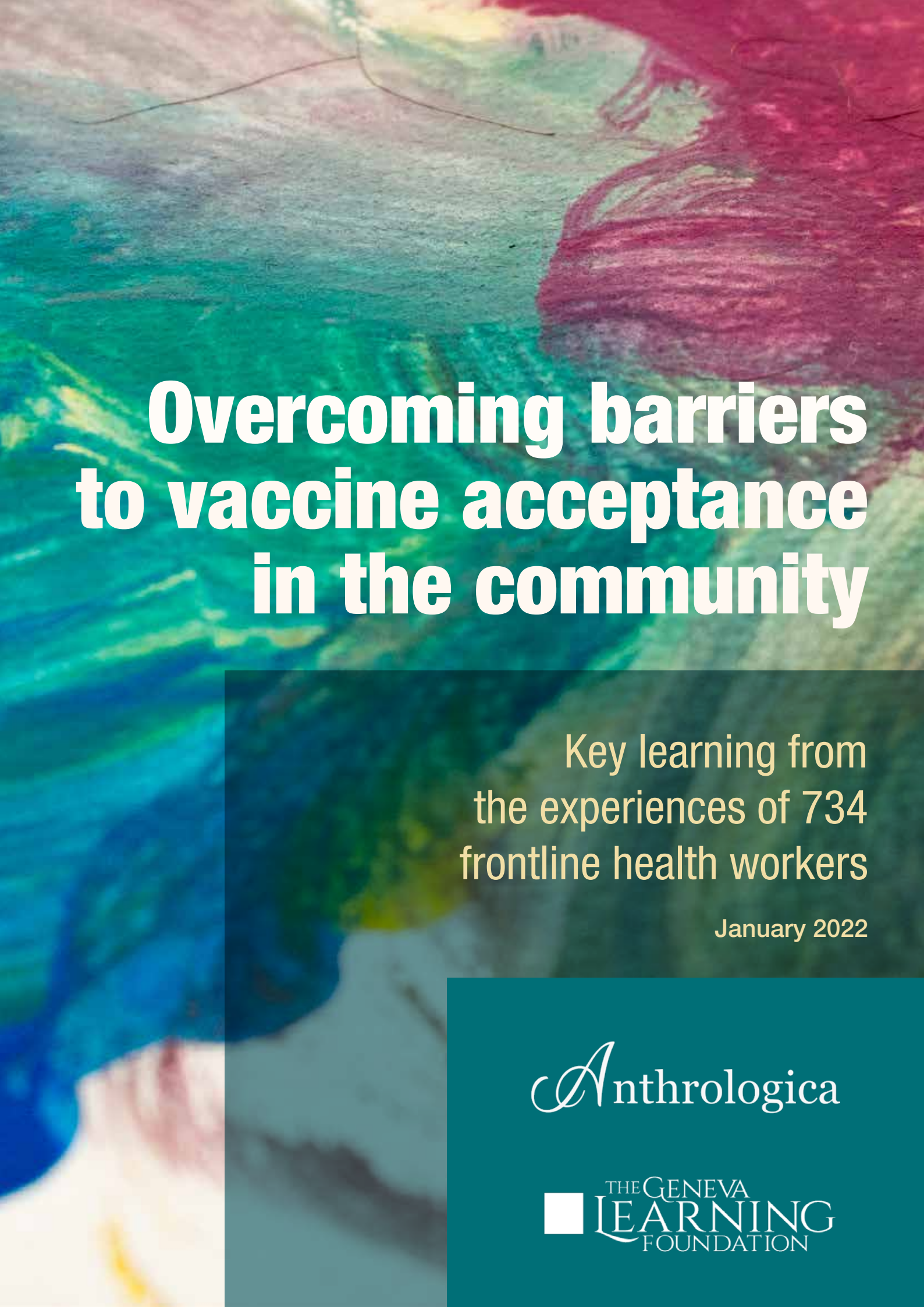

Overcoming barriers to vaccine acceptance in the community

Key learning from the experiences of 734 frontline health workers

January 2022

Anthrologica

THE GENEVA LEARNING FOUNDATION

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CONTENTS

ACRONYMS

AEFI..... Adverse Event(s) Following Immunisation

AVS..... Additional Vaccination Activities

CAR..... Central African Republic

DRC..... Democratic Republic of Congo

EPI..... Expanded Programme for Immunisation

HPV ..... Human Papilloma Virus

IEC..... Information, Education and Communication

IPV..... Inactivated Polio Vaccine

MMR..... Measles, Mumps and Rubella vaccination

OPV ..... Oral Polio Vaccine

PEV..... Programme Élargi de Vaccination

SIA..... Supplementary Immunisation Activities

TT ..... Tetanus Toxoid

TGLF ..... The Geneva Learning Foundation

VPD ..... Vaccine Preventable Diseases

PREFACE

My own consciousness of the fragile equilibrium sustaining vaccine confidence came from working with immunization programmes and local health workers to defuse rumors that threatened to derail vaccination initiatives. Twenty years ago, this meant traveling to countries to meet, build relationships with, and work side-by-side with frontliners.

Since that time, the corpus of research on the topic has grown tremendously. Elaborate behavioral science frameworks, supported by robust monitoring and evaluation, are now available to guide policy makers, donors, and other decision makers, for those who have the time and resources to implement them.

Nevertheless, there remains a gap in our understanding of how the complex dynamics of change actually happen, especially at the most local levels. For this we need to listen to the local experiences and voices of those at the front lines who can tell the real-life stories of how these complex dynamics are navigated.

I found the idea of this report fascinating: 734 health professionals from all levels of the health system took time out from their demanding daily duties to reflect on their practice, describing and then analyzing a situation in which they successfully helped an individual or a group accept or gain confidence that taking vaccines would protect them from disease. Furthermore, they did this during four weeks of remote collaboration at a very crucial historical moment, months before the first doses of COVID-19 vaccine were to arrive in Ghana and Côte d'Ivoire.

Reading this report, I experienced a sense of discovery. The stories shared reminded me of my early work with colleagues working at the local levels, and gave me renewed appreciation of these health professionals who faced even greater challenges in the face of a deadly pandemic. I could feel how hard it is to remain that 'most trusted adviser' to communities, and how so much remains determined by the capacity of people on the frontlines to explain, advocate, and respond in ways that are almost entirely dictated by context, in this case a highly uncertain and evolving pandemic.

I could also feel the tensions due to the imperfection of a participatory methodology that did not neatly fit the conventions and norms of expert-led research. Conventional research has seldom been able to access such local narratives, and even less so with such a large and diverse sample. Furthermore, the peer learning methodology used by the Geneva Learning Foundation meant that there was an immediate benefit for participants who learned from each other. Rather than research subjects or native informants, case study authors were citizen scientists supporting each other in the face of a common challenge. The scale, geographic scope, and diversity of contexts, job roles, and experiences are also strengths of this work.

Supporting health workers, already recognized as trusted advisors to communities, requires new ways of listening, new ways of supporting, new ways of measuring, documenting and learning.

It also requires new ways of recognizing the leadership of immunization staff who work at local levels under often difficult conditions.

In some cases, it may actually be the lack of prescriptive guidelines that enabled local health staff to draw on their own creativity and problem-solving capabilities to respond to community needs.

Rather than generalizations, we should therefore strive to recognize that solutions must be local to be effective, recognizing the ability of local staff to adapt to their context in order to foster confidence and acceptance of vaccines, and do all we can to support – letting them be the guide for future efforts.

Heidi Larson,
PhD, Professor of Anthropology, Risk and Decision Science
and Founding Director of the Vaccine Confidence Project
at the London School of Hygiene & Tropical Medicine

EXECUTIVE SUMMARY

Introduction

The COVID-19 Scholar Peer Hub is a digital network hosted by The Geneva Learning Foundation (TGLF). In April 2020, during the COVID-19 outbreak, a group of more than 600 national and sub-national immunisation staff who were graduates of TGLF's immunisation programme (in which learners are referred to as 'Scholars') were mobilised to co-design the Peer Hub. The project called on colleagues working on immunisation at sub-national and national levels whose activities had been affected by the pandemic. After three months of development, the COVID-19 Peer Hub launched in July 2020. It connects over 6,000 health professionals from 86 countries, across system levels and national and organisational boundaries, to contribute to strengthening skills and supporting implementation of country COVID-19 plans of action.

Following launch of the hub, a first peer-reviewed exercise was conducted, focusing on recovery from disruption of immunisation services. In October 2020, TGLF determined that COVID-19 vaccine introduction would become a critical focus of action for the network. As a result, COVID-19 Peer Hub participants, working closely with TGLF and its global partners, developed a second peer review exercise to develop case studies based on network members' practical experience overcoming barriers to vaccine acceptance. Over four weeks in November 2020, 734 Peer Hub participants developed, peer reviewed, and revised case studies describing and analysing a situation in which they had helped an individual or group overcome initial hesitancy or fear of vaccination, leading to vaccine acceptance. The primary purpose of the case studies was to foster reflective learning between peers, many of whom were likely to become involved in COVID-19 vaccine introduction.

In developing their case studies, participants were instructed to refer to a rubric that combined instructions and guidance, reflective questions, and checklists to guide the exercise. The rubric was designed to support the participant to tell their story so that 'a complete stranger should be able to make sense of your situation, what you did, when and where, how, and why'. Each case study recorded specific demographic information, including the participant's country, organisational affiliation, health system level and, where possible, the GIS coordinates of the locality described in the case study. Guided by the rubric, participants were required to critically analyse aspects of the experience they described, including the context, innovation of their approach, limitations and risks, generalisability and insights. Each case study was peer-reviewed by three other participants. Participants who successfully completed their own case study and peer reviewed three other case studies were awarded a Level 1 certificate of participation from TGLF's COVID-19 Peer Hub.

Although the case studies were primarily a tool to foster reflective peer learning, the first-person narratives they included are a valuable body of evidence, capturing the realities of how local health professionals achieve acceptance of vaccines and vaccination with individuals and groups in the communities they serve.

Methodology

A mixed methods approach was adopted to analyse the case studies. The primary focus was the qualitative analysis of the case study narratives, underpinned by the quantitative analysis of demographic information about the Scholars who produced the case studies.

This research used a qualitative study design to apply thematic analysis to case study data, with the aim of providing detailed insights into patterns emerging in the data. Key themes related to vaccine communication and community engagement strategies, emerging ideas relevant to COVID-19 vaccine introduction, and underlying behaviours related to drivers and barriers to vaccination. Each case study followed the structure outlined in the activity's rubric and the thematic approach facilitated the drawing of comparisons across the dataset.

The research was completed in four steps:

STEP 1: CODING DATA

A matrix was developed to guide the coding of data presented in the case study narratives. The approach used a balance of deductive coding (using pre-defined codes derived from the research questions) and inductive coding (adding new codes in response to themes emerging in the narratives). A three-person team conducted the coding by hand. First, all team members independently coded the same subset of the case studies. This was used to benchmark the coding. Inconsistencies were discussed and resolved. The coding matrix was revised to included standardised demographic information and to better facilitate comparisons and analyses across the French and English datasets. The coding matrix was reviewed by TGLF and adapted further based on the feedback received. The research team systematically sorted through the data, labelling ideas and phenomena as they appeared and reappeared, and continued to develop the matrix iteratively: codes and themes were refined throughout the process and examined on regular briefing calls by the team to ensure consistency.

STEP 2: DATA ANALYSIS

The coded data from the case study narratives were analysed using thematic analysis. Dominant themes were drawn out and the trends that emerged were critically analysed. Combining deductive and iterative analytic approaches ensured the research questions outlined were fully addressed whilst allowing identification of new themes or areas of investigation that may not have been fully anticipated at the start of the analysis. The researchers were able to consider the data from a variety of perspectives and to move from the micro-level analysis of individual case studies to a broader macro-level view across the whole dataset.

The full quantitative dataset merged two sets of information. The first was each Scholar's demographic data provided by TGLF. To this was added data related to the Scholar's case study extrapolated from the qualitative analysis. The Scholars' demographic data provided by TGLF included the variables: ID, country, organisation, health system level, gender, number of years of experience in immunisation response, number of years of experience in outbreak response, involvement in COVID-19 response, and immunisation services in the Scholar's workplace affected by COVID-19. A column for region was added, and the available country data were categorised using

the UNICEF regional definitions. Case study data extrapolated from the qualitative analysis and added to the quantitative dataset included the variables: area of intervention (rural or urban), type of vaccine/antigen, time of intervention (before or after COVID-19), type of intervention (individual, community, or country level), whether Scholar would recommend their approach (yes/no), whether it was new and innovative (yes/no) and the quality of case study (standard/good). The data were then entered into SPSS statistical analysis software. Descriptive statistics were calculated on all the Scholar demographic variables to identify the distribution in Scholars' background and work contexts and on the case study variables to assess the distribution in the Scholars' approach to their intervention and the types of vaccines/antigens involved.

