EXPLORING OPPORTUNITIES TO STRENGTHEN MICROPLANNING FOR ROUTINE IMMUNIZATION IN LOW- AND MIDDLE-INCOME COUNTRIES

Webinar Transcript

[00:00:19.00] Hello everyone, thanks for joining. Please go ahead and use the chat to introduce yourself by typing your name and organization while we wait for some more people to join the webinar.

Hi. Welcome, everyone. We're just waiting for a few more people to join. So, in the meantime, if you want to introduce yourself by typing your name and organization in the chat, you can all get to know each other a little bit. Hi again. Eddie. Good to see you. Hi, Dr. Addy. All right. Okay.

So, we're going to go ahead and start. Good morning or good evening to everyone, depending on where you're joining from, if you haven't done so already, just I just encourage you to introduce yourself in the chat by typing your name and organization. My name is Parysa Oskouipour. I am a program officer for the MOMENTUM Routine Immunization, Transformation and Equity project. I am pleased to introduce today's webinar on exploring opportunities to strengthen microplanning for routine immunization in low- and middle-income countries.

So, I'm now just going to cover some housekeeping and review the zoom environment for this webinar. So, today's webinar is available in both English and French. And you can access the French simultaneous translation channel by clicking on that interpretation icon at the bottom of your zoom screen to choose your language. Please use the Q&A button to. It's on the bottom bar of your zoom window to ask any questions or request any technical help. We will collect your questions for our speakers and save them for a discussion session following the presentations. So, this webinar is being recorded and following the event you will receive an email with a link to the recording. So, if there are any questions that don't get answered during the Q&A session, we will share the presenters' responses by email.

We have four excellent speakers today. I am pleased to introduce our first speaker, Nicole Salisbury, a Senior Program Officer for our project, who will give us some background and share the results from a microplanning landscape analysis that we conducted. Next, we have three additional guest speakers who will first present on UNICEF's geospatial investment, followed by a practical example of GIS microplanning from our India team. So, Rocco Panciera is a Geospatial Health Specialist at UNICEF, currently leading UNICEF's global portfolio related to the use of geospatial data and technologies for health programs and has about 20 years of experience in geospatial data collection, management and analysis and training in a wide range of contexts.

[00:05:00] Next Dr. Anil is a physician with more than 15 years of work experience spanning from clinical to public health. And his current role with the project. He's responsible for program implementation in 18 project sites in India, with technical and managerial support to the project state teams. And Dr. Soni is also a physician who brings over 25 years of experience in public health, with a major focus on Immunization. On our project, he's responsible for

providing overall guidance to national and state governments for the effective rollout of the COVID-19 vaccination program and also reviewing the Routine Immunization program. So, before we get to our speakers to kick us off, I'll introduce our project, then the Zero Dose Children Toolkit and then the Learning Exchange Series. We'll also save about 15 minutes at the end of the webinar to answer all of your questions. And our speakers will be available during the Q&A, so please be sure to share your questions in the Q&A box again.

So, the Zero Dose Children Toolkit and the Learning Exchange series and the presentation that you're going to hear today are all initiatives under the MOMENTUM Routine Immunization Transformation and Equity project. We are a US-Aid funded project that works toward a world in which all people eligible for immunization are regularly reached with high quality vaccination services to protect their children and themselves against vaccine preventable diseases. So, as we know, current administrative data systems are sometimes limited in their ability to accurately quantify and locate zero dose children, especially in low- and middle-income countries. So W.H.O. has developed a draft toolkit that provides an integrated approach to identify non or unvaccinated communities and zero dose and under immunized children by using decision making criteria and combined tools to decide if, when, where and how to go to the field to conduct rapid convenience assessments or targeted probabilistic surveys and take actions to reach, vaccinate and follow up on non- and under-immunized communities. So, the toolkit is complementary to existing manuals and guides, and broken into national and subnational documents. The audience for the toolkit is immunization program managers at national and subnational levels, those working to support the delivery of vaccination services to identify, reach, measure and monitor non- and under-immunized communities and monitoring evaluation personnel. So yeah, we're using a multi-method approach to refining the toolkit, which includes these learning exchanges, design collaboratives and a field test in Nigeria, the learning exchanges, of which today is the fifth focus on sharing tools and methods related to zero dose children, such as microplanning, as well as seeking input into the toolkit in future webinars.

