

Zero-dose learning platforms

Platform manager and user surveys report

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EXECUTIVE SUMMARY

<u>Gavi's Zero-Dose Learning Hub (ZDLH)</u> conducted surveys with digital platform and network managers and their users in order to better understand how these platforms and networks are currently being used by immunization practitioners working to identify and reach zerodose children—including in applying Gavi's <u>IRMMA framework</u>. The managers survey sought to understand global usage as well as reach within Gavi's four Country Learning Hub (CLH)

countries (Bangladesh, Mali, Nigeria, Uganda), and platform capabilities specifically relevant for zero-dose challenges that could be used to amplify targeted messaging, especially for the ZDLH. The user survey sought to understand which platforms are being used to support zero-dose work, and the types of platformbased learning that are most useful to immunization practitioners in addressing zero-dose challenges.

Digital platforms and tools provide mechanisms for the storage and dissemination of information and for connecting individuals working on related issues. An understanding of **how digital** platforms and tools are used by those working on zero-dose challenges can help guide planning on segmenting communication and dissemination of information to target populations, and also provide insights into practitioners' preferred options for connecting and engaging with others.

AT A GLANCE...

- We surveyed 17 digital platforms and networks to better understand how they are currently being used by immunization practitioners related to zero-dose work globally and in four ZDLH Country Learning Hub countries.
- Platforms are used primarily to improve knowledge, skills, and behaviours, and to learn from others.
- Of the nine platforms who responded to the survey, those with the highest numbers of registered users are the Immunization Academy (833,000), the Movement for IA2030 (46,000), and CORE Group (15,000).
- Instant messaging and videoconferencing were the most favoured approaches for making virtual connections with other practitioners.
- Report findings can be useful in targeting platforms for specific zerodose needs and segmented communication. "Mid-range" platforms, in many cases, may offer the best trade-off.

A landscape analysis of immunization-related and CLH country-focused platforms revealed 17 key platforms or networks that had recently hosted discussions/dissemination related to immunization zero-dose issues, or that were in the process of setting up to host zero-doserelated topics. These 17 platforms were contacted, and information was provided by 13 of the platforms, which vary in scope, reach, and purpose. All platform managers were sent notification that findings would be used to help Gavi and partners to better target zero-dose related information with immunization practitioners.

Of the 13 responders, nine submitted a managers survey and four provided additional information but did not submit a survey. After the initial deadline for submission of the managers survey, the timeline was extended twice, and individualized messages were sent to non-responsive platforms/networks. After analysis and compilation of a draft version of this report (3 months after the survey had been disseminated), non-responders and platforms/networks for which usage data were missing were re-contacted and given one final opportunity to provide feedback.

Across the nine platforms for which data were provided, those with the greatest reach also have the widest scope. The number of registered users varied from 833,000 (Immunization Academy) to less than 1000 (Social Norms Learning Collaborative websites). Platforms varied in scope and content, to varying degrees focusing on: (1) dissemination/webinars around technical documents/findings, (2) short courses in immunization, (3) inter-country learning collaboratives, and (4) peer learning networks of national and subnational health workers.

For **platform users**, 1763 responses were provided, including 993 from Nigeria, 87 from Uganda, 69 from Mali, and 18 from Bangladesh. Most respondents (87%) were aware of the Gavi definition of zero dose (although one in five at the facility level were not familiar with the terminology). More than 80% were actively working to reach zero-dose children. Of those responding, **64% had used a digital platform within the past 12 months**, with usage in countries varying between 57% in Uganda and 89% in Bangladesh; usage was lower at the facility level.

Subnational practitioners were proportionately more likely to have used the Movement for IA2030, Immunization Academy, and Teach to Reach platforms, and less likely to have used the Gavi Zero-Dose Community of Practice and TechNet-21 platforms.

In terms of reasons for using a platform, the top reasons were to **improve knowledge, skills, and behaviour** (45%) and to **learn from others** (20%). Women were slightly more likely to select learning from others. Responses were broadly similar across different levels of the health system and countries.

The most well-used platforms for addressing a zero-dose challenge were the Movement for IA2030 and the Communication Initiative Network. Although less well used, the Immunization Academy was proportionately more likely to be used by subnational practitioners. If available, the most preferred sites for use in zero-dose work were the Gavi Zero-Dose Community of Practice, the Movement for IA2030, and the Gavi Zero-Dose Learning Hub. (Of note, at the time of the survey the Zero-Dose Learning Hub website had yet to be launched, so this selection may reflect an expectation that the platform would be a valuable resource for zero-dose work.)

The most popular tool to connect with colleagues to learn from each other was **instant messaging**, followed by **face-to-face meetings**, and **video-conferencing**.

The findings suggest **wide use of platforms for a range of purposes**, particularly identification of educational resources, training, and peer contact. This appears true for respondents from all ZDLH focus countries. There is some evidence that **women may be particularly keen to learn from others** and that digital platform use is lower at the periphery of immunization programmes.

Implications for zero-dose community building: Practitioners are currently using a diversity of platforms, each of which has its own particular focus and specialty areas. Potentially, different kinds of resources or projects could be targeted to the most appropriate platform. In addition, greater coordination across platforms could ensure that target audiences are reached more effectively.

Implications for dissemination: Multiple options exist for dissemination of information/materials. Some platforms have a very large reach, but may not focus on a membership model, and not all users are likely to have an interest in zero-dose challenges. Platforms with smaller reach may facilitate more targeted dissemination. The lack of

response from eight of the 17 global platforms contacted, despite multiple requests and from more than one source, raises questions about their reliability for timely dissemination of information and materials.

PLATFORM PREFERENCE SUMMARY*:

General usage	 Movement for IA2030 OpenWHO.org WHO.int Teach to Reach Immunization Academy
Usage to address a zero-dose challenge	 Movement for IA2030 Communication Initiative Network Gavi Zero-Dose Community of Practice Immunization Academy OpenWHO.org
Favoured platform for zero-dose work	 Gavi Zero-Dose Community of Practice Movement for IA2030 Gavi Zero-Dose Learning Hub Immunization Academy OpenWHO.org

*From platform user survey. Top five responses to questions relating to past and potential future usage. See Annex 2 for more information.

KEY FINDINGS AND RECOMMENDATIONS

#	KEY FINDINGS	RECOMMENDATION
1	Each platform has a unique range of attributes	Use report findings to target different types of materials or engagement to different platforms according to their particular strengths (e.g., a focus on distance learning modules, document resources, networking, peer learning, geographies), including incorporating findings into segmented approaches in the ZDLH Knowledge Management Learning and Communications Plan.
2	 The landscape is a diverse ecosystem – no single site acts as a comprehensive "one-stop shop" meeting the needs of all practitioners with an interest in zero-dose issues Options for targeted dissemination of output or forms of engagement: Distance learning modules/short courses: Immunization Academy. Document-based resources (e.g., guidance, reports): TechNet-21, Gavi Zero-Dose Community of Practice, Vaccination Demand hub, others. Webinars: CORE Group, International Association of Public Health Logisticians, Movement for IA2030, Teach to Reach. Peer exchange events: Movement for IA2030, Teach to Reach, Sabin Boost Community. 	 Recognize the diversity of the ecosystem and coordinate dissemination and engagement activities across platforms according to a deeper understanding of their individual strengths that has emerged from this report. Encourage greater linkage between sites, so that any route opens up access to the full range of resources and opportunities. Note: This recommendation will be included in ZDLH's ongoing refinement of its knowledge management, learning, and communications plan. Build partnerships with platforms to strengthen focus on zero dose and encourage cross-promotion.
3	Platforms operate at global or national levels	 Country Learning Hubs and others can use this report's findings to guide dissemination of their information to global audiences vs in-country and sub-national needs. Country-specific findings particularly apply to Bangladesh, Mali, Nigeria, and Uganda.

INTRODUCTION

Reaching zero-dose and under-immunized children is one of the major themes of Gavi 5.0 as well as the Immunization Agenda 2030 (IA2030). In 2021, 18.2 million children globally did not receive a single dose of diphtheria, tetanus, and pertussis (DTP) vaccine (the zero-dose), and many more did not complete their full infant vaccination schedule (the under-immunized).

Several global platforms have been established to facilitate and promote sharing of knowledge and experience relating to immunization of zero-dose children. This study has used **surveys of network managers and platform users** to collate information on these platforms, their key activities and their use by immunization practitioners in low- and middle-income countries (LMICs), including Gavi's four Zero-Dose Learning Hub focus countries, Bangladesh, Mali, Nigeria, and Uganda.

This analysis provides a foundation for understanding better how platforms that include zerodose content are being used, and will inform decision-making on routes of dissemination of information related to addressing zero-dose challenges, including in the context of applying Gavi's <u>IRMMA framework</u>. This analysis also suggests how the diverse scope and approach of different sites can be leveraged to strengthen engagement with target audiences globally and in LMICs. A separate report was prepared specifically for the <u>ZDLH Country Learning Hubs</u>, to provide evidence for better informed dissemination and learning decisions.