Following the analysis, the data were triangulated to validate the findings, integrate quantitative and qualitative results, and gather a comprehensive picture of each intervention based on its context and Scholar demographics. By cross tabulating descriptive statistics, the research team grouped variables to find additional relationships and trends that may not have emerged when analysing the dataset as a whole. Cross-referencing by two or more variables allowed the research team to explore additional patterns, such as the proportion of Scholars who addressed vaccine hesitancy for different antigens in different settings (rural or urban areas). After the assessment of patterns through crosstabulation, researchers used the chi square statistical test to determine whether differences between groups were significant. The patterns highlighted through cross tabulation and the chi square test were further triangulated against the rich qualitative data. This process was conducted manually in Excel using filters to examine whether the quantitative differences observed in demographic and case study data reflected differences and nuances in each individual case. Using this approach, the team were able to assess the significance of a variety of scenarios.

STEP 3: FOLLOW UP INTERVIEWS

A series of short follow-up interviews were conducted with a small subset of the Scholars who produced the case studies (n=4). The Scholars were selected purposively based on the quality and variation in their case study experience. Although the case studies each describe a specific scenario, it appeared that they were not isolated events but rather were indicative of the challenges Scholars face and the action they take as part of their routine work. Interviews therefore enabled (i) collection of additional information about the situation described in the case study and in the context of the participant's ongoing work; and (ii) reflection on the learning experience of documenting the event and how this may have supported the participant's actions over time, particularly in the context of COVID-19 (both the roll out of COVID-19 vaccination and its impact on routine immunisation). The interviews built on the peer-learning model and provided an important opportunity to validate the key findings of the case study analysis with the Scholars, particularly focusing on the potential solutions and positive interventions to overcome barriers and challenges to vaccination identified in the analysis.

STEP 4: REPORTING

The project had three main outputs: (1) a substantive report documenting the findings of the case study analysis; (2) a summary report and PowerPoint presentation for BMGF; and (3) a report for TGLF summarising the methodological approach of the case study analysis and presenting recommendations for future analyses. All reporting underwent rigorous review from partners at TGLF and BMGF and their comments and feedback were incorporated as appropriate into the final outputs.

LIMITATIONS

The analysis was as complete as possible given the large number of case studies and the limited timeframe. Due to the way in which the information was collected and stored as part of the COVID-19 Peer Hub, the primary methodological challenge was in ensuring that each case study was correctly linked to the Scholar's demographic data. The lack of predetermined continuous variables meant that it was not possible to determine relationships between variables, only group differences, and the presence of categorical variables which were inferred from the case studies did not facilitate this.

Although not limitations in terms of the methodology per se, it is worth highlighting that in the interpretation of the findings, several issues had to be carefully negotiated.

- Taken together, the case studies were a body of rich qualitative information, and were never intended to be a representative sample in research terms. The narratives described an event in isolation, so it was impossible to gauge how representative each case study was of the Scholar's work. Similarly, because each case study reflected the experience of the individual Scholar, it was unclear how their approaches may have been representative of those of other immunisation staff operating in similar contexts. Further, the absence of information about the use of national or regional level guidelines for addressing cases of vaccine hesitancy limited the scope of contextual comparisons within countries and geographical regions. Some broad and indicative generalisations were made, and the risk of false generalisations is acknowledged. However, the fact that the data did not constitute a representative sample does not detract from its value. The case studies provided the Scholars with a rigorous platform to share experiences and reflect on the successful outcomes of confronting lack of vaccine acceptance and delivering vaccines within their specific contexts, and focusing on the individual case studies is a strength of this study.

- The case studies were retrospective reflections on events. Many recalled events in the recent past, although some focused on events that had occurred several years previously.

- Although all case studies followed the activity rubric and were peer reviewed by other Scholars within the network, there was some variation in the quality of the material.

- The case studies were written in the Scholars' own words, and therefore themes, concepts, and meaningful comparisons had to be extracted and interpreted by the researcher.

- Although the activity rubric included a measure for the level of 'innovation' of the intervention, this was self-reported and interpreted differently by Scholars across the dataset. Given the diversity of contexts, the concept of innovation could not be anchored to a specific example. As a result many Scholars reported that they did not know whether their approach was innovative or not.

Scholars' demographics and background

A total of 734 Scholars took part in the exercise. The majority (81%, n=591) were based in West and Central Africa, followed by Eastern and Southern Africa (11%, n=80) and South Asia (6%, n=43). Other Scholars (less than 2% in total) came from Latin America and the Caribbean (n=8), East Asia and the Pacific (n=5), and the Middle East and North Africa (n=5). Fewer than 1% of Scholars were based in Europe and North America (n=2). The Scholars were based in 55 different countries, of which 20 were in West and Central Africa and 16 in Eastern and Southern Africa. Forty-six percent of Scholars (n=335) submitted case studies in English and 54% (n=399) submitted case studies in French; most Scholars who submitted cases in English were from Nigeria (21% of all cases, n=157) and the majority of Scholars reporting in French were from the Democratic Republic of Congo (DRC) (16% of all cases, n=116). Triangulation of quantitative and qualitative data suggested that the greatest number of case studies coded to be 'high quality' were from Nigeria and DRC.

In their case studies, 28% (n=206) of Scholars provided information about the area in which the intervention they were documenting took place. Of these, 73% (n=150) were in rural areas, including remote communities, nomadic and farming communities, and isolated religious communities; and 27% (n=56) were in urban areas including capital cities, city districts and inner-city informal settlements.

Scholars were engaged at different levels of the health system: 18% (n=131) worked at the national level; 29% (n=213) at the sub-national level; 29% (n=214) at the district level; and 20% (n=144) worked in health facilities. Four percent (n=32) of Scholars did not report this information. Scholars worked with different organisations: 6% (n=42) were UN staff; 12% (n=88) were consultants for a range of organisations; 50% (n=370) were Ministry of Health (MoH) staff engaged at different levels; 10% (n=74) worked with non-governmental organisations (NGOs); 6% (n=42) were researchers, students and academics; and 16% (n=118) did not report this information.

Scholars reported their average years of experience in immunisation response. Overall, 16% (n=118) of Scholars reported having more than 16 years' experience; 16% (n=114) reported between 11 and 15 years' experience; 25% (n=184) reported 6 to 10 years; 25% (n=180) reported 3 to 5 years; 12% (n=85) reported less than two years; 3% (n=25) reported having no previous experience; and 4% (n=28) did not report any information.

The case studies were written in November 2020, three months prior to the first introduction of a COVID-19 vaccine via COVAX. Eighty-seven percent of the Scholars (n=641) reported whether the intervention they documented in their case study took place before or during the COVID-19 pandemic. Of those, 47% (n=299) said the intervention occurred before the pandemic and 53% (n=342) during the pandemic. Overall, most Scholars (70%, n=513) were involved in COVID-19 response at the time they produced their case study; 13% (n=92) were not yet involved but were likely to be involved soon; and 12% (n=91) indicated that they were not involved but that their work was being affected by the COVID-19 emergency. A small number of Scholars (1% in total, n=10) were not sure / were not / would not be involved in COVID-19 response in the future. Four percent of Scholars (n=28) did not provide this information. Scholars were asked if immunisation services in their workplace were affected by the COVID-19 emergency. Sixty percent of those involved (n=441) indicated that immunisation services continued but in a limited way; 31% (n=227) reported that immunisation services continued as usual; and a small proportion of Scholars (3%, n=23) indicated that immunisation services were suspended

or that they did not know their status (2%, n=15). Four percent (n=28) of Scholars did not report this information.

In 90% of the case studies (n=661), the Scholar recorded the vaccine or antigen to which their case study related. Of these, 43% (n=283) of case studies referred to polio vaccine (and amongst these, 25 specifically referred to the oral polio vaccine, OPV); 27% (n=177) of case studies referred to routine vaccines offered by the national system (Programme Élargi de Vaccination (PEV) in French, and Expanded Programme for Immunisation (EPI) in English cases); 8% (n=51) referred to measles; 6% (n=40) referred to combined vaccines such as measles and rubella (MR, n=12) and measles, mumps, and rubella (MMR, n=4), the 'penta-vaccine' (diphtheria, pertussis, tetanus, and hepatitis B and Haemophilus influenzae type b, n=10) and other combined vaccines such as rotavirus and polio, measles and yellow fever (n=14); 3% (n=18) referred to tetanus toxoid (TT); 3% of the cases studies referred to the vaccine against human papilloma virus (HPV) (n=18); 2% referred to yellow fever (n=14); and 1% referred to Ebola (n=10). Other vaccines referred to in the remaining 8% (n=50) of case studies included cholera, typhoid, hepatitis B, tuberculosis and influenza.

Understanding the communities that Scholars engaged

When describing the individuals and communities involved in their interventions, Scholars provided ad hoc observational demographic information. Most frequently, data were anecdotal and descriptive and centred around level of education, literacy, ethnicity and socio-economic status. The community members that Scholars engaged in their interventions were predominantly lay people, often described as having a low level of education, including motorbike taxi drivers, mothers at the market, farmers and miners. Some cases tackled issues of hesitancy in wealthier or more educated groups such as health professionals, teachers, university students and school principles. In such cases, Scholars often noted their surprise in observing such low levels of acceptance despite the higher levels of education of those involved.

Many case studies (41%, n=303) focused on interventions engaging parents, caregivers and family members of children. In these cases, low vaccine acceptance related to routine vaccination and vaccination campaigns for children. Low levels of vaccine acceptance extended beyond the immediate family unit and also existed within sub-groups in the community and amongst the community at large (23% of cases, n=170). Interventions were therefore directed at increasing acceptance towards vaccination for individual families or were targeted as part of wider community engagement strategies. Community leaders were mentioned in only a small number of cases (7%, n=52), but in these cases were positioned as influential actors.

Some Scholars identified specific groups within the broader community that needed engagement through alternative communication techniques, tailored messages, and more focused interventions than were used for the general population. Low levels of vaccine acceptance were noted amongst nomadic and farming communities, whose lack of awareness and limited information about vaccines was attributed to their transient lifestyle, inaccessible settlements and inability to engage with health services. Other population groups such as migrant communities, marginalised minorities, 'illegal' (informal economy) workers, ethnic minorities, youth and adolescent groups were also targeted for interventions. Teachers were identified as a powerful group of influencers

in the community. Although no interventions targeted groups of teachers per se, cases of non-acceptance in schools were reported and some teachers and school principals were identified as propagators of misinformation. In a minority of cases, Scholars engaged with individuals who were reluctant to be vaccinated themselves. Lack of acceptance in these cases was justified for personal and philosophical reasons.

Religion often influenced decisions on vaccination, and religious groups were frequently the focus of Scholars' interventions. Regardless of religious background or geographical location, it was evident that faith leaders played an important role in fostering vaccine acceptance amongst their followers and congregations. In 20% (n=70) of cases in the English dataset, reasons cited for lack of community acceptance of vaccines were linked to a conflict between vaccination and religious or customary beliefs. This was cited as a driver of hesitancy in just under 6% (n=23) of cases from the French dataset.

The profound influence of people in positions of power in the community was also frequently reported in the case studies. In some settings, traditional leaders were found to influence vaccine acceptance within ethnic groups. Notably their influence was found to have greatest impact within groups who were already 'sceptical' about health programmes or amongst those who tended to use traditional forms of medicine and healing.

There was great variation in how Scholars identified the cases of hesitancy that were tackled in their case studies. For some, the initial interaction emerged from specific vaccination activities (e.g., as a result of vaccine outreach, through Supplementary Immunisation Activities (SIA), or in response to declining routine vaccination rates identified at a health facility). Others documented interventions that were in direct response to a reported case of vaccine hesitancy.

A number of exchanges arose organically in conversations between friends or neighbours when Scholars acted opportunistically to break down barriers to vaccine acceptance. In one case from Vietnam, a national-level Scholar explained,

> *'I discovered a group of my friends who did not want to vaccinate their child. Therefore, I decided to do a little research. I learned about the sources of information, which influenced their decision… My friends were graduates from university'.*

Across the whole set of case studies, mothers were predominantly responsible for bringing children to vaccination sites. Tasks related to child rearing, caretaking and health seeking were consistently described as being the mother's role. In case studies from customarily patriarchal societies, however, the perceived self-efficacy and responsibility of a woman to allow the immunisation of her child could be limited if the male head of the household did not authorise the vaccination.