So, we also convened, two design collaboratives comprising experts from a few countries across Africa and Asia. The design collaboratives critically reviewed the toolkit content for suitability and ease of use, and we are planning to do a field test in Nigeria, where we'll interview EPA stakeholders on their current approach to reaching zero dose children, and we'll also use the toolkit to test its utility and offer real time applied feedback on the toolkit. So, we anticipate the toolkit will be disseminated before the end of the year. If there are any volunteers, particularly national or subnational API teams who want to use or test the toolkit in the next few months, please let us know by signing up at the link that we will drop in the chat. So, before we hand it over to our next three speakers for their perspectives. We do just want to check in with you all through a quick poll, so you should see it pop up on your screen. But we are interested to learn a little bit more about you and your experience using microplanning to inform and support strategies for routine immunization, so we'll just give it a minute for everyone to respond.

[00:10:00] Just a few more seconds for everybody to chime in. All right. We can probably close the poll. So, I think you can see the results now. Hopefully. But yeah, this is great. It looks like we've got a wide range of experiences and familiarity with microplans. So, this should be a really interesting discussion session at the end. So, I'm looking forward to that. But great with that, let me just turn it over to Nicole to kick us off on the rest of today's presentation. Over to you, Nicole.

Great. Thank you, Parysa, and good morning. Good evening. Good evening, everyone. I'm looking forward to sharing with you the findings from our recent review. But before we started, I just want to recognize the rest of the study team which include Parysa Oskouipour. So, thank you. Parysa. Iqbal Hussain, who's also in the webinar, Jessica Shearer and Emily Grappa. So, thank you so much to everyone else who is a part of this. Next slide please. So, before we start, just a little bit of background because I assume people on this call, call or on this webinar may have varied levels of experience with microplanning. So, you see up here the definition for, for microplanning which defined a

microplan, defines how to reach clients, how many people should be targeted, how frequently services are provided, and is it developed by all stakeholders at all levels? An effective microplan should aid in the identification of eligible target populations and supply needs. Data and graphic mapping to illustrate clearly defined catchment areas that identify where eligible people live. Eligible populations live. Prioritization of plans to reach all target populations on a continuous basis. And the definition of realistic local actions to improve and sustain coverage. And ultimately effective high quality microplan should support improved service quality and a reduction in inequities. Next slide please.

So, the review that we conducted was driven really by an acknowledgment that despite the availability of high-quality guidance for how to develop a microplan and many, many, many years of immunization program professionals developing microplans. There remains a lack of evidence on the effectiveness of microplanning, especially in the context of routine immunization programs. These gaps seem especially pronounced when it comes to the implementation of the activities in the microplan, and how the microplanning process is institutionalized. As such, we set out to identify, synthesize, and disseminate evidence related to the drivers of implementing and institutionalizing microplanning for routine immunization programs. Next slide please. So, to achieve this objective, we adopted a mixed methods approach, which consisted of a literature review, online survey and key informant interviews for the literature review. We conducted a review of the peer reviewed and gray literature related to microplanning for routine immunization. We extracted encoded insights from the full text review into Excel, and sought to distill the factors that constrained and enabled the microplanning process. We screened about 117 articles and included 39 for the full text review.

[00:15:00] This was supported by an online survey to help understand the extent to which microplanning is institutionalized in routine immunization programs, and also to identify individuals for the key informant interviews that we were planning to conduct. Respondents to the survey included national and subnational immunization program managers and implementers in low and lower middle-income countries, as well as technical partners, and then finally, to fill in the gaps in the literature, we conducted 19 key informant interviews with individuals who had experience developing and implementing microplans in LMICs, as well as some technical experts. The data was synthesized using root cause analysis to help us to distill what some of the key enabling and constraining factors were. Again, as I said, for especially for, implementation and institutionalization.