METHODOLOGY

A landscape analysis of immunization-related and CLH country-focused platforms revealed 17 key platforms or networks that had recently hosted discussions/dissemination related to immunization zero-dose issues, or that were in the process of setting up to host zero-doserelated topics. (It is possible that relevant sites were overlooked, although team members have many years' experience of working in immunization and in the digital space.)

Separate surveys were organized to collect information from the managers of 17 relevant platforms and users of the platforms (Annexes 3, 4). An Institutional Review Board (IRB)

approval included exemptions for both manager and user surveys. Both surveys included consent forms. To obtain information from platform users, platform managers were asked to distribute user surveys to their registrants. Platform managers were informed that findings would be used to help Gavi and partners to better target zero-dose related information with immunization practitioners.

Of the 17 platforms contacted, information was provided by 13 platform managers. Of the 13 responders, nine submitted a managers survey and four provided additional information but did not submit a survey. After the initial deadline for submission of the managers survey, the timeline was extended twice, and individualized messages were sent to non-responsive platforms/networks. After analysis and compilation of a draft version of this report (3 months after the survey had been disseminated), non-responders and platforms/networks for which usage data were missing were re-contacted and given one final opportunity to provide feedback.

ANALYSIS

Platform managers survey: Information on usage of each platform was tabulated. Information was also tabulated on the types of resources made available on each platform.

Platform users survey: Survey data were tabulated in Excel. Various subgroup analyses were carried out, with data disaggregated by CLH country, gender, and level in the health system. Tabulated data are included in Annex 2. Summary graphics were developed in Excel and included in the main text. Findings related to each CLH country are summarized separately.

Project team members analysed free-text responses to identify contributions relating to the use of digital platforms to address zero-dose challenges. Illustrative excerpts of these contributions are included to complement the quantitative analysis.

PLATFORM ANALYSIS

The platform survey was distributed to 17 networks/platforms. Survey responses were received from nine and an additional four submitted alternative information. Of the platforms sharing feedback (briefly summarized in Annex I), some focus entirely on zero-dose and missed community challenges, some on immunization more generally, and some on wider development issues of relevance to access of health services. Some act globally and others focus on more restricted geographies.

The platforms perform a variety of roles, for example providing a route for dissemination of information, developing and making available educational materials and learning resources, organizing events such as webinars, supporting networking, and facilitating peer learning. Each has its own niche, so particular types of resources could be channeled to the most appropriate platform.

Potential contributions to the zero-dose agenda highlighted include:

- Connecting and convening practitioners (from immunization and other relevant fields). Providing a dissemination channel for new resources.
- Developing and providing access to high-quality educational resources.
- Capturing and sharing the experiences of front-line workers to support peer learning
- Enabling international networking.
- Providing a channel of communication from countries to global stakeholders.
- Connecting frontline practitioners to academic or global experts.

Platform	<u>G</u> lobal or <u>C</u> ountry focus	Text resources	Case studies	Videos/ multimedia	Webinars	Training courses	Peer exchange events	Net- working
CORE Group	G	\checkmark	\checkmark		\checkmark			$\sqrt{1}$
Immunization Academy	G	$\sqrt{2}$		\checkmark		\checkmark		
International Association of Public Health Logisticians	G	\checkmark		\checkmark	\checkmark	√3		\checkmark
Linked Immunization Action Network	C ⁴	\checkmark	$\sqrt{3}$		√3	$\sqrt{3}$	\checkmark	\checkmark
<u>Movement for</u> Imm Agenda 2030	G	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark	\checkmark
TechNet-21	G	$\sqrt{3}$	$\sqrt{3}$	$\sqrt{3}$	$\sqrt{3}$	$\sqrt{3}$		\checkmark
Teach to Reach	G		\checkmark		\checkmark	\checkmark	\checkmark	\checkmark
<u>Social Norms</u> <u>Learning</u> <u>Collaborative,</u> <u>Global</u>	G	$\sqrt{3}$	√3	√3	$\sqrt{3}$	√3		\checkmark
<u>Social Norms</u> <u>Learning</u> <u>Collaborative,</u> <u>Nigeria</u>	C ⁵	√3	√3	√3	√3	√3		\checkmark
OpenWHO.org	G		\checkmark			\checkmark		
<u>Gavi ZD</u> <u>Community of</u> <u>Practice</u>	G	$\sqrt{3}$						\checkmark
UNICEF Agora	G		\checkmark	\checkmark		\checkmark		\checkmark
Communication Initiative Network	G	\checkmark		\checkmark				\checkmark
Sabin Boost	G		$\sqrt{3}$			\checkmark	\checkmark	\checkmark

Table 2: Overview of resources and activities supported by platforms (these platforms cover broader health or immunization themes, with varying levels of focus on zero-dose topics)



1. Humanitarian-Development Nexus Collaboration Hub

2. For trainers

3. Links to third-party sites/resources

4. Gavi middle-income countries

5. Nigeria

6. Burundi, Democratic Republic of the Congo, Ethiopia, Kenya, Rwanda, Uganda, and Tanzania

The number of zero-dose-specific activities organized over the past 12 months ranges from 0 to 12. Two platforms reported being endorsed by the ministry of health of a ZDLH focus country (Nigeria). Importantly, platform evaluations have not extended beyond self or internal evaluations.

PLATFORM USAGE

Platforms vary greatly in format and intent, so some have more structured membership, while others focus more on unique users/views. In the following table, "registrants" across platforms should be interpreted not in terms of comparison across platforms, but rather by how each platform might be used for particular types of dissemination based on members vs users/viewers, location data, etc. A separate section has been provided to help understand data from platforms without membership models, and footnotes added for those offering courses with less structured membership configurations. The number of registrants varied from 119 (Social Norms Nigeria) to 833,000 (Immunization Academy; unique users, not membership). Only a subset of platforms was able to break down registrants by location. The number of users active in the past 6 months varied from 60 (Social Norms Nigeria) to more than 39,000 (Immunization Academy; unique users) but data were available from only a limited number of platforms.

Table 3: Platform usage *ND = No data*

Platform	No. of regist	rants	No. registered in past 3 months	No. active in last 6 months			
	Total	BD	MA	NI	UG		
Movement IA2030	48,151	189	1099	10,902	451	4448	4158
CORE Group	15,000	ND	ND	ND	ND	ND	500
Teach to Reach	14,134	6	29	3642	116	2701	1240
IAPHL	7909	21	17	1864	201	148	ND
TechNet-21	5903	35	51	589	67	285	1000
Sabin Boost	3500 ¹	ND	ND	ND	ND	ND	ND
Vx Demand Hub	1899 ²	ND	ND	ND	ND	1938 ³	20114
Gavi ZD CoP ⁵	1016	ND	ND	ND	ND	127	304
Social Norms, GL	725	2	ND	68	25	27	ND
Social Norms, NG	119	ND	ND	119	ND	3	60
Comm Init Netwk	ND	ND	ND	ND	ND	ND	ND
The Curve	ND	ND	ND	ND	ND	ND	ND
Social Norms, E.Af	ND	ND	ND	ND	ND	ND	ND
NON-MEMBER PLATFORM	IS – THESE DO NOT	ΗΑΥΕ Α ΜΕΜΙ	BERSHIP BASE	, "REGISTRA	NTS" REFERS	TO UNIQUE USERS	VIEWS
OpenWHO.org ¹	6.7 million ⁶	ND	ND	ND	ND	ND	ND
Imm Academy	833,0007	73,015	7999	58,148	9665	17,616	39,330
UNICEF Agora	60,066 ^{1,8}	ND	ND	ND	ND	ND	ND
Linked Network	39,679	162	18	2465	248	2515	4893

1. Data obtained from websites or platform publications; UNICEF Agora based on latest annual report available online (2019)

- 2. Average number of monthly unique visitors (January-July 2023)
- 3. Average number of monthly unique visitors (May-July 2023)
- 4. Average number of monthly unique visitors (February-July 2023)
- 5. Respondents' data as at March 2023
- 6. General health course enrollments since 2017, not specific to immunization or zero-dose
- 7. Based on IA Watch platform; as at 11 May 2023 had 833,000 unique users, with some overlap on YouTube channel (10,900 subscribers) and WhatsApp group (5,000 members)
- 8. General health and emergency course enrollments 2015-2019, not specific to immunization or zero-dose

USER ANALYSIS

A total of 1763 responses were received (Figure 1, Annex 2 Table 1), including 1569 responses to the English survey and 194 responses to the French survey.



Of these, **79% have zero-dose children locally** and **83% are actively working to reach zero-dose childre**n; **87% were aware of the Gavi definition of zero dose** (Figure 2, Annex 2 Table 2).

- Across all these measures, women's responses were slightly lower than men's.
- Familiarity with zero-dose definition ranged from 80% in Uganda to 90% in Nigeria.
- The presence of zero-dose children locally ranged from 79% in Nigeria to 91% in Mali.
- The proportion of respondents working with zero-dose children ranged from 78% in Bangladesh to 88% in Mali.
- Across health system levels, those working at the district level were least likely to be familiar with the zero-dose definition, to have zero-dose definition children locally, and to be actively working to reach zero-dose definition children.

