert high risk cases which can drastically reduce mortality rates. So far, grassroots functionaries such as ASHAs and Auxiliary Nurse Midwives (ANMs) have been trained to collect data and track the said data.
By using technology to support efforts towards full child immunization coverage, the MOTHER App was and is still being uses strategically on state-supplied tablets to track and record key data points at the village level. Interestingly, the state also launched an iteration, 'Mother App 2.0' to incorporate missing features based on their learnings from the previous edition. All data collected through the MOTHER App is reflected in a dashboard in the official website of Health & Family Welfare Department, Government of Meghalaya. (Meghalaya Health Portal, n.d.)

Maximizing Reach of Local Institutions: By identifying additional local partners from various other departments who exercised a strong hold at the community level, such as Gram Sevaks (community workers responsible for implementation of government developmental schemes in rural areas) (Meghalaya Police, 2021) and the Rural Development Department, the full immunization intervention successfully reached audiences who would not ordinarily respond to FLWs.

During an interview with the author, the then Maternal and Child Health (MCH) Officer, Meghalaya stated,

> *"This also became a better way of engaging with men because usually only women come to health department outreach efforts."*

It is worthy to note that Meghalaya is one of the few existing regions in the world with a matrilineal system. The womenfolk are seen to not only continue the lineage, but also take a more proactive approach in family affairs. But this is not to imply that this is the sole reason for lower participation of men in health outreach efforts. Men's participation, in general is seen to be low in matters relating to couple counselling and even uptake of birth spacing measures as compared to the women folk in State. This could also be because the outreach programmes like VHNDs are conducted at a time when men are out working in the fields or elsewhere.

Collaborating Across Stakeholders

The intervention mobilised key stakeholders from the inter-linked departments of health, nutrition, education and rural development to collectively address the problem of low immunization coverage.
In addition, the state also adopted a public-private partnership approach (on a suggestion from local actors) to gain access to vaccination records from private hospitals, which previously had been a major tracking issue.
Emphasising on the uniqueness of this collaborative, inter-departmental approach to address the low child immunization rates in

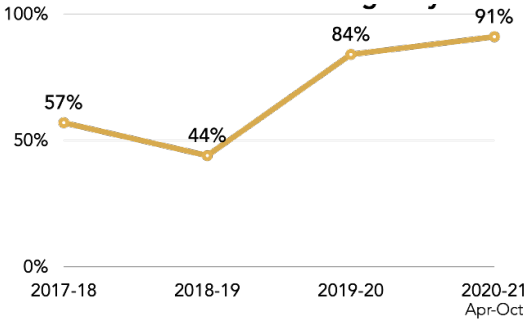
Meghalaya, the then State Immunization Consultant from UNICEF in an interview with the author stated,

> *"These things are not done by a single person - ASHAs, ANMs, and AWWs, all three must be involved. We addressed this in Ri Bhoi district of the State, brought them together, trained them together. For example, in order to improve health and nutrition, Anemia is identified by a test. It is detected by an ANM, but treatment is done by Anganwadi worker. So, it has to be in coordination. So, an anemic line list is shared among both FLWs".*

Results

The galvanization of all the interventions during the pandemic period between 2019-2021 led to a significant improvement in the percentage of Child Immunization coverage in Meghalaya. The percentage significantly improved to 90 per cent (2020-21) from 57 per cent (2017-18).

Figure 1: Immunization Rate in Meghalaya



Source: HMIS based report from immunization Dashboard, ITSU, MoHFW, GoI

This greatly improved Meghalaya's all India ranking in terms of full child immunization coverage and the State stood 2nd in the country, after Telangana. It should be noted that between 2020-21, immunization coverage in Meghalaya stood at no.2 in India, as seen from the corresponding table.