Next slide please. so just to note, we found very little published literature evaluating the process of developing and implementing microplans, including how that process is sustained over time. Often microplanning was described as one aspect of broader red rec programing. Without a very detailed description of the microplanning process itself, and especially in the context of routine immunization programing, through root cause analysis, we identified two broad categories of factors, namely those factors that occur at the development stage of the process. This was found to really have knock on effects for implementing the microplan, and those that occurred during the implementation phase themselves will briefly summarize those here, but a lot more detail can be found in our full report, which will be released shortly. we're also going to spend we're going to quickly go through some of the findings that we found in relation to digitally enhanced and integrated microplanning, since those were a couple of the sub objectives, where we chose to dive a little bit deeper.

Next slide please. Okay. So, as I said, although our focus was on understanding the determinants of implementation, we found that the process of developing a microplan, you know, very significantly affected the later implementation phase. So, challenges found in the development process that later constrain the implementation included challenges with tools, access to high quality, up to date data on target populations and catchment areas on the barriers to immunization services. We don't have time to drill down on all of that here due to time constraints. So, we'll talk here about healthcare, health care, worker capacity and ownership, and also community and stakeholder engagement. So

just to start with healthcare worker capacity and ownership, the complexity of tools for developing microplans was found to be exacerbated by a lack of experience among healthcare workers and others responsible for actually developing those plans. In many cases, this was attributed to high rates of turnover among staff, which drained existing capacity to develop the plans for newly hired healthcare workers, the lack of training, supportive supervision and mentorship was also identified as a constraint in being able to develop, you know, accurate, high quality plans. A review of the microplanning process in Uganda found that healthcare workers that may not have participated in the development of those plans did not necessarily understand how to implement the plans where healthcare workers were involved. They reported a stronger sense of ownership over the plans, and therefore a greater sense of responsibility for implementing those plans. Second, engaging communities. So Multi-sectorial engagement, which included community members, health stakeholders, but also non-health stakeholders such as Non-health, CSOs, other government ministries. This was considered to be very critical to the development of high quality plans that really reflected the needs and priorities of communities. Especially for determining the location, the timing, and the frequency of immunization sessions. This was found to be an effective advocacy tool for the importance of microplans, but also immunization more broadly, especially with some of those other government ministries in Tanzania. Community engagement was operationalized through health facility governing committees, which enabled health care workers, community health workers, and community members to participate

[00:20:00]. Next slide please. At the implementation phase, we found that supportive supervision, mentorship and accountability from higher levels of the health system helped to facilitate microplan implementation. In Uganda, some of our key informants reported a WhatsApp group which was created to help send reminders to immunization focal points at the district and health facility level. About updating the microplans, about status of implementation of activities in those microplans. So again, just kind of that continued coming back to the microplan to help drive implementation through those regular touch points was found to be really helpful in other countries. By contrast, the lack of follow up from the higher levels was perceived as hampering efforts to really institutionalize the practice of the and the process of microplanning. And second, lack of operational funding was widely and consistently reported as hampering efforts to implement microplans. It's important to note that this is not a shortcoming of microplanning itself. And rather reflects, you know, much larger and very persistent resource constraints for health and immunization. To help address this in Tanzania, in the context of the Maternal and Child Survival Program, Microplanning was conducted during their annual Comprehensive Council health planning process. This was found to help improve the accuracy of the budgeting process. Other respondents noted that while it is, it is important that microplans are realistic and take into account resource constraints. They also should reflect the true cost of reaching zero dose children, even if implementation resources are unlikely to be sufficient. And I think this really highlights a need for advocacy at all levels. Next slide please. Okay. And in our review of the literature. We as I mentioned, we also drilled down on two areas specifically digitally enhanced microplanning and integrated microplanning. And articles and reports describing digitally enhanced microplanning. The application of tools, digital tools to support microplanning comprised by far the largest proportion of the literature we reviewed, especially in recent years. The application of geospatial technologies to support mapping and estimating target populations was found to be especially common. Barriers to digitally enhanced microplanning are reported to include infrastructure and internet connectivity, IT capacity among health care workers and other staff, the high costs of making systemic updates. All of which contribute to an ongoing reliance on technical assistance and donor support. And furthermore key informants interview or emphasize that while, you know, digital tools are indeed enhancements to the process and can really help with, you know, the mapping and the estimation, they really cannot supplant the need for, you know, very thoughtful community engagement. And so that remains very important and shouldn't be overlooked. We also looked at integrated microplan, looked for examples of integrated microplanning. We found very few of those in the literature among our key informants. However, there was a high level of interest in some experience with integrated approaches to microplanning. Barriers to this that were identified were largely in terms of human resource and