In each country, approximately a third of respondents were managing activities (57% in Bangladesh) and a similar number working in a health facility (7% in Bangladesh). The numbers personally working with zero-dose children ranged from 26% (Uganda) to 43% (Nigeria).



USE OF DIGITAL PLATFORMS

Of those responding, **64% had used a digital platform within the past 6 months**, with usage in ZDLH Country Learning Hub countries varying between 57% in Uganda and 89% in Bangladesh (Figure 3). Usage was higher nationally than at the periphery (national-level 69%, facility-level 59%) (Annex 2 Table 3). Of those who had used a digital platform, 46.3% referenced a single site, 17.2% two sites, 12.0% three sites, and 24.5% more than three sites.



Across all respondents, **51% had found a platform useful to address a zero-dose challenge** (Figure 3), again with no significant differences across most subgroups, although women were less likely than men to have found a platform useful to address a zero-dose challenge (42% vs 54%) (Annex 2 Table 3).

Across all respondents, the **most highly used platforms** were the **Movement for IA2030**, **OpenWHO.org**, and **WHO.int** (Figure 4, Annex Table 4). Of the top five platforms in terms of usage:

- The Movement for IA2030 platform was particularly likely to be used in Mali, Nigeria, and Uganda and less likely to be used in Bangladesh.
- OpenWHO.org was more likely to be used in Bangladesh and less likely to be used in Uganda.
- **Teach to Reach** was more likely to be used in Nigeria and Uganda, and less likely to be used in Bangladesh.
- The Immunization Academy was less likely to be used in Mali and Uganda (Annex Table 5).



In terms of **reasons for using a platform**, the top reasons selected were **to improve knowledge**, **skills**, **and behaviour** (45%) and **to learn from others** (20%) (Figure 5, Annex 2 Table 5). Responses were broadly similar between countries, although respondents from Bangladesh were markedly more likely to select knowledge, skills, and behaviour (81%), and respondents from Uganda chose this option less often (28%). Women were slightly more likely to select learning from others (27% vs 18%). Responses were broadly similar across different levels of the health system (Annex 2 Table 5).



USE OF PLATFORMS TO ADDRESS ZERO-DOSE CHALLENGES

A total of 762 respondents (43.2%) had used a platform to address a zero-dose challenge. Among this group, the most well-used platforms were the **Movement for IA2030** and the **Communication Initiative Network** (Figure 6, Annex 2 Table 6). **Subnational-level** practitioners were proportionately more likely to have been using the **Immunization Academy** platform.



The most useful aspects of the platforms used to address a zero-dose challenge were similar to those for use of digital platforms more generally (Figure 7, Annex 2 Table 7). Respondents working at the facility level were slightly more likely to select improving knowledge, skills, and behaviour (47%, globally 41%) (Annex 2 Table 7).



Use of a digital platform was reported to have equal benefits across three domains (improved my practice, improved my understanding, helped me reach and vaccinate zerodose children; average Likert scores 5.1, 5.1 and 5.0 out of 6, respectively) (Annex 2 Table 8).

USE OF DIGITAL PLATFORMS AND PREFERENCES

The most popular tool to connect with colleagues to learn from each other was instant messaging, followed by face-to-face meetings and video-conferencing (Figure 8, Annex 2 Table 9).



In terms of the **favoured platforms for zero-dose work**, the most frequently selected option was the Gavi zero-dose community of practice, followed by the Movement for IA2030, the Gavi Zero-Dose Learning Hub, and the Immunization Academy (Figure 9, Annex 2 Table 10).



Among the top five platforms:

- The Gavi Zero-Dose Community of Practice and the Movement for IA2030 were particularly favoured by sub-national practitioners.
- The Gavi Zero-Dose Community of Practice was more favoured by respondents from Uganda and less favoured by respondents from Mali.
- The Movement for IA2030 was more favoured by respondents from Uganda and Mali.
- The Gavi Zero-Dose Learning Hub was slightly more favoured by respondents from Uganda and slightly less favoured by respondents from Mali and Nigeria.
- The Immunization Academy was less favoured by respondents from Mali and Uganda.
- OpenWHO.org was less favoured by respondents from Mali and Uganda

The **specific learnings** from global digital platforms that was seem as most helpful were improving knowledge, skills, and behaviours, learning from the experience of practitioners in other countries, and learning from the experience of practitioners in host countries (Figure 10, Annex 2 Table 11).



The most favoured methods for use of digital platforms to learn about zero dose from practitioners who cannot be met face to face were videoconferencing, instant messaging, and discussion forums (Figure 11, Annex 2 Table 12).



VALUE OF PLATFORM CONTENT TO USERS

Respondents were asked to share details of how a platform they had found useful in their zero-dose work had been helpful. The responses highlight the **diversity of routes through which** a digital platform can be of benefit to practitioners.

Some responses referred simply to developing a **better understanding of the meaning of "zero dose"**. Others made reference to the **development of new skills** or **acquisition of new knowledge**, either in general terms or in specific areas of practice.

"The platform helped me reach and vaccinate zero dose children because I was able to better understand what zero-dose children mean, and also identify barriers to vaccination and gained knowledge on how to better counter these barriers."

"It's helped me conduct a survey that showed me the exact picture where these children are [in] underserved communities and hard to reach areas."

"I have learnt lesson from my global experts and shared my experience and with these cumulative lessons I have developed the bottleneck analysis for the zero-dose and missed communities and conducted survey (rapid household coverage survey)."

"Defaulter tracking mechanism by making calls"

"Through the various interactions I had with tutors and colleagues on the platform, I was able to identify communication as a vital and necessary tool to reaching out to under immunized communities/children. Learned a lot about interpersonal communication skills that helped me greatly when I was in the field."

Common themes referred to include the **use of data and data tools**, **engaging with communities**, improving **microplanning** and campaign management, and dealing with **hesitancy**.

"The platform help to collate immunization data on monthly basis which help to track the percentage coverage of various antigens including the pentavalent vaccines."

"Through educative videos I learnt that it is essential to get community/settlement leaders to key into immunization activities." "Community-driven approach which helped me to better understood most effective and efficient way of practising Strategic Behavior Change Communication to achieve positive change among targeted subjects"

"I learned from the experience of other immunization professionals about strategies to increase uptake of vaccines and also reduce hesitancy. I learned about considering the time that the community members are available and taking time to clarify misconceptions."

"It's given me an insight into how to organize community engagements and collaboration to improve immunization services including zero dose. Through community activation meeting and planning."

"Most of the area in my county is insecure and I can't access it on daily basis/weekly basis. Through the help of the Immunization Academy, I come up with PIRI system on monthly basis to reach out to those insecure villages for 3 to 5 days at least to cover those zero-doses or missed communities."

"The powerBI is a self-service data analysis and report authoring tool, like a dashboard which summarizes immunization performance by groups. It turns information into interactive visuals hence the UNHCR locator map points to where to reach the IDPs/refugees and with serious team work and collaborative efforts the zero-dose children are fished out among the population. This approach is adopted especially now with the crisis in Sudan which increases influx into SSD."

Some respondents also made reference to the specific aspects of the platform that they most valued. These included access to **online training materials**, **experience-sharing by peers**, connecting and **networking with peers**, participation in **webinars**, gaining access to **global experts**, and gaining specific **technical training**.

"Learning strategies and experiences from other scholars helped me in addressing immunization challenges in my district. It helped me in planning and management of vaccination activities during the pandemic reach communities."

"I used the experience others shared on the platform to solve problems on how to reach zero dose children."

"It helped me connect with other practitioners from other countries like Zambia and Nigeria from whom I got to know the kind of challenges they too face in reaching the zero dose." "Learning and connecting with other groups is very helpful. And the most important is the supportive Learning environment within Boost Community and the simple access to all learning materials"

"Using the openWHO.org platform exposed me to a range of webinars, trainings and courses on immunization and challenges faced especially in paediatrics. It helped me better address these challenges by exposing me to useful tools and guidance."

Other cited benefits included the development of important **transferrable skills**, such as problem-solving and **communication**.

"It helped me learn on how to identify problems, their cause and to develop solutions to address the same."

"The communities around me have developed interest in the immunization as results of my knowledge gotten from the Communication Initiative Network. It helps me through giving me more confidence to communicate through facts and data. Majority of those that are not ready to be vaccinated are now ready to do so through my interaction and communication with them."

The **emotional value** of connecting with peers, and realizing others are facing similar challenges and can offer personal as well as practical support, was also highlighted.

"I was encouraged by the feedback from colleagues globally when I could share my stories about my challenges at work and I thought I was the only one facing that and the positive feedback gave me strength to continue to work hard even in difficulties and inadequate resources."

Longer contributions begin to provide insight into **pathways of change** that lead from participation in digital platform activities to impact on the ground.

"Teach to Reach is very helpful to me because the process helped me to develop skills that guided me to collaborate and engaged others in order to have some level of knowledge and experience required achieved a desired goal. For example, I engaged, trained, teach and impacted knowledge to military personnel on why we need to reach the communities missed due to insecurities. The military personnel are key players we use in reaching zero dose children in inaccessible settlements."