Scholars reported trying to address gender and power dynamics in different ways, including conducting sensitisation with mothers on either a one-to-one or group basis to increase their levels of acceptance. Some Scholars reported having engaged men directly by meeting in person with a father or contacting an absent male household head by telephone to provide information or arrange a face-to-face meeting to address the causes of hesitancy.

Barriers to vaccine acceptance

The barriers to vaccine acceptance presented in the case studies were multifaceted, hierarchical and rarely driven by one factor alone. Rather, factors were layered and fear, mistrust, misconceptions, rumours, and mis- and disinformation appeared to be intrinsically intertwined, each contributing to and perpetuating the other. One example in a case study from a Scholar based at a health facility in India was indicative:

> *'their relatives living abroad began fuelling a new wave of anti-vaccine messages by asking them to refuse any vaccine during this period especially the ones given free during campaigns. Also, this hesitancy was further aggravated by the health facility because of a miscommunication with the district which led to health workers refusing to vaccinate within these premises'.*

Conspiracy theories and disinformation related to vaccination were the primary barriers to the lack of vaccine acceptance in the community and were reported in 33% (n=244) of all cases studies (39%, n=132, of English case studies, and 28%, n=112, of French case studies). Conspiracy theories were nuanced and although specifics varied between communities and across countries, the overarching themes were consistent and were related to the side effects of vaccination, government cover-ups and population control. These issues dominated rumours and disinformation and when they emerged were reported to spread quickly and pervasively through communities.

Disinformation was closely linked to a high level of general mistrust in the justification provided for vaccination. Many people perceived the 'real' reason for vaccination to be family planning or sterilisation rather than prevention of disease. This was reported across all contexts and antigens, and in the majority of cases, it was assumed that vaccines were administered by governments and international actors to sterilise the population. In case studies from Africa, it was frequently suggested that sterilisation through vaccination was an attempt by the international community to reduce and control the African population.

Lack of information as a barrier to acceptance was explicitly reported in 8% (n=59) of all case studies and was referenced more frequently in cases occurring during the COVID-19 pandemic (64%) than before (36%). Lack of information predominantly related to poor or inadequate knowledge of the vaccine campaign, the vaccine itself, and/or the healthcare system. For example, in two cases from Côte d'Ivoire, mothers were unaware that hospitals would provide free care for an adverse event following immunisation (AEFI) and intended to not vaccinate their younger children for fear of a possible AEFI and the subsequent need for financial outlay.

Rumours and misconceptions were more prevalent in cases reported during the COVID-19 pandemic (46% (n=342) of total case studies, of which 65% (n=222) were case studies in English and 35% (n=120) were case studies in French) compared to those that occurred before the outbreak of the pandemic (41% (n=301) of total case studies, of which 49% (n=148) were case studies in English and 51% (n=153) were case studies in French). Scholars suggested that the speed at which misconceptions and mis- and disinformation circulated and escalated on social media increased during the pandemic, and this was noted as an important factor driving lack of acceptance of vaccination in communities in the context of COVID-19.

In 25% of all case studies, general mistrust was noted as a key driver of low levels of vaccine acceptance. A number of these cases reported longstanding mistrust in health and government institutions. Communities questioned whether their governments and international actors really represented their needs and priorities. Where communities had been overlooked for initiatives, government support, grants and other welfare benefits, levels of mistrust were higher and contributed significantly to reduced acceptance. Six case studies indicated that failure of the government to provide treated mosquito nets contributed to high levels of mistrust. One case study from a nation-al-level Scholar in Liberia reported,

> *'the reason for their hesitancy is they do not trust the current government…they asked why government is giving the vaccine free every time, frequently and why not food, mosquito nets, or drugs?'*

Other case studies reported that community members refused vaccination 'in protest' of government action or inaction.

Legacies of mistrust in marginalised communities further fuelled mistrust and added additional layers of complexity. This was well illustrated in one case from a sub-national Scholar in Cameroon which concluded,

> *'these people because of the socio-political crisis (because they believe they are marginalised), have the belief that nothing good can come from the government and will not accept any vaccines be it routine, campaign or new ones'.*

The cost of vaccines also fuelled general mistrust. In a small number of cases, community members queried their government's ability to provide vaccines for children free of charge. This was emphasised in scenarios where other government services and support were limited due to lack of finances. A case study by a sub-national level Scholar in Nigeria noted that the community

> *'were worried about how [the government] could make polio and other vaccines reach them every season yet they lacked minimum infrastructure like a borehole for water'.*

Other case studies documented that previous experience of an AEFI and the costs associated with taking a child to a health facility as a result of an AEFI were barriers to vaccine uptake. Case studies from India highlighted additional indirect costs associated with attending vaccination clinics and accessing treatment for an AEFI when caregivers would experience a 'loss of wages' from having to take time away from work. While the direct and indirect costs associated with vaccination were clear, they never appeared as an isolated barrier to vaccination, but rather compounded existing concerns and were reported in case studies as additional factors contributing to low vaccine acceptance. Experiences of an AEFI, whether real or perceived, first-hand or based on community anecdotes, were common. 'Boycotting' vaccination because of these experiences was reported in case studies from countries across Africa and Southeast Asia. In cases where an AEFI had occurred, news of the symptoms and side effects spread quickly

through communities with, at times, devastating effect. Several Scholars voiced frustration when a case of an AEFI had been inadequately investigated, and in a handful of case studies the Scholars noted that they were restricted in the counselling they could provide families due to the lack of definitive information about these suspected cases. This highlights the need for stronger links between primary health care and immunisation services.

In some cases, health workers were also found to contribute to feelings of uncertainty and mistrust. Negative behaviour, inadequate training (leading to incorrect administration of vaccines), lack of technical knowledge and 'conspiring' with government and international actors were reasons community members cited for mistrust of health workers. It appeared that levels of mistrust in health workers increased during the COVID-19 pandemic.

In relation to specific antigens, the case studies highlighted a particular level of mistrust towards the polio vaccination, particularly in countries with a long history of polio vaccination campaigns (Nigeria, India). The number of vaccines needed for full immunisation was a source of great concern for parents who believed the dosage was 'too much'. In addition, many individuals were unaware of the multiple forms of administration for the polio vaccine (oral and injectable), and this was a cause for further mistrust. (Strategies used for addressing this level of mistrust are discussed further below.) This concern was intensified in polio campaigns in countries that had already been declared 'polio-free'. In a case study written by a Scholar working at the sub-national level in Nigeria, the Scholar reported that the father he was engaging

> *'was concerned about the OPV vaccination campaign despite the country being certified polio free. The child had received the polio vaccination during vaccination campaigns before. So the father decided that since polio was no longer an issue in the country, his children would no longer receive OPV'.*

Case studies from across all geographic areas reported that perceived side effects of vaccination contributed significantly to vaccination hesitancy, although side effects were only explicitly noted as barrier in 8% (n=31) of case studies in French compared to 23% (n=80) of the case studies in English. Circumstantial evidence related to the side effects of vaccine antigens sparked rumours and conspiracy theories, mis- and disinformation and contributed to mistrust and fear within communities.

Fears about vaccines, mis- and disinformation about side effects, and conspiracy theories about governments and alternative agendas perpetuated anxiety within communities. Fear related to vaccines in general were reported in 9% (n=68) of the case studies. In the 53% (n=342) of case studies that focused on engagement that occurred during COVID-19, however, fears directly related to the pandemic were reported in 16% cases (n=56) and were a key barrier to acceptance of routine and campaign vaccinations. Fear was articulated in a variety of ways in the context of COVID-19. Fears about the spread of the COVID-19 virus were compounded by the lack of understanding or the limited implementation of COVID-19-related protective protocols.

Safety concerns were exacerbated by mis- and disinformation about vaccine side effects. In addition to worries about the safety of the vaccine itself, concerns about the supply, cold chain, and quality of vaccines were also recorded. During the COVID-19

pandemic, safety concerns across all regions were heightened. Case studies in both English and French demonstrated community complacency towards vaccination. Scholars (n=60) documented individual and community perspectives that there was 'just no need' for immunisation. In ten of these cases, the justification for refusal to immunise a child was rooted in the fact that the parents and/or other children in the family were not vaccinated and appeared still to be 'healthy', 'strong' and 'fine'.

Supporting interventions and actions

Interventions were rarely conducted by the Scholar alone, but rather involved a number of other stakeholders. Across all regions, Scholars described working as part of multi-stakeholder teams, and case studies included examples of immunisation teams, community health workers, and community, traditional and religious leaders being involved in a variety of capacities. In most cases that documented a Scholar acting alone, the engagement was opportunistic in that the Scholar identified an unexpected or unplanned chance for engaging with a hesitant person or community.

Community, religious and traditional leaders and influencers were frequently engaged in the interventions documented in the case studies and were seen to play a significant role in ensuring successful vaccination outcomes. In some cases, leaders were involved due to accepted cultural practices where their permission was sought before engagement with the community could begin. Leaders were approached as a gateway into the community because they needed to be sensitised and/or to act as mediators between the response team and the community.

Across the case studies, the inclusion of leaders was repeatedly highlighted as one of the most reliable means of gaining community trust and a key factor in the success of activities. Numerous case studies described the value attached to having leaders employed as mediators between Scholars, other immunisation staff and the community. In a small minority of cases, however, information delivered to the community by their leaders was not in line with the proposed or standard vaccine promotion information used by teams; instead, the messages the leaders delivered could have been perceived as coercive or threatening. Leaders were not always receptive to messages promoting vaccine acceptance. In some cases, ensuring their positive buy-in to interventions took significant effort on the part of the Scholars. Often sensitisation activities integrated messages from the Bible or Koran in an attempt to align religious scripture with public health messages. One district-level Scholar from Nigeria noted,

> *'the discussion was done through the use of Ayats from Holy Quran, Hadith and references from Islamic Scholars and their view on immunisation–that prevention is better than cure'.*

The case studies described different types of engagement that could be broadly grouped into four key intervention approaches: targeted one-to-one counselling at the individual or household level; community sensitisation for larger groups; formal meetings (usually directed towards community and religious leaders); and organised training sessions during which particular sub-groups were engaged (e.g., religious teachers, health workers, youth groups, women's groups). Interventions used several activities to break down barriers to acceptance. These activities seldom occurred in isolation, but instead formed part of a broader multi-pronged strategy for increasing acceptance in a given context.

With the onset of COVID-19, Scholars identified new challenges associated with mis- and disinformation, online anti-vaccination movements and new and evolving fears. Teams were forced to adapt existing communication and sensitisation strategies to align with national COVID-19 safety measures. Case studies that reported interventions during COVID-19 often noted the need for quick and innovative action on the part of the response team. This primarily involved Scholars reacting quickly or in an ad hoc manner to sensitisation opportunities; reassuring communities about their safety if they followed public health and social measures when accessing vaccination services during lockdown and periods of restrictions; including COVID-19 safety messages in vaccine promotion interventions; and leveraging opportunities to debunk mis- and disinformation and conspiracy theories related to the pandemic. A notable adaptation during the pandemic was the increased use of telecommunications and online approaches for community engagement. In Lebanon, a case study reported one-to-one sensitisation 'meetings' with Syrian refugee mothers and their community leaders taking place over the telephone.

Gender issues were considered in several case studies. Scholars discussed the importance of employing a gender-sensitive approach when selecting teams to be deployed in specific contexts. A district-level Scholar from Ghana noted,

> *'our team divided into two groups, one each for males and females, mobilising the community members to come for the durbar'.*

A district-level Scholar from DRC explained,

> *'there were two of us (man and woman) apart from the two vaccinators… This must have created a climate of trust'.*

Further, some interventions put a gendered approach at the forefront, with different strategies designed for men and women.

Working with the military and/or security and police force was discussed in a small number of case studies (3%, n=22), but only a few case studies detailed their actual involvement. In general, Scholars agreed that resorting to force was a last resort to be adopted only 'when sensitisation fails'. Case studies suggested a correlation between instances of vaccine hesitancy that had been addressed using security or police force services in the past and greater levels of reluctance within the community to engage with Scholars and their teams. However, some case studies threatened the involvement of security personnel as a means to 'encourage' communities to accept vaccination.

Towards vaccine acceptance: messages and delivery

The tone and delivery of interventions were as critical to successful vaccination outcomes as the activities themselves. In the vast majority of cases, Scholars were directly involved in the delivery of the vaccine promotion information and messages, although their actions were seldom conducted in isolation (as discussed above). Local health workers, vaccination teams and community and religious leaders frequently

accompanied Scholars to intervention sites and supported them in sensitising the target populations.