financial constraints. Even if planning was done in an integrated manner, funding structures often do not allow for the integration of the service delivery stage. However, this is an area of focus for many and likely something to evaluate further in coming years. Next slide please. And finally, in summary, you know, as I noted at the outset, our review, identified a lack of published literature, published evidence on microplanning, especially in the context of routine immunization programs. Most of the literature is describing experiences, with campaigns, the existing literature is particularly lacking when it comes to really describing the implementation of those activities in the microplans.

[00:25:00] One of the things that we found through the literature review, but also our key informant interviews, is a real shift and an evolution in the microplanning process from one that was much more top down, to one that is considered bottom up and is characterized by much higher levels of community engagement and health care worker ownership. You know, this shift is widely perceived as is contributing to a greater understanding of missed communities and zero dose children and the unique barriers that they face to immunization. However, this approach is acknowledged as being more resource intensive, and needs to be supported appropriately. The microplan development process I think is probably many on this call are aware is, you know, acknowledged as being very complex and many highlighted in need to simplify tools and guidance. But, you know, at the same time, a careful balance needs to be struck between an appropriate level of simplification. And the level of detail that's needed to accurately identify and reach zero dose and missed communities. And although microplanning has been around for more than two decades, the institutionalization of this process remains constrained by inadequate resources. As I said this, this challenge is not unique to microplanning, and I don't think it reflects a shortcoming in microplanning, but highlights a need for sustained advocacy for government recognition of the value of immunization and the need for adequate resources. Thank you. Next slide please. And I will hand it over to Rocco Panciera now to talk about geo enabled microplanning.

>> Good morning, everybody. Can you hear me? Thank you. My name is Rocco Panciera, and I'm a Geospatial Health Specialist in UNICEF health section in New York. And I manage our global portfolio related to geospatial data and technologies for health program and health system strengthening. It's a pleasure to be here today, and thank you to the right team for the invitation, I'll be giving you a very brief overview of how UNICEF is using, geo enabled microplanning technique or geospatial data and technologies to strengthen the immunization programs and discuss a couple of country use cases, from the last few years, and also provide you some key lessons that we learned, and we have drawn from this country experiences in terms of operationalization of, geospatial data and technologies for, the microplanning process. Next slide please. So, as we've seen in the in Nicole's presentation, microplanning involves the utilization of local data for planning, delivering and monitoring of vaccination Services in the case of routine immunization. This generally entails a cyclical or cyclical process that repeats on an annual basis. When we talk about geo enabling the microbiome, we're really talking about embedding geographic information within this operational cycle at various stages. This generally means applying geospatial technologies at the stage of identification of target population, the mapping of catchment areas, and the optimization of vaccination strategies, which are the elements of the microplan that have a stronger geographic dimension. But as well, this can be seen as part of what we call the digital enabled microplanning, where other digital solutions like mobile data collection, communication tools, EHR.

[00:30:00] Looks like we may have lost connectivity from Rocco, but let's give it another minute for him to reconnect. While we wait. If you have any questions.