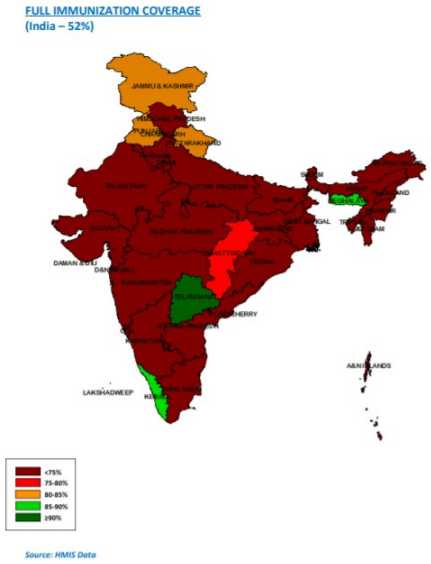
Table 2: Top 25 States & UTs in terms of Child Immunization coverage (2015-16) (In descending order)

Sl. No.	States	Immunization coverage in % (As of May 2020)
1.	Telangana	96
2.	Meghalaya	90
3.	Kerala	86
4.	Punjab	83
5.	Jammu & Kashmir	83
6.	Uttarakhand	82
7.	Chattisgarh	78
8.	Maharashtra	71
9.	Tamil Nadu	69
10.	Goa	69
11.	Karnataka	66
12.	Haryana	66
13.	Madhya Pradesh	65
14.	Tripura	64
15.	Andhra Pradesh	64
16.	Mizoram	60
17.	Dadra & Nagar Haveli	55
18.	Odisha	51
19.	Gujarat	50
20.	Assam	49
21.	Arunachal Pradesh	49
22.	Chandigarh	48
23.	Sikkim	47
24.	Jharkhand	46
25.	Rajasthan	46

Source: HMIS based report from immunization Dashboard, ITSU, MoHFW, GoI

For the first time in the State's history, the State ranked 2nd in the country in terms of child full immunization coverage, and one among the only two states in the country with an immunization percentage of either equal to or greater than 90 per cent. This is also reflected in the immunization map in the corresponding figure where Meghalaya is marked in 'green' colour.

Figure 2: Map showing full immunization coverage in India



Source: HMIS based report from immunization Dashboard, ITSU, MoHFW, GoI

Qualitative Analysis: Stakeholder Interviews

Based on close observation and analysis of the strategies used for improving child immunization coverage in Meghalaya, personal interviews were conducted with several stakeholders involved in strategizing and implementing efforts aimed towards achieving full child immunization. This reveals the following takeaways, as stated by the stakeholders themselves:

A sense of accountability, created during the pandemic situation through an overhaul of the administrative system, travelled across state players, particularly at the local level, creating a sense of urgency in implementation. As Dr. Ivonne, the then District Immunization Officer in-charge in the Garo Hills region of Meghalaya puts it,

> *"We were worked under "mission" mode… we initiated conversations with all stakeholders at all levels ensuring that immunization was discussed," FGD, Ivonne*

When recognised and empowered community leaders are onboarded as part of the system, new ideas are generated which are tailored to bridge cultural resistance and solve hyperlocal issues. The then Director of National Health Mission-Meghalaya, Ramkumar puts it,

> *"We asked every PHC to make an action plan… This was not a new idea. It's just activating the basic practices".*

Shifting the focus from mere implementation of a scheme to addressing unique challenges that come in the way as part and parcel of implementation created a space to collectively tackle solvable problems. As the then Maternal & Child Health (MCH) Officer, Dr. Adreena states,

> *"The connection was very good after the adoption of new immunization strategy. It was different from previous experiences. It's encouraging to work with a team that is very supportive. There was this challenge and sense of need to work together. And with this, we treasured this bond we had, and that they were very fast to provide support".*

Mediators can play a crucial role in creating a robust feedback channel between the actors at various levels- State, District, Block and communities, leading to collaboration across stakeholders. In this context, Dr. Adreena pointed out,

> *"Sometimes we get orders from top and have to pass these down to the field. Meanwhile doctors at field level also give feedbacks about strategies that may or may not prove effective. As State Immunization Officer, I interact with both parties and take feedbacks from the*

field to state leadership and even vice-versa".