Across the case studies, Scholars displayed a high level of personal involvement in the dissemination of messages to promote vaccine acceptance. Personal anecdotes from Scholars and those supporting them in the intervention (health workers, influencers, leaders, et al.) were found to be particularly effective in communicating messages to promote uptake. One national-level Scholar from India explained,

> *'the Muslim religious leader visited the family with the PHC team. He convinced the mother by telling her the baby in his own family also gets immunised from the same PHC'.*

Many Scholars shared similar accounts of their own immunisation experiences and stories from their families and communities. In a case study from Nigeria, the sub-national-level Scholar noted,

> *'I even went the extra mile to show him my BCG scar just to build his confidence that I myself have been immunised and he could see that I am fine'.*

Personal pictures and videos were also commonly used to gain the trust of local populations and to foster a sense of confidence in the vaccination process.

Immunisation 'demonstrations' were common. Case study authors and their colleagues working in vaccination teams authorised the immunisation of their own children in front of hesitant parties to promote acceptance. In addition, there were numerous accounts of Scholars sharing their personal contact details, including their phone number, to build trust, for follow-up and to answer any further questions. The high level of personal involvement appeared to arise as a result of the Scholars' commitment to the communities and the intervention they were implementing. These personal exchanges helped Scholars to build trust and develop honest relationships in order to foster vaccine acceptance. Findings from the follow-up interviews conducted with a small subset of Scholars also suggested that the degree of personal involvement could stem from the lack of support and national guidance for vaccination teams working in communities.

The tone and language used in vaccine promotion messages varied between Scholars and across contexts. In reflecting on what worked well from their case studies, Scholars consistently highlighted the benefit of having a member of the intervention team (themselves or another) who spoke the local language. It was evident that communicating in the local language(s) was central to positive community engagement, and ensuring the use of appropriate words and relevant terms was key for local comprehension. Speaking the local language(s) allowed Scholars to adapt messages to the immediate context in a manner that was relevant and appropriate. Not only did this increase awareness and understanding, but it was also reported to foster a greater sense of trust and to help communities accept that the team member(s) were 'part of them' (Scholar based at a health facility, Cameroon).

Although tone was not explicitly discussed by Scholars, many case studies referred to the importance of displaying compassion, kindness and empathy and of adopting

'a soft approach'. In a small minority of case studies, however, Scholars reported that messages had been delivered by themselves or immunisation teams using explicitly threatening or coercive language.

It was acknowledged that for widespread community sensitisation efforts, visual resources and Information Education and Communication (IEC) materials were particularly helpful. Six percent (n=44) of cases studies mentioned the distribution of leaflets, pamphlets and/or posters using pictures, phrases and slogans, often printed in local languages, in support of the verbal messages delivered by the vaccination teams. In addition to IEC materials, some Scholars also used forms of mass media for delivery of appropriate information, including radio messages, public announcements, and television broadcasts.

Pictures and videos were found to be particularly useful in interventions to support uptake of polio vaccination. Visual media effectively captured the impact of disability and the consequences of non-vaccination on children. In one case study from Guinea, the national-level Scholar recounted,

> *'we showed them the images of the disease while explaining point by point the definition, symptom, management and prevention, and also in case of adverse effects following immunisation'.*

Mobile phones, especially smartphones, facilitated easy access to videos and information online. In smaller or one-to-one sensitisation scenarios, Scholars reported using their personal mobile phones to show pictures and videos. Some Scholars described downloading videos and/or photos from the internet to their smartphones for use in awareness activities. Access to internet connectivity via mobile phones allowed Scholars to provide evidence-based information in real time, and having access to YouTube and other information websites was reported to be of immediate benefit.

Restrictions in response to the COVID-19 pandemic affected many community-based sensitisation activities. During this period, mass media proved helpful in supporting the dissemination of messages whilst adhering to local safety protocols.

Social media was regarded as an important tool for sharing accurate information, although it was noted that rumours and mis- and disinformation spread quickly over social networks and media channels. Most case studies mentioned that vaccination mis- and disinformation and 'conspiracy theories' were prevalent on social media and that these had contributed to decreased public confidence and overall trust in vaccines. Many Scholars commented on the speed at which rumours spread online. This was particularly evident in case studies that documented an intervention after the outbreak of the COVID-19 pandemic, and across which a notable increase in the use of social media was reported.

Throughout the case studies, messages to encourage uptake of vaccination focused on promoting the benefits of specific vaccines and debunking rumours and misconceptions. Messages that were targeted towards parents and caregivers focused on themes of love, protection and removal of harm. In a case study from Pakistan, a district-level Scholar emphasised,

> *'we tell them each parent loves their children and they don't want to harm them at any cost'.*

The importance of immunisation was often framed not only in terms of the health benefit for an individual, but also in relation to mitigating the spread of disease, building herd immunity and fostering the good health of the population.

In many cases, information to promote the benefits of vaccination was reinforced with statements about the impact of non-vaccination. These messages focused on risks associated with not vaccinating a child, the consequences of which were discussed in terms of contracting disease, illness, disability, and the possibility of death. Some Scholars noted that they emphasised to parents the 'burden' of a child with disabilities and the impact that disability would have on their lives. As part of efforts to debunk misconceptions, Scholars often discussed the potential side effects of vaccination to help communities understand AEFI. Scholars suggested this was particularly important in cases where lack of vaccine acceptance was linked to either a previous negative experience or a case of AEFI (perceived or real).

In their case studies, several Scholars reported using a cost benefit argument to promote vaccination, emphasising the efforts of the government and international actors to provide immunisations to the population free of charge. As discussed above, the provision of free vaccines contributed, in some contexts, to scepticism, fuelling rumours and adding to levels of mistrust in government and international actors. For some individuals, however, the associated costs of vaccination related not to the vaccination itself, but to the costs that would be accrued should a child need additional care (e.g., as a result of AEFI).

In case studies that documented an intervention during the COVID-19 pandemic, Scholars frequently mentioned their attempts to debunk mis- and disinformation about COVID-19 vaccination with ongoing vaccine promotion messages. COVID-19-related information included confirming the existence and spread of COVID-19 across the world, emphasising the importance of government safety measures and clarifying the stringent regulation process for approving vaccines in humans. Providing information about COVID-19 was often found to provide a platform for more targeted vaccine promotion messaging.

Risk, context and replicability

In their case studies, Scholars were asked to reflect on the risks and ethical considerations associated with their interventions, the context-specific factors that were at play and the overall replicability of their intervention.

At times, the interventions and actions documented by Scholars in their case studies carried risks. Most frequently, Scholars noted risks associated with potential negative reactions from the community towards the immunisation teams or their messages or towards the intervention itself. To mitigate such risks, Scholars reported taking appropriate contextual considerations into account before implementing any activity. Recruiting local leaders, influential people in the community and respected health workers to support the community-level interventions was the most frequently-reported strategy for ensuring Scholars and immunisation teams would be accepted without threat.

Activities at both household and community level brought with them tangible risks to team safety. In relation to their one-to-one activities with individuals, some Scholars

mentioned fears linked to the lack of clarity around the reception they would receive on arrival at a homestead or dwelling and the 'potential for harm' (sub-national Scholar, Ethiopia). The safety of the intervention teams was seen as paramount and several factors contributed to perceived levels of risk highlighted by Scholars. Whilst it was noted in many case studies that collaborating with relevant stakeholders was critical for the success of engagement activities, it was noted that careful consideration had to be given to each specific situation.

The likelihood that an immunisation professional would be rejected by a community appeared greater if the community had been affected by an AEFI, particularly if it had resulted in severe illness or death. In such situations, Scholars perceived the risk of violence to be greater; however, engaging appropriate influencers from the community was often found to defuse the situation. Where high levels of mistrust in government were reported, risks to the successful implementation of interventions were assumed to be greater. Some Scholars spoke of the challenges that arose when representatives from local government administrations were included in community outreach, particularly for the case management of vaccine refusal due to mistrust in government. Case studies from DRC highlighted increased levels of perceived insecurity and violence which Scholars attributed to the political tensions and social unrest resulting from the 2018-2020 outbreaks of Ebola. Widespread misconceptions about Ebola vaccines and heightened mistrust of health workers and government in the context of Ebola compounded feelings of unease.

In several of the case studies documenting an intervention during the COVID-19 pandemic, the perceived risk to the intervention focused on the Scholar's/team's ability to manage COVID-19 safety measures. Some Scholars emphasised that additional actions were needed to ensure teams were adhering to safety protocols to minimise the risk of transmission whilst conducting vaccine promotion activities.

In 40% of the case studies, Scholars believed that their interventions could be replicated in other geographical and cultural contexts. Many Scholars emphasised that tailoring an approach to the needs of an individual or a community was fundamental. Scholars broadly agreed that it was feasible and practical to replicate interventions and that when interventions were in line with approved approaches (from government and/or INGOs) they could be suitably adapted to ensure scale up.

In contrast, a minority of Scholars reported that their actions would not translate to other contexts. In most of the case studies where this was noted, specific and sometimes unusual actions had been employed. In one case study from Chad, for example, a Scholar working at a health facility concluded,

> *'in a different context, there are potential risks or probable ethical problems that may arise if we adopt this same technique which will result in loss of confidence of the population, loss of the credibility of your sense of professionalism vis-à-vis your hierarchy, leading to an increase in refusal of vaccination'.*

Overcoming barriers to acceptance – lessons & recommendations

Community members who were engaged through the case studies brought differing perspectives to the vaccination conversation. Calls for vaccine acceptance interventions to 'meet people where they are' and to tailor activities to suit the needs of the population were clearly articulated. In 28% of the case studies (n=206), Scholars made explicit that community engagement – building trust and developing awareness – was a key factor for vaccine acceptance, but it was implied to a greater or lesser degree in the majority of case studies. Many Scholars emphasised that the community had to be included, indeed needed to be 'at the heart' of vaccine campaigns, for them to be successful. A case study from a Nigerian Scholar working at the sub-national level was representative in this regard:

> *'the approach of community engagement (initially one-on-one engagement) helped a lot in resolving the issue of vaccine hesitancy in the community I visited. This is a method that is usually carried out to tackle issues like this'.*

Many cases promoted the need for ongoing community engagement before, during and after vaccine campaigns. This involved listening to the concerns of the community before delivering and disseminating tailored communication strategies, acknowledging their concerns and providing reassurance. It was suggested that embedding activities that directly addressed community concerns and needs led to successful outcomes. Using this approach, Scholars were better placed to be able to respond directly to anti-vaccine misinformation. Scholars consistently highlighted listening, understanding, reassuring and showing compassion as key tools for building relationships to increase community engagement and participation. It was noted that fears and issues of mistrust should be directly addressed rather than avoided, but that building sufficient levels of trust was necessary to create safe spaces where community members could honestly and freely discuss sensitive issues and feelings of anxiety.

Recommendations from Scholars, grounded in the specific experiences they documented, also focused on sustained community engagement. It was noted that efforts to build and maintain relationships with the community should be proactive (rather than in reaction or response to emerging issues). A number of Scholars also called for increased efforts to conduct research and situational analyses to better understand and correctly address the needs and priorities of communities. Again, in many case studies, cooperation, collaboration and communication were emphasised as prerequisites for success.

In 25% of the case studies (n= 184), Scholars reported the importance of the involvement of stakeholders and trusted community figures like community and religious leaders, influencers and women's and youth's groups for positive outcomes, although again, the role of these actors was implied in many case studies. Forging partnerships with traditional and religious leaders and promoting their involvement in community engagement strategies was one of the most-cited factors for successful vaccine acceptance interventions. Including leaders in interventions was found to increase levels of participation within communities and congregations and thus promote higher levels of engagement, which in turn contributed to positive health outcomes.

Many Scholars regarded traditional and religious leaders as highly esteemed, authoritative members of society who held the power to convince members of their communities to accept or reject vaccination programmes. Therefore, efforts to involve them in whatever capacity possible were encouraged and it appeared that their actual involvement was more important than the level at which they engaged with the intervention. Ensuring that key gatekeepers were involved in efforts to increase vaccine acceptance in their communities was consistently emphasised by Scholars in their considerations for future action. While the specific role of leaders in sensitisation activities, the means by which they should be engaged and the suggested levels of engagement varied from one case to another, their inclusion (in some relevant capacity) was consistent across the case studies.

Health workers also played an important role in interventions. On a practical level, health workers and community-based health workers administered vaccines, delivered health education and vaccine promotion and were found to be 'an important component in follow up and continued utilisation of health care services by hesitant communities and households' (district-level Scholar, Kenya). They also assumed significant supportive roles: accompanying Scholars and immunisation teams in unfamiliar communities and as gatekeepers, and providing context-specific information to the teams about cases of hesitancy, cultural norms and expectations. In considering recommendations for future activities, the role of health workers was emphasised, particularly in helping to dispel misconceptions and deliver accurate immunisation information. More consistent structures to support them in regular awareness raising and debunking of conspiracies was suggested to be highly important for ensuring vaccine acceptance. In several cases, it was noted that health education, including vaccine promotion, should be ongoing and that health workers and community health workers should be integrated in vaccine follow-up mechanisms. To support this, improved training for all cadres of health workers was recommended.