>> Oh, sorry. I'm back. Okay. The internet seems unstable here. Let me let me go ahead so as to not lose too much time. So, there's evidence that the application of geospatial data and technologies, can improve the accuracy of the microplan and ensure people is accounted for. And provide evidence for optimizing vaccination strategies and resolve issues around geographic access to services. Next slide please. UNICEF Approach. When working on any GIS related application for health programs involves both technical support component as well as an institutional advocacy aspect. The goal of this approach is really to ensure that the application of GIS to specific health programs is not just a technological upgrade, but it's also well supported by an institutional framework and an enabling environment related to the governance, the resourcing and the management of geospatial assets and geospatial capacity at the government level. And additionally, this process, we also pay attention to the fact that the enabling of a specific health program is contributing back to strengthening the enabling environment, for example, by fostering capacity, by fostering governance around geospatial assets that might be highlighted in the context of the of the program. Next slide please. Very quickly. UNICEF global portfolio. We're working on various aspects of GIS application for immunization program. And when it comes to geo enabled microplanning for routine immunization, we're focused on about ten countries, mostly in eastern and southern Africa, but also with some applications in South Asia and East Asia and Pacific regions. Next slide please.

So, getting to, you know, the actual real application. I wanted to bring you two examples, one from Mozambique, where we have been supporting microplanning since 2021. This initiative was coordinated by the Ministry of Health API Technical Working Group, which is responsible for the API nationally. And we linked into a local capacity, which was identified in the agency for Spatial Development, which is a government, a governmental agency that has the mandate for geospatial data and technology management. Thanks to the partnership with RDA, we supported them in a multi district pilot, to test and formalize the process for geospatial data gathering. And finally, GIS microplanning products were produced and verified during in a selected areas during integrated Covid-19 and routine API campaigns back in November 2022. The outcome of this pilot project was that the Ministry of Health gained confidence on the process. Approved the scaling of the initiative to 36 districts and provided a mandate to this local government agency, RDA, for leading this process. So, this is a good example of a process that leads to strengthened government owned capacity for sustaining the enabling program. Next slide please. Similarly, in South Sudan, a more recent example, we piloted a GIS based microplanning for routine immunization starting in 2023 with funding from the Government of Japan. The initial work was done in the last year in 20 counties in five states. Throughout the course of the year, there were multiple state level consultations to gather local data, assess the local data, validate them, and define the map contents, the eventual content that would go on the map.

[00:35:00] And as a result of this, GIS microplanning maps were produced and delivered to 142 districts in mid summer 2024, alongside delivery of training on the use of GIS maps for specific routine immunization tasks. And one of the interesting outcomes of this is that in August this year, the Ministry of Health cleared the application of this maps for the upcoming polio immunization campaign. So, it was a good example of, reusing assets in between, you know, produced for GIS maps, produced for routine immunization for also other type of microplanning tasks. Next slide please. So, I would like to really focus on a few lessons learned. Obviously, there's more. But lessons learned from our experience in countries, Based on the really the operationalization of this technologies. We one key lesson is that, you know, GIS products, whether it is a static map, a printed map or a GIS dashboard, are dependent on the decision making and operational processes that are meant to inform. And two, frequently we don't see an understanding from the technical perspective or from the technical implementer and understanding of the process and the decision-making process that the map needs to inform. And this is a very lengthy process, but is really foundational and often overlooked and really is needed to ensure that the maps are not just, you know, template maps that are provided to the end user, but really customized to what they need to do and what information they need to derive from these maps. And next slide please. The second key lesson is that the gathering of complete list of

relevant geographic features. For example, health facilities, villages even without geo reference is a major bottleneck, and frequently this is also a disconnection in between the data. The health facilities have the data that districts have, so it's a lengthy process to really involve local actors not only in the data gathering, but also to try to find formalize mechanisms that can be used to enhance the accuracy, the accuracy of this data and to update this data in the future. For example, if an odk supervisory tool is already deployed at the district level that has a geospatial data collection capability, there's a possibility to task district managers to, on a regular basis, update relevant geospatial coordinates. Next slide please. We have also learned that operational and contextual constraints, whether it is political, financial, social or even climatic situations can limit the extent to which whatever geographic optimization is in the maps can is possible. Generally, this is associated to even the lack of fundings, or the resistance to change by actors at the local level to what is suggested in the maps in the GIS products. So, the GIS products and the way they are delivered should also always allow users the flexibility to evaluate what is optimal versus what they can practically and possibly do with the resources that they have, and allow them to choose the latter if needed. Next slide please. And finally, many issues with the maps and with dashboards become evident only when reviewing the products in the field with actual end users, and my strong suggestions and the way we moved, we are moving towards

>> I think we might have lost Rocco again because of internet connection. Um. Just give it a second.