Default explanations are often used to justify inaction. Ground-truthing of time-honoured theories about immunization is needed to gain a deeper understanding of the problem. In this case, people's belief that immunization of children goes against their religion and is against the religious scriptures/verses caused vaccine hesitancy among several groups of people. This issue remained unaddressed for quite a long time, while being accepted as it is. But on digging deeper, it was realised that this hurdle could be resolved by clarifying doubts and/or by partnering with faith-based leaders who supported immunization efforts. In this regard, the then Director of NHM-Meghalaya, Ram Kumar puts it,

> *"The Block Development Officers (BDOs) reported that people were refusing vaccinations for religious reasons based on their conversations with FLWs, and hence extrapolated that nothing further could be done. Later, it was found that mid-level officials were not efficiently monitoring activities at the local level, unknowingly allowing certain assumptions to remain as they were."*

The project delivery system benefits immensely when the leadership speaks the same language. It is helpful when state leadership engages closely with field experts to learn about the technical aspects of the process. As Dr. Nilanjan Roy, the then Chief Surveillance Medical Officer, WHO states,

> *"At one point, the State had more than 25 directors of health services of maternal and child health being rotated frequently in a very short span of time. This made the work extremely difficult as new people coming in take time to acquaint themselves with the programme implementation process and the background of the target area".*

Adaptation measures not only create sustainable solutions but can also develop the capability of local agents to cope up with complex challenges. Lessons learned while problem-solving for one issue can be applied to another in the future. As Dr. Sangma from the Garo Hills region of the State puts it,

> *"The main reason why mothers were not showing up for VHNDs was fear of needles, and/or husbands not wanting the child to get vaccinated because of fever after vaccination. So, the strategy was to bring fathers/more men into the vaccination program".*

In short, the State administration leveraged an existing crisis (here, the COVID-19 pandemic) for momentum, which doubled as a motivating opportunity to energise public healthcare systems. The system of bi-weekly and later, weekly review meetings held mostly to discuss and strategize COVID-19 mitigation process in Meghalaya, also incorporated maternal and child health as well as immunization in its purview.

Going Forward- Key Insights

The key element which made the immunization intervention stand apart from other state programs, as observed, was the strong and positive leadership, at all levels- political, administrative including at the State, Districts, Blocks and more so, at the local or community level. The enabling environment created just enough pressure to motivate state machinery without acting as a deterrent demanding data-driven results. Given below are crucial insights that empowered the state to make significant progress in improving Full Child Immunization Coverage:

• Sustained and consistent monitoring in the form of weekly and bi-weekly district reviews went a long way in improving state accountability. This can be seen by analysing the notes[12] of each and every review meeting and how each meeting led to a series of action points for the administration at all levels. These action points are then reviewed in the following weekly meetings.
• Generating leadership at the local level by identifying 'champions' created a network of collaborative problem-solvers.
• Frontline worker challenges (overcoming commuting barriers + payment backlogs) were taken seriously by the state. Mediators from the State Health Department played key roles in improving responsiveness between the administrative leadership (State, District and Block level) and FLWs by transmitting information in both directions.
• Field exposure revealed that the training of health workers, especially FLWs is not a one-time investment. The state had to think carefully about how to create sustainable systems to support its workers.
• Challenging preconceived notions such as community refusals to vaccination on cultural or religious grounds, allowed the state to address and resolve the real problem – such as the fear of fever post vaccination.
• Key leadership including agents from non-medical background were well-versed in the specific health challenges and processes of the delivery chain.
• The immunization team adjusted and adapted along the way. Each new hurdle was met with an iteration to solve the larger problem at hand.

[12] As of 2021, more than 60 review meetings have been held, convened by the State Health Department, as per State records

Conclusion

This study was conducted during the height of the COVID-19 pandemic in 2020-21 whereby the State was en-route to implementing the new child immunization strategy, the results of which are visible within a very short period of time, six months, to be precise, from the time of adoption of new immunization strategy. While Meghalaya has been able to achieve 90 per cent child immunization coverage (2020-2021) from 61.4 per cent (in 2015-16) using the Problem Driven Iterative Adaptation (PDIA) Approach, a few questions that still looms large about the sustainability of a robust initiative, such as the one highlighted in this paper, requires a more time-bound periodical analysis.

The paper also revealed important findings during the course of its short research period. Important factors that directly or indirectly affect the service delivery mechanism from the supply side as well as the demand side came out to the fore, highlighting their collective and individual role in the entire process. For instance, the frequent intervention of senior authorities (State level) in granular monitoring of services proved to be one of the driving forces but how feasible is this is the long run? The answer to this may be obtained by a long-term analysis of several similar projects with similar strategies.