Government representatives from local- and district-level administrations were engaged as stakeholders in many cases; however, the broader role of the government in supporting interventions was rarely discussed. More frequently, recommendations from Scholars emphasised the need for greater investment from governments and international agencies in supporting vaccine acceptance through increasing efforts to cascade accurate information to communities, actively tackling rumours and conspiracy theories and supporting health worker training and financing.

In only four case studies (0.5%) did Scholars explicitly suggest that vaccination campaigns should target fathers. Nevertheless, Scholars found engaging fathers to be particularly relevant in patriarchal societies or in environments where men typically made decisions about their children's health. This was reflected in several other case studies, where mothers 'refused' to vaccinate their children because of their husbands' decisions.

Whilst most case studies emphasised that Scholars worked in collaboration with other stakeholders, Scholars in only a small number of cases explicitly articulated the need for strong partnerships to identify and implement successful strategies for addressing vaccination needs. In a case study from Burkina Faso, a Scholar working at the district level suggested that demonstrating the 'synergy' between actors at central, regional and district levels built community confidence in the intervention. Another Scholar working at a health facility in Benin explained how bringing partners together benefitted communication activities:

'all the authorities of the territory have been mobilised to find an appropriate solution… the gathering of leaders alongside politico-administrative, health and religious authorities, with the presence of local radio hosts, was an opportunity during which the best strategy to set up a concerted multisectoral communication mechanism, one where each of the stakeholders had an element of power and a bit of authority, was integrated into our approach'.

In thinking about future work and recommendations for colleagues, several Scholars suggested that collaborations must extend beyond working with local religious and community leaders and should include more comprehensive partnerships with healthcare professionals, academics, global agencies and other organisations which support immunisation. It was suggested that ongoing collaboration can save time and resources well as adding more positive, reliable voices to the public conversation on vaccine acceptance.

In just under 30% of case studies (n=220), Scholars emphasised the importance of improving communication strategies. This included listening to people's fears, understanding the source of hesitancy, improving the interpersonal skills of local staff and involving local teams who speak the local languages. Communication was widely identified as a specific determinant of success in reducing barriers to vaccine acceptance. Inadequate and insufficient communication about vaccines was seen to contribute to low levels of acceptance. Further, Scholars discussed the importance of multi-faceted communication strategies to address misinformation and the need to embed communication within existing community engagement structures. Scholars reported that intentional, timely and effective communication increased uptake and that by using multiple channels of communication, messages could be disseminated widely. The need for clear messaging was emphasised particularly in relation to debunking rumours and conspiracy theories, and it was suggested that greater efforts should be made to ensure consistent and ongoing communication strategies. The need for greater discussion and transparency around side effects and AEFI was also noted in several case studies. In a case study from Ghana, the Scholar working at health facility level asserted,

'it is important to have a good understanding of vaccine safety and the systems put in place to address AEFI. Such systems show that there is transparency around issues of vaccine safety and can help us increase the trust of people around vaccines'.

Developing a communication loop to promote free-flowing dialogue between community leaders, community members and vaccination teams was also important. Several Scholars noted that ways to facilitate dialogue were lacking and acknowledged the benefit of establishing stronger communication mechanisms. The need for scaled-up communication in the context of COVID-19 was highlighted. Scholars indicated that increased misinformation and conspiracy theories in the wake of the pandemic (as discussed above) required more nuanced sensitisation and messaging, both about vaccination and regarding COVID-19 prevention measures when accessing services.

Interpersonal communication was identified as a critical tool for positive engagement. Quantitative analysis indicated consistency across case studies in English and French, with 16% (n=56) of English case studies and 15% (n=58) of French case studies highlighting interpersonal communication as a key component in successful interventions. In a case study from Sierra Leone, a Scholar at the district level confirmed,

> *'interpersonal communication with caregivers helps one to know major issues of vaccine hesitancy in communities and in turn helps you to build trust and confidence of the people in the EPI programme, thereby increase uptake'.*

Reflecting upon their own experiences, several Scholars commented on how interpersonal communication training had enabled them to take a softer and more sensitive approach, to develop improved listening skills and to show greater levels of empathy, all of which was beneficial for improving their relationship with the communities they served. In a case study from Argentina, a Scholar working at a health facility reflected,

> *'you have to make sure your approach is gentle and not accusing or reproachful, and that you present clearly the facts and the importance of vaccinations'.*

Conclusion

The data presented in the report come from first person narratives generated as part of a TGLF Peer Hub learning exercise aimed at supporting Scholars to share experiences of addressing vaccine hesitancy in their communities. Although the primary focus of the exercise was to foster reflective peer learning in advance of COVID-19 vaccine introduction, the case study narratives present a rich body of evidence that details how local immunisation professionals creatively address issues related to low levels of vaccine acceptance in their local context. The situations described are of considerable value as they address contextual, social and behavioural dynamics that may not always be considered, and present real-world strategies used by Scholars to build confidence in vaccines and vaccination in the communities they serve. Although some generalisations are made throughout the report, it is clear that reducing barriers to vaccine hesitancy is not a one-size-fits-all model. Rather, these case studies provide insights into the local-level experiences of immunisation staff and the strategies they invent, adapt and deploy to achieve vaccine acceptance and increase confidence. They highlight the importance of these contextualised and individual perspectives and the urgency with which their voices and experiences should be heard.

INTRODUCTION

Background

The COVID-19 Scholar Peer Hub is a digital network hosted by The Geneva Learning Foundation (TGLF). In April 2020, during the COVID-19 outbreak, a group of more than 600 national and sub-national immunisation staff who were graduates of TGLF's immunisation programme (in which learners are referred to as 'Scholars') were mobilised to co-design the Peer Hub. The project called on colleagues working in the area of immunisation at sub-national and national levels whose activities had been affected by the pandemic. After three months of development, the COVID-19 Peer Hub launched in July 2020. It connects over 6,000 health professionals from 86 countries across system levels and national and organisational boundaries, to contribute to strengthening skills and supporting motivation to implement country COVID-19 plans of action.

Following the launch of the hub, a first peer-reviewed exercise was conducted, focusing on recovery from disruption of immunisation services. In October 2020, TGLF determined that COVID-19 vaccine introduction would become a critical focus of action for the network. As a result, COVID-19 Peer Hub participants, working closely with TGLF and its global partners, developed a second peer review exercise to develop case studies based on network members' practical experience overcoming barriers to vaccine acceptance.

The Peer Hub accepted 5,114 applications from 96 countries. Of these, 1,438 Scholars (28%) identified the reluctance of caregivers to come to health facilities as their most critical challenge, whilst 720 (14%) of the participants cited lack of community confidence in vaccination, and 678 (13%) cited inadequate communication and community engagement. Over four weeks in November 2020, 734 Peer Hub participants developed, peer reviewed, and revised case studies describing and analysing a situation in which they had helped an individual or group overcome initial hesitancy or fear of vaccination, leading to vaccine acceptance. The primary purpose of the case studies was to foster reflective learning between peers, many of whom were likely to become involved in COVID-19 vaccine introduction.

Development of the case studies

During the case study development, Dr François Gasse (UNICEF/WHO and former member of the Strategic Technical Advisory Group of Experts on Immunisation) and Charlotte Mbuh (TGLF staff) facilitated daily sessions focusing on the development of Scholars' case studies. They used TGLF's ITCH hackathon methodology to support problem-solving, experience sharing and reflective practice throughout the process.

In developing their case studies, participants were instructed to refer to a rubric that combined instructions and guidance, reflective questions, and checklists to guide the exercise (see Annex 1). The rubric was designed to support the participant to tell their story so that 'a complete stranger should be able to make sense of your situation, what you did, when and where, how, and why' (as noted in TGLF's introduction to

the rubric). Each case study recorded specific demographic information including the participant's country, organisational affiliation, health system level and, where possible, the GIS coordinates of the locality described in the case study. Guided by the rubric, participants were required to critically analyse aspects of the experience they described, including the context, innovation of their approach, limitations and risks, generalisability and insights. Each case study was peer-reviewed by three other participants. Reviewers were asked to provide constructive feedback, highlighting areas where the case study could be improved. Participants then finalised their case studies, considering and incorporating reviewer feedback. Participants who successfully completed their own case study and peer reviewed three other case studies, were awarded a Level 1 certificate of participation from TGLF's COVID-19 Peer Hub. Participants gave their consent for the case studies to be used for further research and analysis.

Case study analysis

Although the case studies were primarily a tool to foster reflective peer learning, the first-person narratives they include are a valuable body of evidence, capturing the realities of how local health professionals achieve acceptance of vaccines and vaccination with individuals and groups in the communities they serve. In recognition of this, Anthrologica was commissioned by the Bill and Melinda Gates Foundation (BMGF) to undertake an analysis of the case studies generated as part of the November 2020 Peer Hub. The project had three main outputs: (1) a substantive report documenting the findings of the case study analysis; (2) a summary report and PowerPoint presentation for BMGF; and (3) a report for TGLF summarising the methodological approach of the case study analysis and presenting recommendations for future analyses.

Research questions

Key research questions to guide the analysis were outlined by TGLF in collaboration with colleagues from BMGF:

1. What patterns or themes exist related to vaccine communication and community engagement strategies?
    a. What themes are relevant to COVID-19 vaccine introduction?
    b. Are there different patterns before and after COVID-19?
2. What are the underlying learnings that emerge across these case studies?
3. What do the patterns or themes tell us about behaviour related to motivators and drivers of vaccination?
    a. What are the barriers and challenges to vaccination?
    b. What are the factors contributing to vaccine hesitancy?
4. What are the main problematic areas for participants?
5. What areas emerge as points for interventions across these patterns or thematic areas?

Report structure

This report documents the findings of the analysis of case studies and is the first of the project's three outputs. After the introduction, the first chapter of the report presents the methodological approach used in the study, details the data coding and extraction process, and describes the analysis framework. The second chapter provides basic demographic information about the Scholars involved in the case study exercise, including their gender, the country in which the intervention took place, and their position/role within the health system. The subsequent six chapters focus on the research findings. These have been structured according to the peer learning activity's rubric: populations engaged in the case studies; barriers to vaccine acceptance; interventions and actions employed; moving towards greater acceptance through messages and delivery; risk, context and replicability; and lessons and recommendations. The final chapter summarises the study's conclusions. Prior to its finalisation, colleagues from TGLF and representatives from the Bill and Melinda Gates Foundation had the opportunity to provide written and verbal feedback, which was incorporated as appropriate.

METHODOLOGY

Qualitative analysis was conducted on a series of 734 peer learning case studies that documented effective strategies to mitigate vaccine hesitancy, collected through the COVID-19 Scholar Peer Hub. The study's methodology is summarised below. A separate report detailing the analysis process in more detail was produced and submitted as a separate output of the project.

Study design

A mixed methods approach was adopted to analyse the case studies. The primary focus was the qualitative analysis of the case study narratives, underpinned by the quantitative analysis of demographic information about the Scholars who produced the case studies.

This research used a qualitative study design to apply thematic analysis to case study data, with the aim of providing detailed insights into patterns emerging in the data. Key themes related to vaccine communication and community engagement strategies, emerging ideas relevant to COVID-19 vaccine introduction, and underlying behaviours related to drivers and barriers to vaccination. Each case study followed the structure outlined in the activity's rubric and the thematic approach facilitated the drawing of comparisons across the dataset.

The research was completed in three steps:

STEP 1: CODING DATA

A matrix was developed to guide the coding of data presented in the case study narratives. The approach used a balance of deductive coding (using pre-defined codes derived from the research questions) and inductive coding (adding new codes in response to themes emerging in the narratives). A three-person team conducted the coding by hand. First, all team members independently coded the same sub-set of the case studies. This was used to benchmark the coding. Inconsistencies were discussed and resolved. The coding matrix was revised to included standardised demographic information and to better facilitate comparisons and analyses across the French and English datasets. The coding matrix was reviewed by TGLF and adapted further based on the feedback received. The research team systematically sorted through the data, labelling ideas and phenomena as they appeared and reappeared, and continued to develop the matrix iteratively: codes and themes were refined throughout the process and examined on regular briefing calls by the team to ensure consistency.

STEP 2: DATA ANALYSIS

The coded data from the case study narratives were analysed using thematic analysis. Dominant themes were drawn out and the trends that emerged were critically analysed. Combining deductive and iterative analytic approaches ensured the research questions

outlined were fully addressed whilst allowing identification of new themes or areas of investigation that may not have been fully anticipated at the start of the analysis. The researchers were able to consider the data from a variety of perspectives and to move from the micro-level analysis of individual case studies to a broader macro-level view across the whole dataset.