[00:40:00] Let's see if he's able to rejoin. In the meantime, if anybody has any questions that you want to put in the Q&A section about this presentation or. Yes. Okay.

>> I think I'm getting to it was the last slide. So, I think I'm just leaving it at that and thanking everybody and leaving you with a number of resources produced by UNICEF and partners related to use of geospatial data and technologies for microplanning specifically that includes specifically the enabling Handbook includes the process and the institutionally based capacity building process that is at the at the core of this presentation. I thank you. And over to, back to you present and sorry about the Wi-Fi issues.

>> Oh, good. Thank you so much. That was great. I'm going to pass it to our last two presenters. Dr. Anil and Soni. Over to you.

>> Thank you. Thank you very much for the opportunity. And Dr. Anil from India team. And I'd like to present regarding the GIS technology work done in India. So next slide please. So, we then goal of, you know, increasing or enhancing the urban immunization program by, you know, optimizing the resource allocation, using this technology. GIS technology and this, as you know, just also presented. So, in this we are on the similar lines. We mapped the service delivery points areas and in the two cities. Next slide please.

So, we did this in two cities of India with the distinct landscape, one in the state of Rajasthan Jaipur and one in a northeastern state, Meghalaya city being Shillong. So, both the cities being with distinct landscapes, we mapped the full city with the, you know, their administrative boundary and health facilities with their catchment areas and their catchment areas of further drill down their vaccinators. We mapped 104 cities in these both cities. And the process being, you know, starting from data collection and for data collection here, I would like to add that what layers or what data. Basically, we added layers being starting from the city boundary, city boundary to ward boundaries, ward or zone boundaries, then to the health facilities and further down to the A and Ms or vaccinators. In fact, I must say with their areas. So, till now it's all area mapping also, and then moving down to their service delivery point, high risk areas or we may say the vulnerable area, vulnerable population area or urban slums or urban poor areas. And you know, in fact also the peri urban areas are those those areas. And then, moving down to the session sites and then moving down to the Mobilizer Mobilizers working for those session sites, and in fact also the Anganwadi centers, we call it here, the ICDs centers, developed by Women and Child Department for their development for 500 to 1000

population. So, these centers are used for the service delivery points also. So, marking all these layers. So, the data collection incorporates that. And then next step being the tool development we developed a web-based tools. And then building the capacity of the stakeholders and end users. End users being the program managers program managers of from national to state and to city nodal officer and in fact to the health facility level. So, our end users are being till the health facility level, health facility level, where they can use this tool for input and in fact visualize their microplan. Next slide please.

So, this is again where I was talking regarding the health facility. Sorry layers of this GIS tool in the data collection part and data collection relations. So, city to ward and coming down to health facility. These and down to the A and M area or the vaccinated area, I must say health care worker area.

[00:45:00] So, till now we have all, you know, area mapping the area demarcation properly done. And that is done through walk through. So that captures a polygon area are being done through a walk through. And then other things are the point locations where it can be the health facilities service delivery point and in fact the high-risk area or vulnerable population area if they are smaller than the point location. Otherwise, the polygon or the area of the that particular vulnerable area. So next slide please.

So how did we collect this data. This data is here. It is a glimpse. Just maybe video will not play. But we have we have done walkthroughs with the vaccinators of that their area their area and in fact the health facility area. So, mapping the health facility area and a vaccinated area through the walk through, connecting through the mobile data collection tool and also the vulnerable population area through walk through. Next slide please.