The paper findings may also serve as a baseline for consequent studies about long term effectiveness of certain strategies such as frequent review meetings backed by a strong leadership, effectiveness of policies implemented through a collaborative, inter-departmental approach as opposed to working in silos and most importantly, the end result that determines the success of an intervention- is it just about an increase in numbers? Or is it also about a systematic shift in work culture on the supply side interventions?
To conclude, the PDIA approach adopted by the State of Meghalaya for improving child immunization coverage may be summarized as seen in the corresponding figure.

Figure 3: PDIA model for addressing low child immunization rates in Meghalaya

Themes	Business As Usual	What Meghalaya Changed
FOCUSING ON PROBLEM SOLVING	Problem treated as condition, little space to problem-solve & learn	Problem is infocus; efforts to iterate and adapt solutions
LOCAL AT CENTRE	One way communication from top-down; local levels disempowered	Stronger communication with local levels, local agency increased
STAKEHOLDER COLLABORATION	Stakeholders within and outside government operate in silos	Collaboration across government and with private sector is enabling effective response
INCREASING ACCOUNTABILITY	Avoidance of responsibility; no pressure to change	Regular review meetings and sustained focus have mobilised action
CHALLENGING DEFAULTS	Narrow understanding of problem; assumptions limit action	Asking questions is unveiling new opportunities for change
GAINING POLITICAL TRUST	Political setbacks could have halted or stopped initiative	Changes in context were used strategically to refocus attention to problem at hand

Source: Meghalaya State Capability Enhancement Project (SCEP)

While the PDIA model for improving child immunization has evidently proven to be quite effective in the context of Meghalaya, some real time challenges require consistent addressal for any strategy, especially health service delivery to continue for a longer period of time.

Taking precedence from this model and as a way forward to ensure sustainability of unique initiatives, like the one discussed in this paper, Meghalaya has initiated the State Capability Enhancement Project (SCEP) in December 2020. The broad aim of SCEP is to better deliver different governmental programs by activating state administration and mobilizing community leadership to tackle the most critical development challenges in the state.

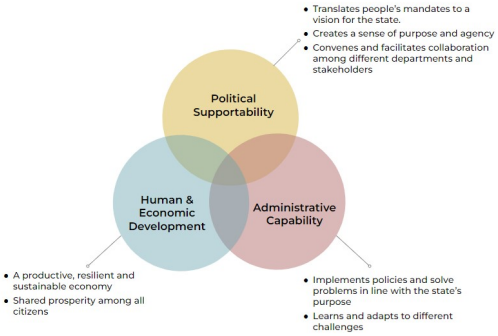
"An important aspect of SCEP's focus is ensuring consistency and sustainability of service delivery, irrespective of leadership. It is an attempt to imbibe a new culture of robust and accountable public service delivery", as stated by the then Principal Secretary to the Government of Meghalaya, who is also the brainchild behind the SCEP model.

Figure 4: Six pillars of Meghalaya's SCEP model, applied in increasing child immunization coverage

Source: Meghalaya State Capability Enhancement Project (SCEP)

The aim is to bring three elements together- Political Leadership, Administrative Capability and Human & Economic Development.

Figure 5: Meghalaya's SCEP model aims to create a sustainable model for addressing complex developmental challenges



Source: Meghalaya State Capability Enhancement Project (SCEP)

The concept and experiences with SCEP have also found place in the prestigious 'The Public Productivity and Performance Handbook' by Routledge (Routledge, 2021) (Section VI, No. 29- Applying Competencies: State Capability Enhancement Project). For realizing the goals of SCEP, the State materialized the Meghalaya State Capability Forum (MSCF) (SCEP, 2021) (MSCF, 2021) in October 2021. The mission of the Meghalaya State Capability Forum is three-fold:

1) To enable learning and exchange between leaders of Meghalaya, India, and the world on

key issues of the public interest, especially regarding the role of the State.
2) To share Meghalaya's experience and learnings from a range of state capability initiatives.
3) To develop new models, approaches and initiatives for enhancing state capability and achieving Meghalaya's vision.

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