The full quantitative dataset merged two sets of information. The first was each Scholar's demographic data provided by TGLF. To this was added data related to the Scholar's case study extrapolated from the qualitative analysis. The Scholars' demographic data provided by TGLF included the variables: ID, country, organisation, health system level, gender, number of years of experience in immunisation response, number of years of experience in outbreak response, involvement in COVID-19 response, and immunisation services in the Scholar's workplace affected by COVID-19. A column for region was added, and the available country data were categorised using the UNICEF regional definitions. Case study data extrapolated from the qualitative analysis and added to the quantitative dataset included the variables: area of intervention (rural or urban), type of vaccine/antigen, time of intervention (before or after COVID-19), type of intervention (individual, community, or country level), whether Scholar would recommend their approach (yes/no), whether it was new and innovative (yes/no) and the quality of case study (standard/good). The data were then entered into SPSS statistical analysis software. Descriptive statistics were calculated on all the Scholar demographic variables to identify the distribution in Scholars' background and work contexts and on the case study variables to assess the distribution in the Scholars' approach to their intervention and the types of vaccines/antigens involved.

Following the analysis, the data were triangulated to validate the findings, integrate quantitative and qualitative results, and gather a comprehensive picture of each intervention based on its context and Scholar demographics. By cross tabulating descriptive statistics, the research team grouped variables to find additional relationships and trends that may not have emerged when analysing the dataset as a whole. Cross-referencing by two or more variables allowed the research team to explore additional patterns, such as the proportion of Scholars who addressed vaccine hesitancy for different antigens in different settings (rural or urban areas). After the assessment of patterns through crosstabulation, researchers used the chi square statistical test to determine whether differences between groups were significant. The patterns highlighted through cross tabulation and the chi square test were further triangulated against the rich qualitative data. This process was conducted manually in Excel using filters to examine whether the quantitative differences observed in demographic and case study data reflected differences and nuances in each individual case. Using this approach, the team were able to assess the significance of a variety of scenarios.

STEP 3: FOLLOW UP INTERVIEWS

A series of short follow-up interviews were conducted with a sub-set of the Scholars who produced the case studies (n=4). The Scholars were selected purposively based on the quality and variation in their case study experience. Although the case studies each describe a specific scenario, it appeared that they were not isolated events but rather were indicative of the challenges Scholars face and the action they take as part of their routine work. Interviews therefore enabled (i) collection of additional information about the situation described in the case study and in the context of the participant's ongoing work; and (ii) reflection on the learning experience of documenting the event and how this may have supported the participant's actions over time, particularly in the context of COVID-19 (both the roll out of COVID-19 vaccination and its impact on routine

immunisation). The interviews built on the peer-learning model and provided an important opportunity to validate the key findings of the case study analysis with the Scholars, particularly focusing on the potential solutions and positive interventions to overcome barriers and challenges to vaccination identified in the analysis.

STEP 4: REPORTING

The project three main reports were produced. All underwent rigorous review from partners at TGLF and BMGF and their comments and feedback were incorporated as appropriate into the final outputs.

Limitations

The analysis was as complete as possible given the large number of case studies and the limited timeframe. Due to the way in which the information was collected and stored as part of the Peer Learning Hub, the primary methodological challenge was in ensuring that each case study was correctly linked to the Scholar's demographic data, and considerable time was required to clean the data set and resolve or remove anomalies. This project marked the first time that the demographic data and case study data had needed to be linked, but there are significant advantages to be gained in making this linkage routine and systematic.

The lack of predetermined continuous variables meant that it was not possible to determine relationships between variables, only group differences, and the presence of categorical variables which were inferred from the case studies did not facilitate this. Should continuous and standardised variables be routinely gathered (as highlighted below), future analyses could be more complex and assess, for example, if and how variations may be predicted by scholars' approaches, countries, types of vaccine, etc.

The data presented in the report are first person narratives generated as part of TGLF Peer Hub learning exercise. The primary objective in the production of these case studies was to support Scholars to share experiences of overcoming vaccine hesitancy in their communities to encourage reflective learning in advance of COVID-19 vaccine introduction. Although not limitations in terms of the methodology per se, it is worth highlighting that in the interpretation of the findings, several issues had to be carefully negotiated.

Taken together, the case studies were a body of rich qualitative information, and were never intended to be a representative sample in research terms. The narratives described an event in isolation, so it was impossible to gauge how representative each case study was of the Scholar's work. Similarly, because each case study reflected the experience of the individual Scholar, it was unclear how their approaches may have been representative of those of other immunisation staff operating in similar contexts. Further, the absence of information about the use of national or regional level guidelines for addressing cases of vaccine hesitancy limited the scope of contextual comparisons within countries and geographical regions. Some broad and indicative generalisations were made, and the risk of false generalisations is acknowledged. However, the fact that the data did not constitute a representative sample does not detract from its value. The case studies provided the Scholars with a rigorous platform to share experiences and reflect on the successful outcomes of confronting lack of vaccine acceptance and delivering vaccines within their specific contexts, and focusing on the individual case studies is a strength of this study.

Although all case studies followed the activity rubric and were peer reviewed by other Scholars within the network, there was some variation in the quality of the material. The case studies were written in the scholars' own words, and therefore themes, concepts, and meaningful comparisons had to be extracted and interpreted by the researcher.

Further, many of the cases were retrospective reflections on events that occurred in the recent past, prior to the actual writing of the case study. In some cases, however, Scholars recalled events that occurred in the more distant past, as much as over ten years previously.

The activity rubric also included a measure for the level of 'innovation' of the intervention; however, this was self-reported and interpreted differently by Scholars across the dataset. The concept of innovation was not anchored to a specific example. As a result many Scholars reported that they did not know whether their approach was innovative or not.

English-French disaggregation of data

The data presented in this report has been disaggregated between English case studies and French case studies, rather than by anglophone and francophone countries or Scholars. This is due to the fact that Scholars in some francophone countries submitted cases in English, whilst other Scholars in anglophone countries submitted their cases in French. Some wrote in their mother tongue, or the language in which they were most comfortable, and others presented cases they had experienced in the field or out of their home country. For example, of the 48 Scholars from Cameroon, 9 completed the exercise in English and 39 who completed it in French. In cases from Argentina, Bhutan and Greece, Scholars submitted their case study in English. For the purpose of this report therefore analyses are reported by grouping data by the language in which they were submitted.

CASE STUDY NARRATIVE

‘Head of households should know the importance of vaccination’

I am an epidemiologist, and an assistant university lecturer, and very committed in public health activities. Before telling my story, I must say that it has not been easy to identify a case. The reason is that, since not being directly involved in the day-to-day immunisation activities, it was difficult to meet someone who was hesitant to have the child immunised. The one I am going to present concerns me. It is a family situation long before the onset of COVID19.

Four years ago, I faced reluctance for vaccination in the household. The child was three years old and had not received his vaccines since he was six months old. I had observed a recurrence of flu symptoms in him since he was one year old: runny nose, sneezing, and cough. If it had been during COVID-19, the symptoms would have been those of the coronavirus. During a vaccination session, we were sensitised about the importance of getting children vaccinated against the flu. It should be noted that the Vaxigripp vaccine is administered at the age of 6 months and is part of the vaccination schedule despite being chargeable. However, the vaccination service that I am attached with is advising to administer it. It happened that child had not received this vaccine, although being eligible at several occasions. It was the immunisation staff who drew my attention to its importance, they explained in a session the advantage of having the flu regarding the constant changing in the virus, and vaccination was the only way to reduce the frequency of symptoms.

The child’s mother was making the decision to get him vaccinated, his father opposed the idea. For him, the Vaxiggrip has no added value and did not contribute to the immunity of the child. In short, its usefulness was unfounded. The father was experiencing fear about the Vaxiggrip. He did not believe in its advantages as well as others that are chargeable like the DPT4, and typhoid vaccines. His reaction was the same when the child was two years old to receive the fourth dose of the pentavalent vaccine commonly known as DPT booster.

I heard from him that only the vaccines recommended by the EPI programme up to the age of 11 months are useful in children. Faced with this opposing thought, and given the symptoms that the child constantly presented, I found myself convincing the father, insisting on the vaccination based on what I had learned. It was not easy to convince him because several days passed during which I always returned on the subject. Seeing my commitment and my insistence to get the child vaccinated, and especially because there had been several postponements of dates, he decided to accompany us to the vaccination service and the child received his vaccine. I insisted on the fact that the child should not be a missed opportunity for vaccination again. The child’s father knows me as someone very engaged in health activities, and someone always seeking for the main factors that negatively affect human being health. Those are some of the reasons that made him change his decision.

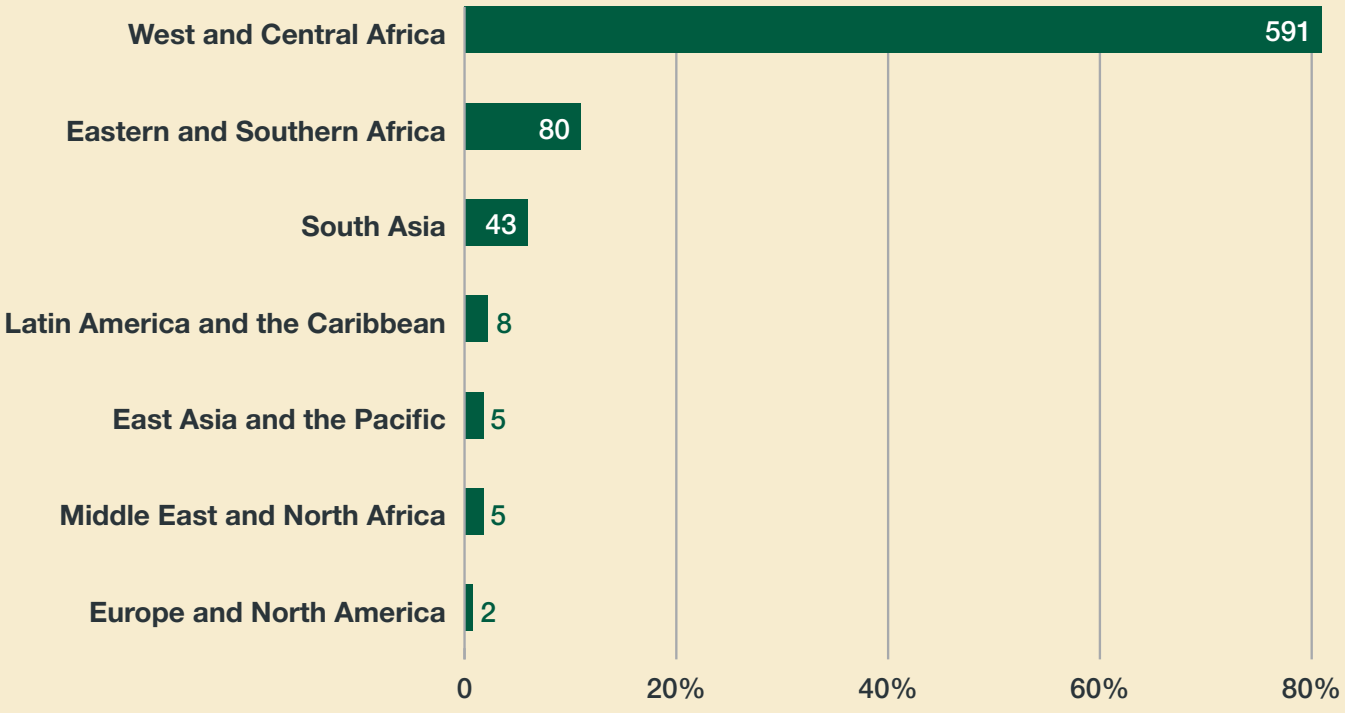
It was very surprising to see him make that decision, because in the past, he had not been available. I must admit that, despite the father letting the child get immunised, he remained convinced that this vaccine was not effective. Unfortunately, he did not have the chance to attend the vaccination counselling session. However, since then, the frequency with which the child had the flu decreased.