This is the interface of the tool. And very briefly I'm sorry I'm not able to take you through the two to the tool, but that would have been good enough. But just to give a glimpse we have this is the interface where we have four main buttons or keys. You can see the dashboard map indicators, masters and miss. So, the two initials being the output tools dashboards where we can visualize all the city wise layers, which I have mentioned just now, all those we can visualize here, map indicators, we can visualize here the indicators, selected indicators with the there you know, reference or as per, you know, color coding so that we can demarcate the areas with according to the performances and the last two masters being all the forms, input forms where we input all the data sets. And lastly, the Hmm is where we input the target and the coverage reports. So last two being the input, whatever we input in the last two tabs, we can see into the dashboard and the map map indicators. Next slide please.

So, this is again you know next a glimpse of the tool where we can see one health facility area in the first picture. And the yellow dot here refers to the particular that particular health facility. And all these have point locations. All these locations have, you know, point informations popped out if you take the cursor where they give the basic details of that health facility. Moving next into the next image, where we have area demarcation within that facility of the vaccinator. So here we can here we can see the four vaccinators are working into this health facility with their area demarcation, and with their basic information popped out at the point location. Next image we can see the service delivery points of this health facility conducted by their vaccinators into their area. And here the red dots denote the outreach session sites and the white dot particularly denotes the health facility where the fixed session site happens. So, this is, you know, mapping of the session site, complete mapping of the health facility. In fact, this is also including here are the high-risk area mapping into that facility also. So, and also, these are we can through this point information we can also see the session sites day timings and alternate vaccine delivery. Who is delivering the vaccine? Who is the vaccinator Mobilizer informations? Next slide please.

So, this is, you know, in principle, the, you know, use of this tool, major uses of this tool which we have generated. This is firstly the gap identification. So, gap identification in the first image you can see the we can identify the missed

areas. So missed area missed area where the service delivery direct service delivery or outreach sessions to the community. In fact, involving the house-to-house surveys and the inclusion of this population into the targets are not being done. So, this is captured through the walkthroughs. And this is an example where we identified a missed community. Being this is the most important role of this technology. And in fact, then further mapping our service delivery points and our service delivery resources on that map so that we can reallocate accordingly. Next, one of the important things is monitoring where in the image you can see in a city where health facility wise, we can map the indicators. This is just an example of one antigen where it can be measles or pentavalent or diphtheria. So, where you know target versus achievement time wise, we can see and we can see the performance. Color coded performance of the health facility area.

[00:50:00] And accordingly we can, you know, take decisions and reviews of those areas. So, these are the real time representation on the geography of their achievements. Then, you know, also adding to the resource allocations, this image here, you can see where we have mapped the session sites of one facility with three vaccinator areas. And we can see there is a clustering of the session sites. And a big area is not having the service delivery points. So, this you know, again, informs that we need to take an action and maybe that we need to conduct more sessions or add more session sites into this geography. Next slide please.

So, then these are this is just an example of one city where we mapped. So, this colorful mapping you can see of all the health facilities. And at the next click you can see these are the in between missed areas. These all are the missed areas or you know service gaps which we could identify. The missed communities which were not included into the targets and not included into the, you know, regular follow ups by the Mobilizers and which into a city. And these were almost 18 areas which are identified and in fact, in the peripheries. You can see that this consists of two types where it's inhabited population or inhabited areas, in fact, where which are hilly areas, and also the classical example of peri urban areas which are being catered by the rural health facilities. So, when we started mapping those, then we mapped those health facilities. So, the classic challenge of urban immunization where in between missed areas and the periurban areas were, you know, very nicely captured through this tool. And on a single dashboard we can see the situation. Next slide please.

So, this is a, you know, example of a paper-based mapping and a of same area. And we procured the paper-based map of and the geo technology developed the map of that particular area where we can see their clear-cut demand differences in the clear-cut demarcations and clear cut, you know, exact point locations of the service delivery point with exact information whatsoever you want to figure in. And in between, you can see the little light blue area, which is a missed area identified during which cannot happen by the I must say, generally it's not possible through the conventional paper-based mapping where through paper-based mapping, when we do it, we won. One vaccinator brings her paper-based map second, third, fourth. When we combine them, it should make a health facility area complete health facility area and when combined all health facility area. It should make a city area. But generally, this does not happen during the conventional paper-based mapping, which can instantly be generated by this technology and by this technology, we were able to find out the service delivery gaps, missed areas, and in fact also the cluttering of sessions and taking instant decisions. Next point next slide please.