"Prior to my involvement in IA2030 Movement, my idea of Immunization programming was just about the administration of Vaccines. Now, I have come to realize that Immunization is people centered, from planning, acceptance, trust, coverage, service delivery to Immunization experience. Being able to identify challenges of Immunization programming through root cause (situation) analysis, is a game changer for successful implementation of the programme."

"The Boost platform helped me rethink my approach to solving problems. I am able to separate the technical issues from those requiring a strategic leadership approach. When I encounter challenges around vaccine hesitancy I am able to segment the audience better and analyse each stakeholder to see how to resolve the issue."

"Help deepen my understanding my understanding of the IA2030, and how as a civil society activist and Immunization advocate, I can support the process of influencing direct health workers and others. With the tools and courses, I developed and implemented plans aimed reducing zero doses or under immunized children. Created and sustained a pathway to engage and effectively partner with other stakeholders in improving delivery and access of Immunization services." "Previously I used to perceive that zero dose children did not exist where administrative coverage was above 100%. However, after I reviewed materials and different guidelines related to zero dose, I started to conduct house to house survey and found about 12,000 zero dose children in 24 districts."

"It has helped me understand that the consumer (Child) is at the centre, the parent, guardian or caregiver is the decision maker and we have influencers around the decision maker. Therefore, we have to have all three (3) levels of persons addressed to have the child vaccinated.

The access and utilization of services also have to be addressed. that is at Service delivery and policy level.

Use of Human Centered Design is important to build Trust, confidence and collective action towards getting to Zero.

It is important to plan, implement, give feedback and work with preference of individuals and communities for ownership and sustainability.

Communities are unique and deserve unique strategies and approaches to address demand creation for vaccine delivery and acceptance."

LIMITATIONS

Platform managers survey: The lack of response from four platforms and limited information from an additional four impedes the ability to more comprehensively assess the reach and scope and content of the 17 platforms with ZD content. In addition, few sites were able to provide detailed user information, broken down by country and level in the health system. Platforms have carried out minimal evaluations and few data on evaluations were provided.

Platform users survey: In the open text responses querying usefulness of digital platform to zero-dose work, most responses discussed zero-dose-related activities or highlighted generic benefits. Under-participation of respondents from Bangladesh has limited the conclusions that can be drawn about practitioners from this country. Most of the questions in the user survey were close ended. Because distribution to users relied on platform managers, it was not always possible to verify that distribution took place and response rates could not be tracked. Responses are biased in favor of those who chose to respond.

DISCUSSION AND RECOMMENDATIONS

This study has provided global as well as ZDLH Country Learning Hub country insights into (1) the characteristics of the digital platforms of potential value to immunization practitioners with an interest in zero-dose challenges and (2) the digital platform preferences of such practitioners.

PLATFORMS

There is considerable **variation in the resources** provided by the different platforms, spanning specific online learning modules, guides, documents and other information resources, webinars and online events, and experience-sharing activities. Some sites develop their own resources while others mainly act as portals to other content.

IMPLICATIONS FOR PLATFORM ENGAGEMENT...

- Each platform has its own specific range of features. Engagement with platforms should be based on their individual strengths.
- Dissemination needs to balance reach and specificity. Although zero-dosespecific platforms achieve high specificity, with information likely easier to find or ask for, their reach is currently low. "Mid-range" sites (e.g., Movement for IA2030, Boost, TechNet-21) may provide the best trade-off between reach and specificity.

The **user base** of digital platforms also varies enormously. Three broad categories of site can be distinguished:

- Well-established global platforms with many hundreds of thousands of users, but without a membership or networking focus (e.g., Immunization Academy, OpenWHO.org).
- Mid-range immunization-wide platforms with >3000 users, with a member and networking/sharing focus (e.g., TechNet-21, Movement for IA2030, Boost).
- Niche platforms, more geographically or thematically focused and with <3000 users, with a member and networking/sharing focus (e.g., Gavi Zero-Dose Community of Practice).

PLATFORM USAGE

Among respondents, **use of digital platforms in the past 6 months is moderately high**, averaging 64%. Use in the past 6 months is similar across ZDLH focus countries, although use is particularly high in Bangladesh (but respondent numbers are small). Of these, 80% found a zero-dose platform useful to address a zero-dose challenge.

Respondents are using digital platforms for a range of reasons, but particularly to improve knowledge, skills, and behaviours, to learn from others, and to learn from international experts. The most-used platforms included the major global sites, but was highest for the Movement for IA2030. When the focus was specifically on zero-dose, platforms such as the Gavi Zero-Dose Community of Practice and Gavi Zero-Dose Learning Hub were also strongly favoured.

Certain sites that might have been anticipated to have been commonly referenced were only rarely selected as options for currently used platforms or platforms favoured for future use. This suggests that these sites are not yet offering resources, networking opportunities, or other features sufficient to attract large numbers of practitioners with an interest in zero-dose and under-immunized children and communities.

The **Zero-Dose Learning Hub** emerged as a highly favoured platform, even though it did not exist at the time of the survey. This probably reflects high "brand recognition" of the Gavi name and an assumption that it would provide useful resources or other benefits.

In terms of digital networking methods, **videoconferencing** and **instant messaging** were the most favoured.

Implication for use of platforms: The evidence from this survey suggests that digital platforms are popular and seen as useful for a variety of purposes. Each has its own niche, so particular types of resources could be channeled to the most appropriate platform (e.g., a distance-learning module to the Immunization Academy site).

"Mid-range" platforms (e.g., TechNet-21, Movement for IA2030, Boost) appear to have the advantage of having relatively large numbers of users and relevance to zero dose. The most focused platforms (e.g., Gavi Zero-Dose Community of Practice) are likely to cover those with the strongest interest in zero-dose challenges but have yet to establish a sizeable global footprint. A challenge for the more focused platforms is to demonstrate that they can deliver

benefits beyond those of the mid-range platforms, which have the advantages of scale while retaining a broader focus on improving coverage – it is unlikely that practitioners will only be interested in zero dose: more likely, it will be a special area of interest alongside other immunization priorities.

Implications for dissemination: Potential audiences are using a variety of platforms, suggesting that a pluralistic dissemination strategy should be adopted. Engagement with large platforms may offer large target audiences, but may not be the best way to target communication. The most focused platforms are likely to have the most highly engaged audiences, but are currently relatively small. The "mid-range" platforms may offer a good balance between scale and subject focus.

Dissemination of outputs and targeting engagement:

The variety of platforms provide an opportunity for targeted dissemination of particular types of output or different forms of engagement with practitioners:

- Distance learning modules/short courses: Immunization Academy.
- Document-based resources (e.g., guidance, reports): TechNet-21, Gavi Zero-Dose Community of Practice, Vaccination Demand hub, others.
- Webinars: CORE Group, International Association of Public Health Logisticians, Movement for IA2030, Teach to Reach.
- Peer exchange events: Movement for IA2030, Teach to Reach, Sabin Boost Community.

Engagement with practitioners at different levels of the health system:

- Limited data are available from platforms on the characteristics of their users, such as level in the health system.
- Responses from the user survey suggest slightly lower levels of use of peer learning platforms (Movement for IA2030, Teach to Reach) by national-level practitioners, and slightly higher use by sub-national practitioners.
- Use of some platforms (e.g., TechNet-21, Zero-Dose Community of Practice) is skewed towards national-level practitioners.
- The preferred platforms for zero-dose work (Gavi Zero-Dose Community of Practice, Movement for IA2030, and Zero-Dose Learning Hub) were also all favoured by subnational practitioners, with the Immunization Academy also being relatively highly preferred by this group.

ANNEX 1: DESCRIPTIONS OF PLATFORMS RESPONDING TO SURVEY

CORE Group

CORE Group is a non-profit with members that work as technical experts across the world. Many of its members, as well as CORE Group itself, work on reaching zero-dose children, through our immunization programmes, communications, knowledge management, advocacy, learning and convening. Website makes available multiple resources technical briefs are regularly shared with members and the International Community Health Network, hosted by the CORE Group.

ZD role: The platform contributes to technical approaches and solutions in reaching zero-dose children, in development and fragile settings. It contributes to advocacy, communications, knowledge management, and convenings. Its members are technical practitioners and provide direct feedback around solutions and challenges in reaching zero-dose children. It also supports integration with water, sanitation and hygiene (WASH), nutrition, family planning, and other initiatives.

Key activities

- Webinar series with high levels of country engagement on integration of different sectors and reaching zero-dose children. Four countries provided their solutions, with wide representation from Asia, Africa and the US.
- A learning agenda has been developed with the ZIP programme consortia for fragile and humanitarian states, alongside a learning tool for practitioners to capture regular and consistent learning, in alignment with the learning questions.
- A global roundtable was organized, addressing gender, political will, nutrition, research, investments, and other technical areas to address coverage and policy for zero-dose children.

Platform partners

 Non-profits, research institutions, private sector, practitioners (nurses, doctors, CHWs, students, researchers, public health officials), government technical advisors.

Endorsement by ZDLH Country Learning Hub MoH EPI

None

ZD events and activities organized in last 6 months

10

Publicly available ZD resources

 Multiple resources and technical briefs, webinars, etc. on platform and distributed throughout listservs

Evidence of use

- Self or internal evaluation and reporting
- Analytics of click rates and countries opening; focus groups and individual interviews surrounding use of products, webinars, etc. are conducted.