- Female, national-level Scholar, Cameroon

SCHOLARS' DEMOGRAPHICS AND BACKGROUND

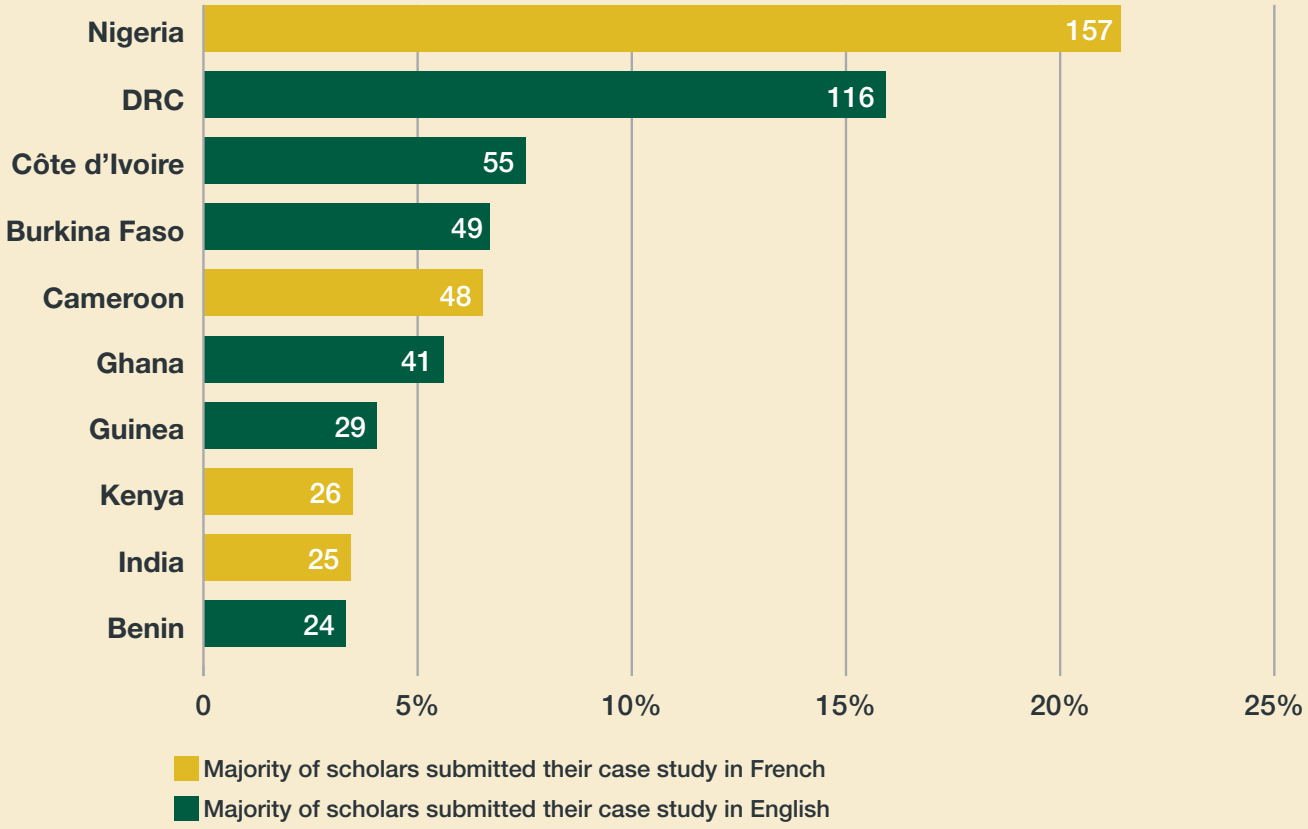
A total of 734 Scholars took part in the exercise. As shown in Figure 1, a substantial majority (81%, n=591) were based in West and Central Africa, followed by Eastern and Southern Africa, and South Asia. Very few Scholars (2%) came from other global regions.

FIGURE 1. Percentage of Scholars across regions.



The Scholars were based in 55 different countries, of which 20 countries were in West and Central Africa and 16 were in Eastern and Southern Africa. Case studies were submitted in English (46% n=355) or French (54% n=399). Figure 2 provides an overview of the ten most represented countries, across which 78% of Scholars conducted their intervention. The largest proportion of all scholars, 21% (n=157) of the total, came from Nigeria, where case studies were submitted in English. The second highest proportion of case studies came from the DRC (16% n=116) and were submitted in French. Other countries with relatively high representation were Côte d'Ivoire; Burkina Faso, Cameroon, Ghana, Guinea, Kenya, India and Benin. Contributions from the other 45 countries, including five countries that had only one Scholar, represented 22% of the total case studies (n=164).

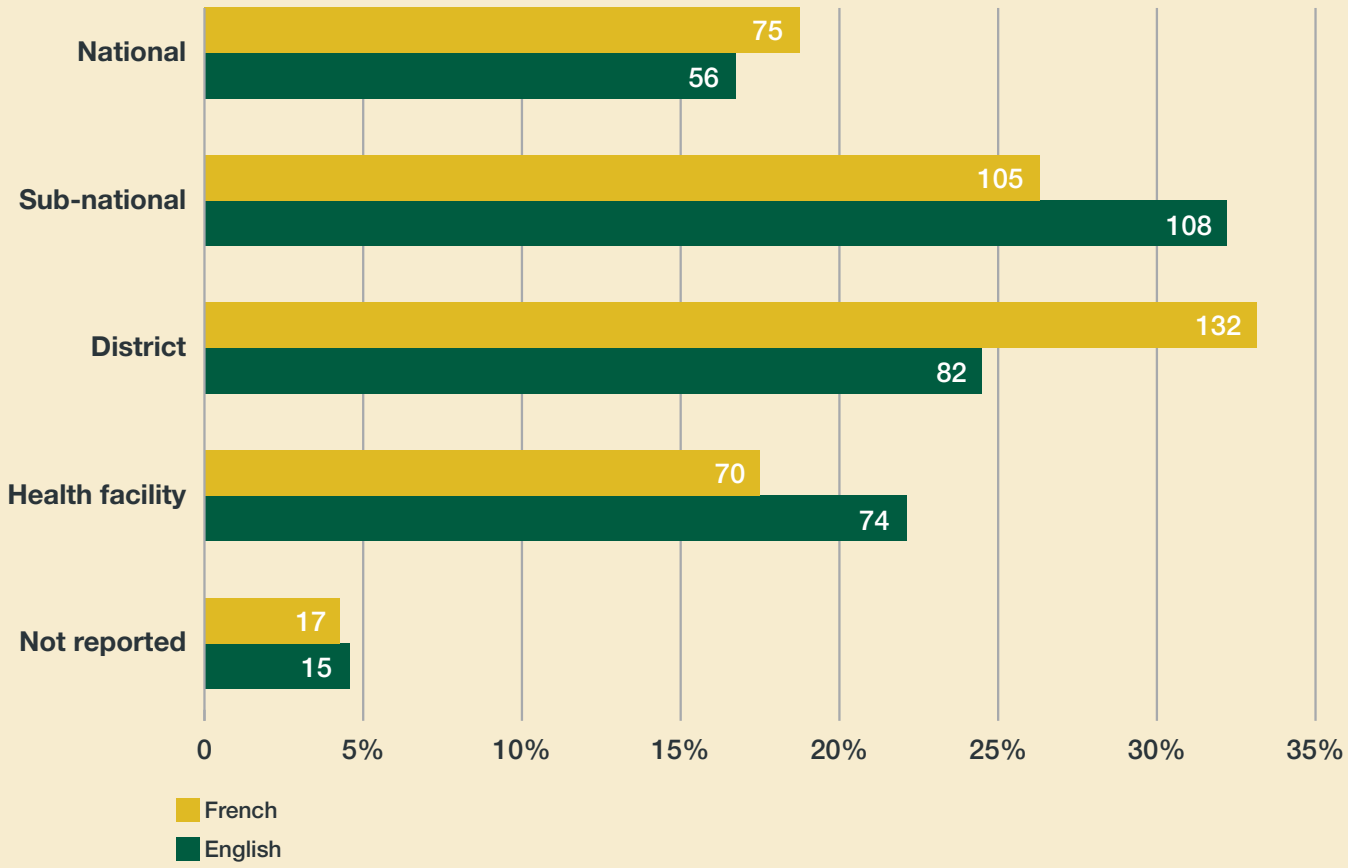
FIGURE 2. Percentage of Scholars (78% of total) in the 10 most represented countries.



Scholars provided information about the area in which their intervention took place in 28% (n=206) of case studies. Of these, 73% (n=150) were in rural areas including remote communities, nomadic and farming communities, and isolated religious communities; and 27% (n=56) were in urban areas including capital cities, city districts and inner-city informal settlements.

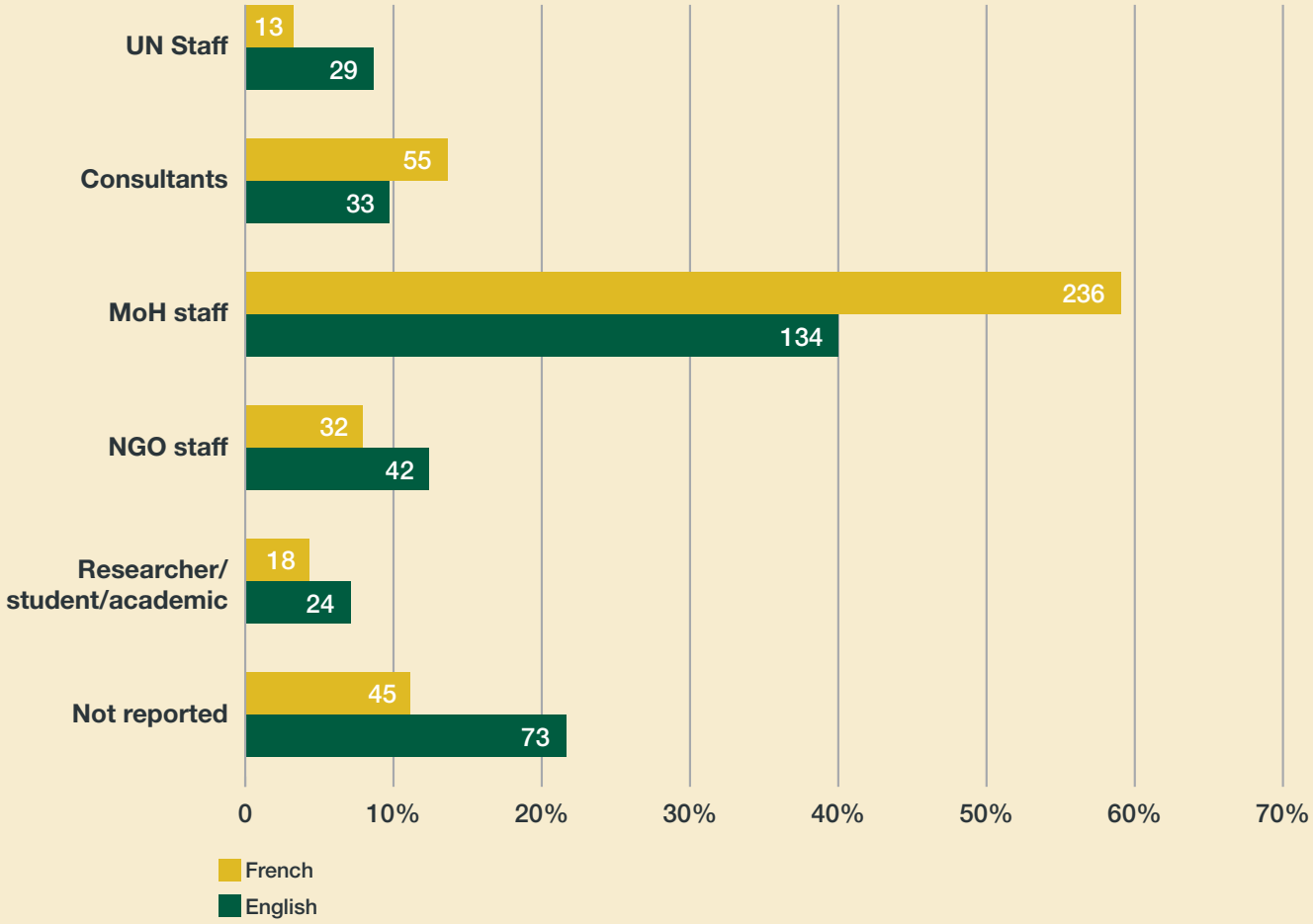
Figure 3 shows the level of the health system in which Scholars were engaged, comparing those in the English and French datasets. Overall, the highest proportion of Scholars worked at the sub-national and district levels, comprising 58% (n=427) of all respondents. Among Scholars reporting their case study in French (n=399), the highest proportion (33% n=132) were engaged at the district level, followed by 26% (n=105) at the sub-national level. Among Scholars reporting their case study in English (n=335), the highest proportion (32% n=108) were engaged at a sub-national level, followed by 25% (n=82) at the district level.