So, this is again almost my last slide where again I have shown that this paper-based map of city and this GIS developed map of a city where these colorful areas show the A and M or the vaccinator areas in between are the missed areas which are which are generated through walkthroughs. And in fact, these walkthroughs were done with the vaccinators only. So, this, this, these were completely, you know, owned and completely had an ownership. And in fact, I must say, agreement of the government stakeholders, since beginning of data collection. And they realized and when we advocated, the government realized and then they, you know, they did the resource, reallocation of those areas of among the health facility and the vaccinators. So this is these are the, you know, basic, you know,

things which we learned from this technology, where, number one, we were able to identify this area, if there any we are able to allocate or reallocate those areas, we are able to identify service delivery points where there may be cluttering of service delivery points or, you know, maybe that big area is not having a service delivery point and requires so and also we were able to map all those service delivery points with time like week wise, that which day, which session site is happening, of which day, of which week. So, week number one, two, three, four and all days. So, and in that sense, we can also monitor that. Yes. On the second Monday these are the live session sites which are happening.

[00:55:00] And if a government counterpart wants to go and monitor and see the sessions happening, the real execution of the microplan is happening or not on the ground. So that is possible through. And this, you know, the current agenda of zero dose, zero doses identifying zero doses and under-immunized children which are generally into these missed areas or missed service delivery, you know, missed communities and, you know, also the vulnerable communities. So, which is, I must say, add on to the conventional paper-based mapping. So, adding this technology has always has as learned, we have learned lesson lessons into these two cities intensively, and I must again reiterate that conventional paper-based mapping leaves in between missed areas and also the targeted population sometimes. So, which can be, you know, overcome through use of this technology. Thank you very much. And I would request Dr. Soni, project director to add on.

>> I think we have covered, but definitely this is a good tool which we have developed to showcase as a pilot in some of the cities and which can be replicated in other geographical areas, especially the challenges. What we face, the urban challenges where every time we have mentioned the peri urban challenge, peri urban challenge in every country. So, I think this will be a good tool to clearly demarcate the boundaries on the ground. Instead of papers we are on the papers, we are mentioning points from one point to another point to us at this point, to this point, that point to reach the micron areas. But this will be a great challenge, a great opportunity to have clear demarcation accountability framework for the health care workers, accountability for the urban health facilities, and accountability for the rural urban boundaries on the ground. In case there is expansion, the boundary will demarcate case. This is the area of urban. This is the area of the rural. So, it fixes the accountability framework and we can populate the data on the monthly basis regularly. We can see in urban health facility which data is available. Where are the vaccine outbreaks are coming? Where is the coverage. Low performing areas are there. Where are the high-risk areas which need to be focused? It may be concentrated for areas of high risk in one urban city and in urban adjoining health facilities, so which can be clearly demarcated and visualized by this GIS mapping if we plot it appropriately. And these new locations have been captured as per the actual in the field. Thank you.

>> Thank you.

>> Thank you both. Dr. Anil and Dr. Soni. That was great. Really interesting to listen to and learn about that experience. Unfortunately, we are out of time for today.

So, there are some good questions I see here in the Q&A. Thank you for providing those. We will make a point to address those in our recap email that we send out with the recording of this webinar, as well as the PowerPoint slides and the landscape analysis report on microplanning that we mentioned. But thank you everyone so much for attending. Thank you so much to our wonderful presenters. This was really informative and great discussion. If you have an extra minute, please, take a second and provide some feedback on our webinar. We'll put the link in the chat as well. Or you can scan the QR code on the screen. It takes maybe a minute. And it's really valuable to us as we tailor our webinars moving forward. So yes, thank you again to our guest speakers for their time and expertise. All the participants for your engagement. And we will follow up via email with the responses to those questions. Thank you so much, everyone.