Immunization Academy

IA Watch offers over 150 short, video lessons based on WHO guidance, each teaching an essential immunization skill. IA Learn offers free, self-paced online courses teaching a series of skills related to specific immunization topics.

ZD role: To identify and reach zero-dose and under-immunized children, countries will need a skilled and motivated workforce. In addition to skills and knowledge related specifically to identifying and reaching zero-dose and under-immunized children, health workers and managers need the skills to deliver and manage their routine immunization programmes effectively. IA Watch and IA Learn platforms give health workers and managers access to high-quality educational resources whenever and wherever they need them.

Key activities

 Two video lessons on identifying zero-dose children and missed communities, and developing a plan to reach zero-dose and under-immunized children, in English and French. (See

https://watch.immunizationacademy.com/en/videos/search?searchstring=zero-dose.)

Platform partners

The IA Watch and IA Learn platforms are freely available for all healthcare professionals looking to build their immunization skills and knowledge. Immunization Academy has over 190 countries represented across users. It is also a Vaccine Safety Net member.

Endorsement by ZDLH Country Learning Hub MoH EPI

Nigeria

ZD events and activities organized in last 6 months

• (

Publicly available ZD resources

 IA Watch has two video lessons on identifying zero-dose children and missed communities, and developing a plan to reach zero-dose and under-immunized children, in English and French. (See

https://watch.immunizationacademy.com/en/videos/search?searchstring=zero-dose.)

Evidence of use

- Self or internal evaluation and reporting
- Over 2 million views of Immunization Academy videos on own site and YouTube.

Movement for IA2030

The Movement for IA2030 offers the opportunity for immunization practitioners to solve their priority immunization challenges, including reaching zero-dose children and communities (over 50% of Movement members reported having issues related to zero-dose children and communities). The platform offers opportunities for experience sharing and peer-to-peer learning.

ZD role: It can be a platform for dissemination of zero-dose guidelines and also a means to capture experiences from frontline health workers on zero-dose.

Key activities

- A zero-dose-specific survey that had over 150 responses and led to a two-hour experience-sharing session on the strategies and tools used by subnational staff to identify and reach zero-dose children and communities.
- A zero-dose case study has been developed]

Platform partners

Wellcome Trust, Bridges to Development

Endorsement by ZDLH Country Learning Hub MoH EPI

None

ZD events and activities organized in last 6 months

• 0

Publicly available ZD resources

IA2030 Case Study 9. Understanding and responding to zero-dose challenges

Evidence of use

- Anecdotal evidence (user feedback)
- Implementation stories from IA2030 Movement members

Teach to Reach

A platform where health professionals from over 120 countries meet, network, and learn with fellow immunization and other health professionals around key themes, including reaching zerodose children and communities.

ZD role: Teach to Reach events prioritize the contributions of those working within national immunization programmes, who share their experience for the benefit of others and receive feedback from global experts who serve as facilitators. Participants have the opportunity to engage in at least two kinds of learning: peer learning and networked learning. Zero-dose policymakers can join to listen to first-hand experiences from the field and point practitioners towards the best available global guidelines.

Key activities

- Regular online experience-sharing events on a range of topics relevant to immunization practitioners at all levels.
- Integrated networking opportunities for participants.

Platform partners

Wellcome Trust, UNICEF

Endorsement by ZDLH Country Learning Hub MoH EPI

None

ZD events and activities organized in last 6 months

None

Publicly available ZD resources

None

Evidence of use

None
TechNet-21

The Technical Network for Strengthening Immunization Services.

ZD role: By promoting the zero-dose community of practice within the far larger TechNet-21

community; by hosting technical zero-dose content; by providing expert guidance from decades

of experience managing an online immunization community.

Key activities

Not answered

Platform partners

Not answered

Endorsement by ZDLH Country Learning Hub MoH EPI

Not answered

ZD events and activities organized in last 6 months

12

Publicly available ZD resources

• Knowledge Hub resources, Hot Topics, Webinars, dissemination and promotion, etc.

Evidence of use

- Self or internal evaluation and reporting
- Engagement metrics such as website hits, webinar registrations, etc.

International Association of Public Health Logisticians

IAPHL is a global community of practice of supply chain professionals in public health and humanitarian action, from last mile to global strategic decision. Its 7900+ membership is drawn from about 150 countries, with 26 country chapters.

ZD role: With about 70% of the 7900 members in Africa, IAPHL is a strong platform via which knowledge, policy direction and new advances in vaccine and immunization can be shared and also generate multi-stakeholder feedback and ideas that can help fashion a more effective strategy and policy towards zero-dose.

Key activities

- Webinar. How Immunization Supply Chains (iSC) contribute to identifying, targeting, and reaching zero-dose communities.
- Conference: The Technet-21 Conference has been advertised on the platform and there
 has been potential collaboration discussion to expound on how last mile supply chain
 could close the gap for zero dose.
- Research: What issues do LMICs face in vaccine distribution? This and many others are examples of how members leverage the IAPHL community of practice to contribute to vaccine and immunization body of knowledge.

Platform partners

 Governments, NGOs, USAID, BMGF, TGF, Technet-21, PtD and host of private sector companies.

Endorsement by ZDLH Country Learning Hub MoH EPI

None

ZD events and activities organized in last 6 months

• 1

Publicly available ZD resources

- Advocacy tool kit
- Compendium of moderated discussions (Listserv+Whatsapp)
- Gender impact on supply chain
- Research platform

Evidence of use

- Self or internal evaluation and reporting
- From IAPHL annual surveys, members provide insights on how IAPHL has added value to them and which resources they found useful.

Linked Immunization Action Network

The network's main aim is to support countries to sustain high and equitable coverage, particularly identification and targeting of zero-dose children. To support countries, the Network facilitates peer-to-peer learning, although zero-dose children are a major focus in only a few of the Network's countries and contexts are very different across countries.

ZD role: Through peer-to-peer discussions sharing experiences implementing interventions to address zero-dose challenges, countries learn new approaches/strategies, lessons learned or good practices to implement in their own countries.

Key activities

- A workshop on implementation of immunization through PHC platforms surfaced key challenges and strategies in coordination and performance management and monitoring of immunization programming.
- A virtual engagement on the use of non-financial and financial incentives to improve immunization program performance.
- Another workshop on RI recovery (due to COVID), surfaced challenges and strategies on managing the health workforce - significant HR challenges have emerged - burnout, reduction in the workforce, etc.

Platform partners

Gavi, WHO and UNICEF

Endorsement by ZDLH Country Learning Hub MoH EPI

Nigeria

ZD events and activities organized in last 6 months

• 0

Publicly available ZD resources

Available at https://www.linkedimmunisation.org/?s=zero+dose

Evidence of use

- Anecdotal evidence (user feedback)
- Armenia had never heard of zero-dose prior to Network workshop last year. Upon hearing about it, they added an indicator to their reporting system and now routinely track zero-dose.

Social Norms Learning Collaborative, Global

A platform facilitating sharing of resources and knowledge related to social norms across the globe, with the goal of informing behaviour change cross-culturally, which may include practitioners and resources related to norms and uptake of vaccines and norms related to vaccine hesitancy and reluctance.

ZD role: The Learning Collaborative can share resources or link with individuals who are working on vaccine hesitancy, vaccine uptake and the social norms associated with such behaviours.

Key activities

 No specific activity related to zero-dose has been hosted in the past year – norms work is typically intentionally broad.

Platform partners

 Global funders (BMGF, USAID, Hewlett, Wellspring Philanthropic Fund), local NGOs, international NGOs (i.e., Save the Children, CARE international, PCI global), universities, local government, local practitioners, healthcare workers, etc.

Endorsement by ZDLH Country Learning Hub MoH EPI

None

ZD events and activities organized in last 6 months

• 0

Publicly available ZD resources

 No resources specific to zero-dose, but many resources on the Align platform relate to identifying, measuring, and creating programmes for social norms. https://www.alignplatform.org/global-learning-collaborative

Evidence of use

Anecdotal evidence (user feedback)

Social Norms Learning Collaborative, Nigeria

The collaborative provides opportunities for exploring and building technical capacities on shifting social norms that contribute to zero-dose burden in addition to sharing knowledge on interventions successfully implemented to reach zero-dose children and missed communities in Nigeria.

ZD role: The collaborative comprises academics, implementing partners and other professionals, some of whom are experts in immunization and can serve as resources to inform strategic guidance on how to reach zero-dose children and missed communities based on nuanced experiences. The collaborative itself can also serve as an avenue for knowledge dissemination to both the general public and development partners, including CBOs, FBOs through a plethora of digital and physical routes.

Key activities

- Direct mentorship to organizations aimed at improving uptake of birth dose immunization antigens which are typically missed due to socio-cultural norms
- Spotlighting and discussing social norms impacting uptake of routine immunization and norm-shifting immunization programmes
- Capacity building webinars on social norms exploration in communities and effective social norms program design

Platform partners

 BMGF, UCSD, SCIDaR, National and State primary healthcare development agencies, implementing partners including CSOs, academic institutions (University of Abuja and Bayero University)

Endorsement by ZDLH Country Learning Hub MoH EPI

None

ZD events and activities organized in last 6 months

• 1

Publicly available ZD resources

 Publications (knowledge products etc.), webinar videos, podcast recordings, capacitybuilding materials

Evidence of use

Self or internal evaluation and reporting

ANNEX 2: ANALYSIS OF PLATFORM MANAGER AND USER SURVEYS

Subgroup	Total	English Survey (N)	English Survey (%)	French Survey (N)	French Survey (%)
BD	18	18	100%		0%
МА	69	5	7%	64	93%
NI	993	993	100%		0%
UG	87	87	100%		0%
Other	596	466	78%	130	22%
Total	1763	1569	89%	194	11%
Male	1291	1120	87%	171	13%
Female	466	443	95%	23	5%
Multi-country	18	17	94%	1	6%
International	59	53	90%	6	10%
National	255	229	90%	26	10%
Regional	324	290	90%	34	10%
District	490	438	89%	52	11%
Facility	617	542	88%	75	12%

Table 1: Breakdown of respondents to user survey

	Fam	ilian			A	vehr		Inv	volven	nent in	ZD	
Location	with	-	ZD w you v		work	vely ing to h ZD	Manager		he	k in a alth ility	Personally worked with	
	(N)	(%)	(N)	(%)	(N)	(%)	(N)	(%)	(N)	(%)	(N)	(%)
BD	16	89%	15	83%	14	78%	8	57%	1	7%	5	36%
МА	60	87%	63	91%	61	88%	20	33%	23	38%	18	30%
NI	893	90%	780	79%	830	84%	248	30%	223	27%	359	43%
UG	70	80%	73	84%	76	87%	27	36%	29	38%	20	26%
Other	498	84%	460	77%	481	81%	169	35%	140	29%	172	36%
Total	1537	87%	1391	79%	1462	83%	472	32%	416	28%	574	39%
Male	1145	89%	1054	82%	1107	86%	372	34%	314	28%	421	38%
Female	387	83%	332	71%	350	75%	100	29%	98	28%	152	43%
Multi-count.	16	89%	13	72%	15	83%	1	7%		0%	14	93%
International	53	90%	48	81%	49	83%	12	24%	6	12%	31	63%
National	222	87%	200	78%	198	78%	40	20%	36	18%	122	62%
Regional	305	94%	286	88%	269	83%	115	43%	25	9%	129	48%
District	441	90%	392	80%	433	88%	216	50%	57	13%	160	37%
Facility	500	81%	452	73%	498	81%	88	18%	292	59%	118	24%

Table 2: Familiarity and work with zero-dose children

Questions:

Are you familiar with Gavi's definition of a "zero-dose" child?

Based on [definition provided], are there zero dose children or missed communities where you work? Are you actively involved in reaching zero-dose children and/or missed communities where you work? Which of these best describes your involvement in zero-dose work?

- I manage health facilities or district(s) that are working to address zero-dose challenges
- I work in a health facility that is working to address zero-dose challenges
- I have personally worked on solving service delivery or demand-related challenges linked to zero-dose children

Group	Used a pl last 6 n		Found a platform useful to address a ZD challenge			
	Number	%	Number	%		
Bangladesh	16	89%	15	83%		
Mali	46	67%	39	57%		
Nigeria	646	65%	507	51%		
Uganda	50	57%	42	48%		
Other	363	61%	293	49%		
Total	1121	64%	896	51%		
Male	827	64%	696	54%		
Female	290	62%	197	42%		
Multi- country	16	89%	9	50%		
International	47	80%	36	61%		
National	176	69%	141	55%		
Regional	215	66%	141	52%		
District	303	62%	253	52%		
Facility	364	59%	290	47%		

Table 3: Use of a platform in the last six months

Questions:

In the last six months, have you used a global digital platform to gain and share knowledge, experience, or insights for your work?

Can you think of a time when using a digital platform helped you to address challenges with zero-dose children or missed communities?

Platform	Total	BD	MA	NI	UG	Other	National and higher	Subnational
Movement for Immunization Agenda 2030 (IA2030)	403	8	30	224	25	116	90	313
OpenWHO.org	322	9	21	162	9	121	86	236
WHO.int website	289	10	14	143	13	109	84	205
Teach to Reach	275	2	18	162	13	80	63	212
Immunization Academy	227	6	10	131	6	74	52	175
UNICEF Agora	140	4	12	69	2	53	43	97
Gavi Zero-Dose Community of Practice (ZD COP)	132	3	9	67	9	44	48	84
TechNet-21	127	4	12	47	1	63	52	75
Other	121	1	3	63	11	43	25	96
Gavi Zero-Dose Learning Hub (ZDLH)	116	4	10	67	3	32	29	87

Table 4: Top 10 platforms used in the last six months

Question: In the last six months, which of these global digital platforms have you used?

	fro	arn om iers	Learn internc expo	ational	Acc too adv	ols/	Ċ	ge data or rements	know ski	Improve knowledge, skills, behaviours	
	(N)	(%)	(N)	(%)	(N)	(%)	(N)	(%)	(N)	(%)	
Bangladesh		0%	2	13%		0%	1	6%	13	81%	
Mali	10	22%	6	13%	3	7%	1	2%	26	57%	
Nigeria	130	20%	101	16%	65	10%	52	8%	298	46%	
Uganda	16	32%	11	22%	7	14%	2	4%	14	28%	
Other	71	20%	52	14%	48	13%	34	9%	158	44%	
Total	227	20%	172	15%	123	11%	90	8%	509	45%	
Male	150	18%	128	15%	92	11%	69	8%	388	47%	
Female	77	27%	41	14%	31	11%	21	7%	120	41%	
Multi-count.	3	19%	1	6%	5	31%	1	6%	6	38%	
International	7	15%	9	19%	6	13%	4	9%	21	45%	
National	37	21%	37	21%	25	14%	13	7%	64	36%	
Regional	43	20%	37	17%	23	11%	14	7%	98	46%	
District	56	18%	44	15%	29	10%	31	10%	143	47%	
Facility	81	22%	44	12%	35	10%	27	7%	177	49%	

Table 5: Reason for using a platform in the last six months

Question: What is most useful to you about these digital platforms?

Platform	Total	BD	МА	NI	UG	Other	National and higher	Sub- national
Movement for Immunization Agenda 2030 (IA2030)	205	2	15	110	15	63	40	165
Communication Initiative Network	128		3	80	3	42	24	104
Gavi Zero-Dose Community of Practice (ZD COP)	92	2	Б	61	4	20	18	74
Immunization Academy	75	2	3	46	2	22	10	65
OpenWHO.org	65	2	1	31	3	28	18	47
WHO.int website	44	2	3	21	2	16	15	29
Other	40		1	18	2	19	10	30
Teach to Reach	39		1	23	2	13	9	30
Health Campaign Effectiveness Coalition	39	1		25	2	11	6	33
Gavi Zero-Dose Learning Hub (ZDLH)	35	1	2	23	2	7	5	30

Table 6: Top 10 platforms used to address a zero-dose challenge

Question: Select the digital platform *that you used at that time* to improve how you address challenges with zero-dose children or missed communities.

	fro	arn om ners	interne	from ational erts	too	cess ols/ vice	C	je data or rements	Imp know ski behav	edge, IIs,
	(N)	(%)	(N)	(%)	(N)	(%)	(N)	(%)	(N)	(%)
Bangladesh	2	13%	4	27%	1	7%	1	7%	7	47%
Mali	6	15%	6	15%	10	26%	5	13%	12	31%
Nigeria	107	21%	77	15%	53	10%	51	10%	219	43%
Uganda	14	33%	6	14%	4	10%	4	10%	14	33%
Other	62	21%	32	11%	52	18%	31	11%	116	40%
Total	191	21%	125	14%	120	13%	92	10%	368	41%
Male	142	20%	93	13%	91	13%	76	11%	294	42%
Female	47	24%	32	16%	29	15%	15	8%	74	38%
Multi-count.		0%	3	33%		0%	2	22%	4	44%
International	11	31%	3	8%	6	17%	2	6%	14	39%
National	34	24%	18	13%	25	18%	14	10%	50	35%
Regional	26	16%	31	19%	28	17%	17	10%	65	39%
District	59	23%	37	15%	28	11%	29	11%	100	40%
Facility	61	21%	33	11%	33	11%	28	10%	135	47%

Table 7: Most useful feature of platform found most useful

Question: What is most useful to you about these digital platforms?

- They help me to learn from the experience of other practitioners
- They help me to learn from global experts
- They help me access practical tools and guidance
- They helped me better manage data and/or measurement
- They help improve my knowledge, skills and behaviors

	Improved my practice (average score)	Improved my understanding (average score)	Helped me reach and vaccinate ZD children (average score)
Bangladesh	4.8	4.8	4.7
Mali	5.3	5.2	5.0
Nigeria	5.0	5.1	5.0
Uganda	4.8	5.0	5.0
Other	5.1	5.1	5.0
Total	5.1	5.1	5.0
Male	5.0	5.1	5.0
Female	5.2	5.2	5.0
Multi-count.	5.1	4.9	5.2
International	5.0	5.1	4.9
National	5.2	5.2	5.1
Regional	5.0	5.0	5.0
District	5.0	5.0	5.0
Facility	5.1	5.1	5.1

Table 8: Impact of most useful platform

Questions:

- What I gained from using [selected platform] improved my practice
- What I gained from using [selected platform] improved my understanding of what matters in addressing key challenges in immunization where I work
- What I gained from using [selected platform] helped me reach and vaccinate zero-dose children and/or previously missed communities

Тооі	Total	BD	MA	NI	UG	Other
Instant messaging (WhatsApp, Telegram, etc.)	536	3	17	299	25	192
Face-to-face meetings	516	2	12	286	34	182
Video conferencing (Zoom, Teams, etc.)	471	1	17	239	18	196
Discussion forum	349		10	201	19	119
Professional networking	342	2	10	177	17	136
Mailing lists	175		5	88	10	72
Other	14			7	1	6

Table 9: Favoured ways to connect with colleagues to learn from each other

Question: What are the best ways for you to connect with colleagues to learn from each other?



Platform	Total	BD	MA	NI	UG	Other	National and higher	Subnational
Gavi Zero-Dose Community of Practice (ZD COP)	203		4	116	21	62	26	177
Movement for Immunization Agenda 2030 (IA2030)	181	1	11	105	13	51	22	159
Gavi Zero-Dose Learning Hub (ZDLH)	174		4	91	10	69	28	146
Immunization Academy	156	1	3	97		55	27	129
OpenWHO.org	112	1	1	64	2	44	24	88
WHO.int website	109	2	5	54	4	44	22	87
Teach to Reach	103		5	63	5	30	17	86
Do not know	99		7	49	3	40	23	76
Vaccination Action Network	90		2	46	7	35	11	79
Health Campaign Effectiveness Coalition	89		1	57	5	26	10	79

Table 10: Top 10 preferred platforms for zero-dose work

Question: If you were able to use them, which digital platforms do you think you would use the most in your zero-dose work?

Table 11: Specific learning that would be most helpful to ZD work

Learning	Total	BD	МА	NI	UG	Other
Improve my knowledge, skills and behaviors	270	1	7	157	12	93
Learn from the experience of practitioners in other countries	138	1	7	72	8	50
Learn from the experience of practitioners from my country	126		5	88	8	25
Access practical tools and guidance	116		3	60	9	44
Learn from global experts	113		4	61	5	43
Better manage data and/or measurement	66		4	25	2	35
Do not know	38	1		23	1	13

Question: What specific learning from global digital platforms would be most helpful to your zero-dose work?

Option	Total	BD	МА	NI	UG	Other
Video conferencing (Zoom, Teams, etc.)	316		12	179	13	112
Instant messaging (WhatsApp, Telegram, etc.)	290		12	168	14	96
Discussion forum	113		2	66	9	36
Professional networking	94	3	2	47	8	34
Mailing lists	30		1	13		16
Do not know	17			10		7
Other	7		1	3	1	2

Table 12: Preferred options for learning from practitioners about zero dose

Question: What would be the best way to use digital platforms to learn about zero dose from practitioners that you cannot meet face-to-face?

ANNEX 3: PLATFORM MANAGERS SURVEY

INTRODUCTION EMAIL

Hello [Name],

I am reaching out to you with a request from Gavi's new Zero Dose Learning Hub.

Your platform [platform name] has been identified as a possible site for knowledge sharing, dissemination, and translation for immunization staff working to reach Zero Dose children and missed communities.

This is why I am pleased to invite you to contribute to a mapping exercise intended to provide Gavi with evidence to (a) better understand how existing platforms and networks are already being used to support work to reach Zero Dose children and under-immunized communities.

We would like to request your support to:

(1) Answer questions about your platform's current activities and future potential in supporting Zero Dose practitioners.

Click here to access the Platform Manager Survey...

(2) Share a short survey with your platform's users, and encourage them to complete it to help the Zero Dose Learning Hub better meet their needs.

You will find a short message that can be copied-and-pasted in an email, forum post, instant message, or other format you used to reach your platform's users.

The results of this survey should help Gavi to identify systems and mechanisms to engage, cocreate, and share information with global, regional, and country stakeholders; communicate learning around zero-dose barriers and effective interventions; and thereby better target the timely, increased and sustainable use of evidence.

We anticipate sharing an external report on the results once the survey results are analyzed.

Kindly reply to this email to confirm by 27 March that you will participate.

Best regards, Erin Broekhuysen Zero Dose Learning Hub

CONSENT

Please read the following information carefully and confirm your agreement. We require your consent to collect, process, and store your personal information for the purposes stated below.

We are committed to protecting your privacy and ensuring the security of your personal data. In accordance with the highest standards for data protection and confidentiality.

Time to Complete the Survey:

We estimate that the survey will take approximately 10 minutes to complete.

Purpose of Data Collection:

We will collect and process your responses for the purpose of understanding how immunization staff are using global platforms.

Types of Personal Data Collected:

We will collect the following types of personal data from you: name, role and title, organizational affiliation and/or global platform

Data Storage and Processing:

Your personal data will be stored and processed in compliance with applicable guidelines. We will take all reasonable steps to ensure that your personal data is kept secure and protected against unauthorized access, loss, or alteration. Your responses will be analyzed by the Zero-Dose Learning Hub, Gavi, and partners and may be published by the Zero-Dose Learning Hub and/or Gavi.

Data Retention:

Your personal data will be deleted after one year.

Voluntary Nature of the Survey:

The participation in this survey is completely voluntary. No incentives are being offered for the completion of this survey. Your participation is greatly appreciated. You are not at risk of losing anything by choosing not to take the survey, and your decision will not affect your relationship with the Zero-Dose Learning Hub (ZDLH), ZDLH partners, or Gavi.

Risks:

There are minimal risks from participating in this survey. No personal information is asked about you, other than your name, professional affiliation with the platform and contact information. Your Rights:

You have the right to withdraw your consent to the processing of your personal data at any time. You also have the right to access, correct, or request the deletion of your personal data. To exercise your rights or if you have any questions or concerns about how your personal data is being processed, please contact us at ZD@learning.foundation.

By proceeding with the survey, you acknowledge that you have read and understood the above and agree to the collection, processing, and storage of your personal data as described.

SURVEY QUESTIONS

Welcome, [fname] [Iname].

You have been invited by the Gavi Zero Dose Learning Hub (ZDLH) to contribute information about [platform] to the Hub's survey of global platforms to support Zero Dose practitioners.

What is the link to register on [platform]

Share a short summary of the platform [platform] with respect to Zero Dose

Summarize how the platform [platform] can help or support Zero Dose policymakers and practitioners in countries

What was the most important key activity in the last twelve months related to Zero Dose?

We will ask you to summarize three key activities in the last twelve months related to Zero Dose. Summarize only the first one here or hit RETURN to skip.

What was the second key activity in the last twelve months related to Zero Dose? Summarize the second key activity here or hit RETURN to skip.

What was the third key activity in the last twelve months related to Zero Dose? Summarize the third key activity here or hit RETURN to skip.

What entities are the key platform partners?

Select the ZDLH Country Learning Hub MoH EPI that have formally endorsed the platform (if any)

Bangladesh Ministry of Health EPI Mali Ministry of Health EPI Nigeria Ministry of Health EPI Uganda Ministry of Health EPI None of the above

In the last six months, how many events and other activities have you organized that specifically focus on Zero Dose?

List resources offered by the platform to support Zero Dose policymakers and practitioners

What is the evidence of use (if any) of these resources?

No evidence Anecdotal evidence (user feedback) Self or internal evaluation and reporting External independent evaluation Randomized controlled trial (RCT)

Tell us more about the evidence of use (if any) of these resources

How many people are currently registered on the platform? If you are unable to answer this question, hit RETURN.

How many new confirmed registrations in the last three months?

If you are unable to answer this question, hit RETURN.

In the last six months, how many of those registered were active on? "Active" is defined as event attendance or contributing content (comments or posts)

How many registered on are from Bangladesh?

If you are unable to answer this question, hit RETURN.

Of those registered in Bangladesh, how many work on Zero Dose?

If you are unable to answer this question, hit RETURN.

Of those registered and working on Zero Dose in Bangladesh, how many work in districts and facilities?

If you are unable to answer this question, hit RETURN.

How many registered on are from Mali?

If you are unable to answer this question, hit RETURN.

Of those registered in Mali, how many work on Zero Dose?

If you are unable to answer this question, hit RETURN.

Of those registered and working on Zero Dose in Mali, how many work in districts and facilities?

If you are unable to answer this question, hit RETURN.

How many registered on are from Nigeria?

If you are unable to answer this question, hit RETURN.

Of those registered in Nigeria, how many work on Zero Dose?

If you are unable to answer this question, hit RETURN.

Of those registered and working on Zero Dose in Nigeria, how many work in districts and facilities?

If you are unable to answer this question, hit RETURN.

How many registered on are from Uganda?

If you are unable to answer this question, hit RETURN.

Of those registered in Uganda, how many work on Zero Dose?

If you are unable to answer this question, hit RETURN.

Of those registered and working on Zero Dose in Uganda, how many work in districts and facilities?

If you are unable to answer this question, hit RETURN.

OPTIONAL: Share an example or case study of how a country-based practitioner from a Zero Dose Learning Hub Country (Bangladesh, Mali, Nigeria, or Uganda) has used to reach ZD children or missed communities

You may share a link or provide a short summary below.

Thank you . We have received the information provided about.

ANNEX 4: PLATFORM USERS SURVEY

CONSENT

Please read the following information carefully and confirm your agreement. We require your consent to collect, process, and store your personal information for the purposes stated below.

We are committed to protecting your privacy and ensuring the security of your personal data. In accordance with the highest standards for data protection and confidentiality.

Time to Complete the Survey: We estimate that the survey will take approximately 5-15 minutes to complete.

Purpose of Data Collection:

We will collect and process your responses for the purpose of understanding how immunization staff are using global platforms.

Types of Personal Data Collected:

We will collect the following types of personal data from you: gender, country, health system level, organizational affiliation. In addition, you may optionally choose to share your email address.

Data Storage and Processing:

Your personal data will be stored and processed in compliance with applicable guidelines. We will take all reasonable steps to ensure that your personal data is kept secure and protected against unauthorized access, loss, or alteration.

Confidentiality:

The information you share with us is confidential and your answers will not be linked to your name.

Data Retention: Your personal data will be deleted after one year.

Voluntary Nature of the Survey:

The participation in this survey is completely voluntary and therefore greatly appreciated. No incentives are being offered for the completion of this survey. You are not at risk of losing anything by choosing not to take the survey, and your decision will not affect your relationship with the Zero-Dose Learning Hub (ZDLH), ZDLH partners, or Gavi.

Risks:

There are minimal risks from participating in this survey. Questions focus on your experience using immunization platforms in general and then specifically to support your zero-dose work.

Your Rights:

You have the right to withdraw your consent to the processing of your personal data at any time. You also have the right to access, correct, or request the deletion of your personal data. To exercise your rights or if you have any questions or concerns about how your personal data is being processed, please contact us at ZD@learning.foundation.

By proceeding with the survey, you acknowledge that you have read and understood the above and agree to the collection, processing, and storage of your personal data as described.

SURVEY QUESTIONS

Welcome, . You have been invited by [platform] to share your experience with global platforms in support of reaching Zero Dose children and missed communities.

Are you familiar with Gavi's definition of a "zero-dose" child?

Zero-dose children are those that have not received any routine vaccine. For operational purposes, Gavi defines zero-dose children as those who lack the first dose of diphtheria-tetanus-pertussis containing vaccine (DTP-1). An under-immunized child is missing the third dose of diphtheria, tetanus and pertussis (DTP)containing vaccine (DTP3)

Based on this definition, are there zero dose children or missed communities where you work?

Missed communities are home to clusters of zero-dose and under-immunized children and often face multiple vulnerabilities.

Yes No Do not know

Are you actively involved in reaching zero dose children and/or missed communities where you work?

Active involvement means that you spend more than one day per week on work that is directly related to reaching zero dose children and/or missed communities.

Yes

No => SKIP TO Q5 "What is your gender"

Which of these best describes your involvement in Zero Dose work?

I have personally worked on solving service delivery or demand-related challenges linked to zero dose children

I work in a health facility that is working to address zero dose challenges

I manage health facilities or district(s) that are working to address zero dose challenges

What is your gender?

We first ask you a few questions to get a sense of who you are and what you do. Male Female Other

At what level of the health system do you work?

We ask for this information to better understand who you are and what you do. Health facility District (or equivalent) Region (or equivalent) National Multi country => Skip to Q8 International => Skip to Q8

What country do you work in?

We ask for this information to better understand who you are and what you do.

What organization are you affiliated with?

We ask for this information to better understand who you are and what you do. Ministry of health Education or research organization GAVI Non-Governmental Organization (NGO) Not affiliated with an organization Other global health partner country office Other United Nations Agency country office Red Cross Red Crescent Movement UNICEF Country office WHO Country office Currently unemployed

In the last six months, have you used a global digital platform to gain and share knowledge, experience, or insights for your work?

A digital platform helps you connect with others and with knowledge, as well as find data and evidence.

A digital platform can be an online or digital app, social media platform, discussion forum, community of practice, peer network, interactive website, peer learning course, etc. Yes

No => Skip to Q21 (generic intent questions)

In the last six months, which of these global digital platforms have you used?

Community Initiatives Network CORE Group Gavi Zero Dose Community of Practice (ZD COP) Gavi Zero Dose Learning Hub (ZDLH) Global Digital Health Network, Global Health Knowledge Collaborative, Health Campaign Effectiveness Coalition, Movement for Immunization Agenda 2030 (IA2030) Immunization Academy International Association of Public Health Logisticians (IAPHL) Linked Immunization Action Network Sabin Boost Community Share-Net International Teach to Reach TechNet-21 The Curve The Learning Collaborative **UNICEF** Agora Vaccination Action Network Vaccine Demand Hub WHO.int web site Other

What is most useful to you about these digital platforms?

They help me to learn from the experience of other practitioners They help me to learn from global experts They help me access practical tools and guidance They helped me better manage data and/or measurement They help improve my knowledge, skills and behaviors

In the last six months, what has been most helpful to help you reach zero dose children and/or missed communities, and why?

Can you think of a time when using a digital platform helped you to address challenges with zero dose children or missed communities? Yes

No => END SURVEY

Select the digital platform that you used at the time to improve how you address challenges with zero dose children or missed communities.

Community Initiatives Network CORE Group Gavi Zero Dose Community of Practice (ZD COP) Gavi Zero Dose Learning Hub (ZDLH) Global Digital Health Network, Global Health Knowledge Collaborative, Health Campaign Effectiveness Coalition, Movement for Immunization Agenda 2030 (IA2030) Immunization Academy International Association of Public Health Logisticians (IAPHL) Linked Immunization Action Network Sabin Boost Community Share-Net International Teach to Reach TechNet-21 The Curve The Learning Collaborative **UNICEF** Agora Vaccination Action Network Vaccine Demand Hub WHO.int web site Other

What was most helpful about this platform: ?

It helped me to learn from the experience of other practitioners It helped me to learn from global experts It helped me access practical tools and guidance It helped me better manage data and/or measurement It helped improve my knowledge, skills and behaviors

What I gained from using improved my practice

Likert scale item: 1=Strongly disagree 6=Strongly agree

What I gained from using improved my understanding of what matters in addressing key challenges in immunization where I work

Likert scale item: 1=Strongly disagree 6=Strongly agree

What I gained from using helped me reach and vaccinate zero-dose children and/or previously-missed communities

Likert scale item: 1=Strongly disagree 6=Strongly agree

Tell us more about how was helpful to your Zero Dose work. How exactly did it help?

What changed about your understanding of what matters in addressing key challenges in immunization where you work? How did it help you improve how you address challenges with zero dose children or missed communities? If the platform helped you reach and vaccinate zero dose or under-immunized children, explain what you mean.

If you would like to share more about this story with the Zero-Dose Learning Hub, please enter your email.

By sharing your email address, you accept to be contacted by the Zero Dose Learning Hub to answer questions and provide additional information about your Zero Dose experience.

⇒ END SURVEY

Q21-Q25 are for respondents who have not recently used a global digital platform

What are the best ways for you to connect with colleagues to learn from each other?

Face-to-face meetings Instant messaging (WhatsApp, Telegram, etc.) Video conferencing (Zoom, Teams, etc.) Mailing lists Discussion forum Professional networking

Of all the ways you could connect to colleagues in your country online, which digital platforms do you think would be the most useful to you and your colleagues incountry if you were able to access them?

If you were able to use them, which digital platforms do you think you would use the most in your Zero Dose work

Do not know **Community Initiatives Network CORE** Group Gavi Zero Dose Community of Practice (ZD COP) Gavi Zero Dose Learning Hub (ZDLH) Global Digital Health Network, Global Health Knowledge Collaborative, Health Campaign Effectiveness Coalition, Movement for Immunization Agenda 2030 (IA2030) Immunization Academy International Association of Public Health Logisticians (IAPHL) Linked Immunization Action Network Sabin Boost Community Share-Net International Teach to Reach TechNet-21 The Curve The Learning Collaborative **UNICEF** Agora Vaccination Action Network Vaccine Demand Hub WHO.int web site Other

What specific learning from global digital platforms would be most helpful to your Zero Dose work?

Learn from the experience of practitioners from my country Learn from the experience of practitioners in other countries Learn from global experts Access practical tools and guidance Better manage data and/or measurement Improve my knowledge, skills and behaviors Do not know

What would be the best way to use digital platforms to learn about zero dose from practitioners that you cannot meet face-to-face? Instant messaging (WhatsApp, Telegram, etc.) Video conferencing (Zoom, Teams, etc.) Mailing lists Discussion forum Professional networking

Thank you

Do not know