FIGURE 3. Percentage of Scholars by health system level



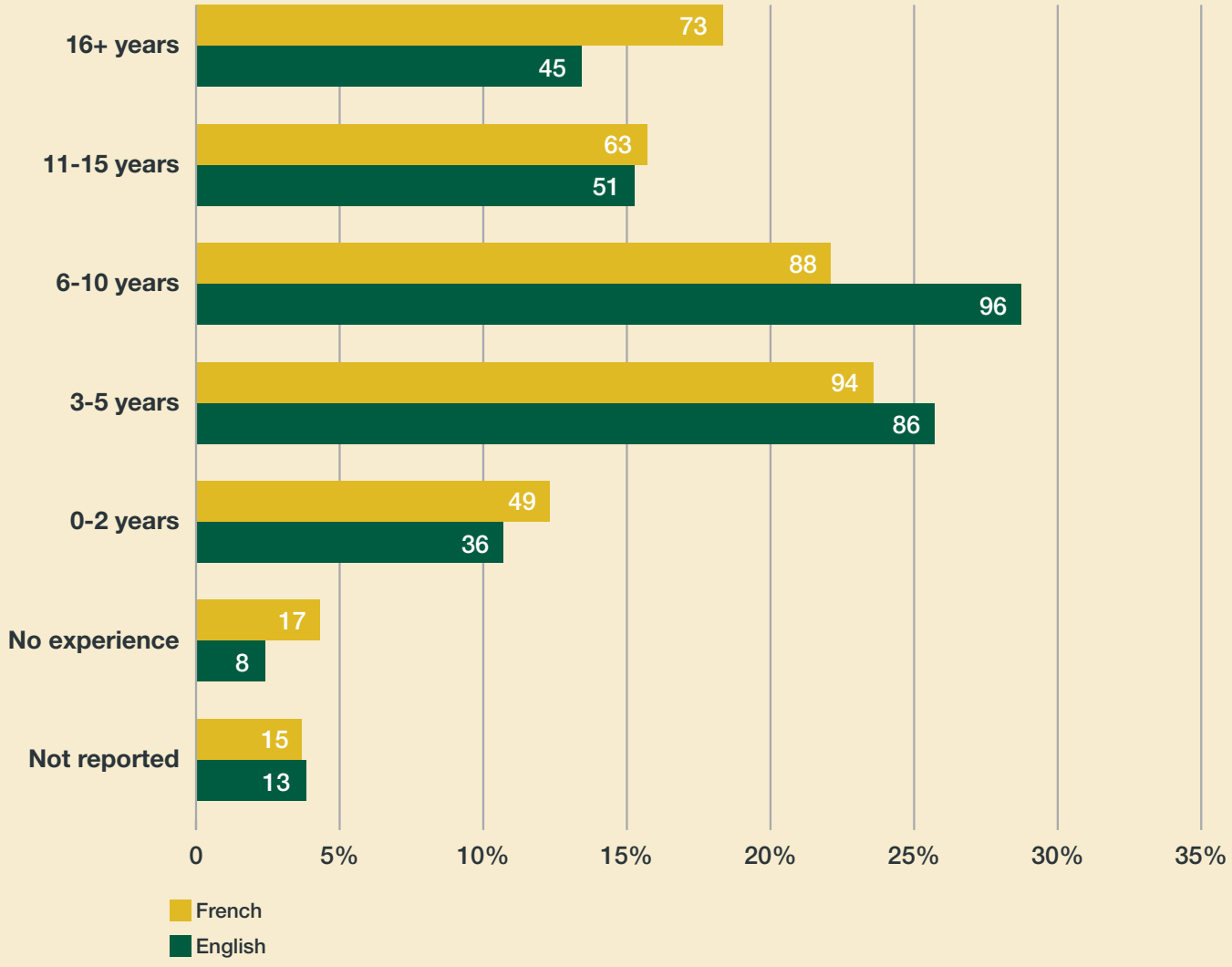
Scholars worked with a variety of different organisations. Figure 4 presents Scholars' organisational affiliation, comparing the English and French datasets. The greatest proportion of Scholars (50% n=370) were staff engaged at different levels in Ministries of Health (MoH), although was more common in Francophone Scholars (59% n=236) than Anglophone Scholars (40% n=134). Others reported working for NGOs, UN agencies, research institutions or as consultants; 22% (n=73) did not report their affiliation.

FIGURE 4. Percentage of Scholars by organisation



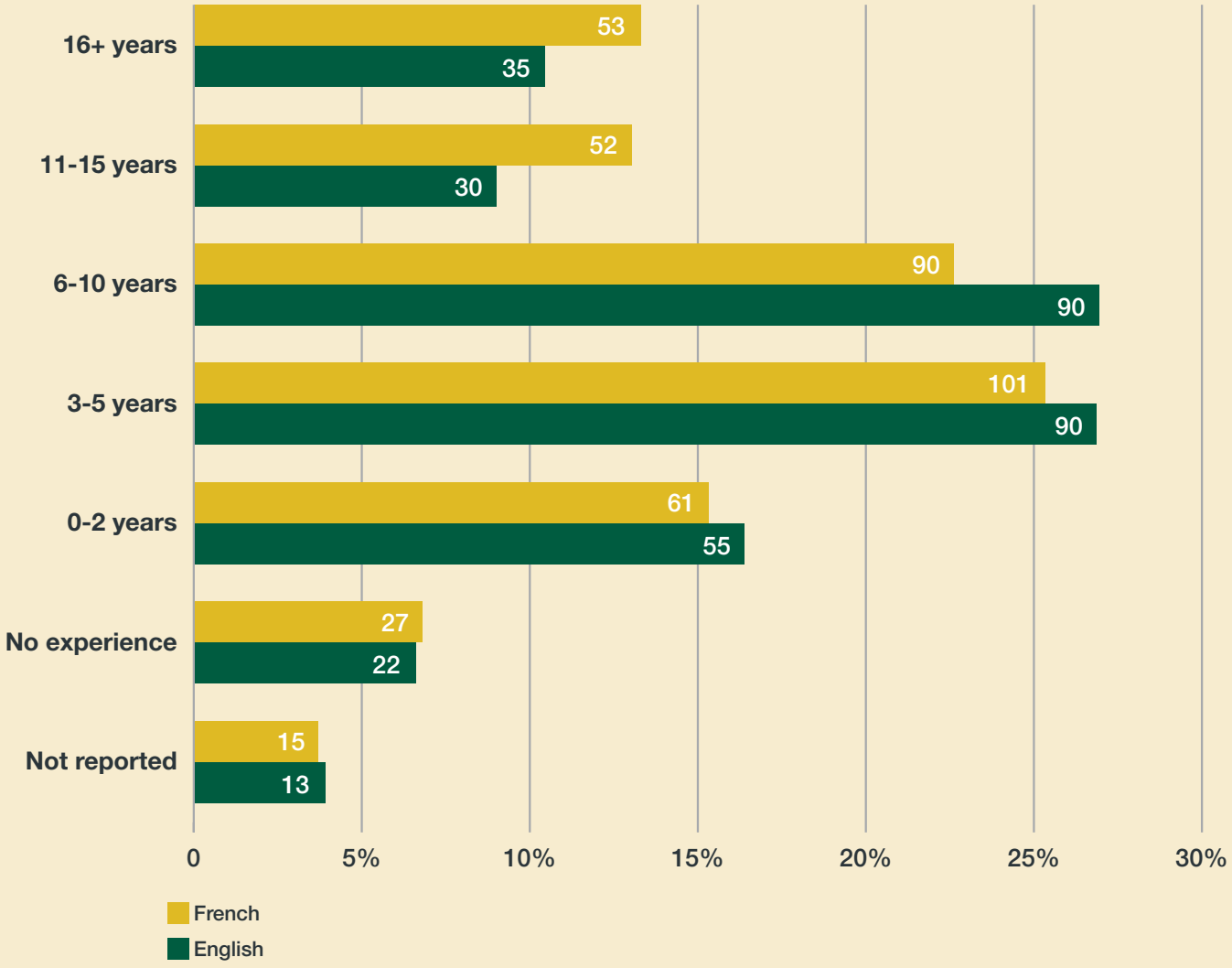
Scholars reported their average years of experience in immunisation response. A sizable proportion of Scholars had extensive experience of more than 10 years (32% n=232), although this was more common in the Francophone case studies . Half of Scholars (50% n=364) had between three and 10 years' experience, and a small proportion reported to have no experience at all, or did not specify. These data are disaggregated according to the English and French datasets in Figure 5.

FIGURE 5. Percentage of Scholars by years of experience in immunisation response



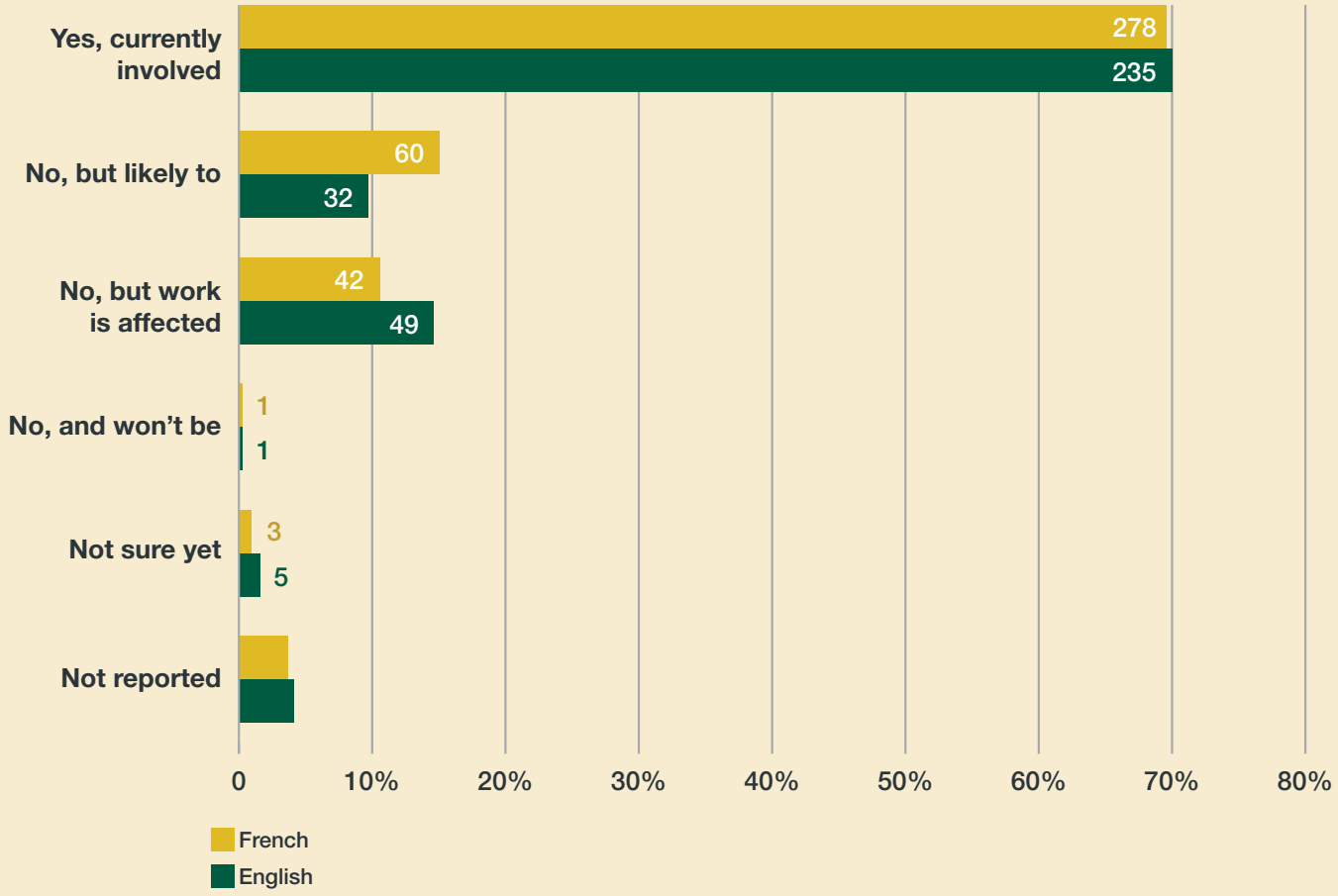
Scholars also reported their years of experience specifically in the field of emergency response. The data here followed a similar pattern to Scholars' experience in immunisation, with the greatest proportion being engaged in this work for between 3 and 10 years. Longer experience was proportionally more likely in the Francophone Scholars than Anglophones. Compared with experience in immunisation response, a slightly higher proportion of Scholars had no emergency response experience (7% n=49), or did not report their level of experience (4% n=15). Figure 6 highlights the differences between the French and English dataset.

FIGURE 6. Percentage of Scholars by years of experience in emergency response



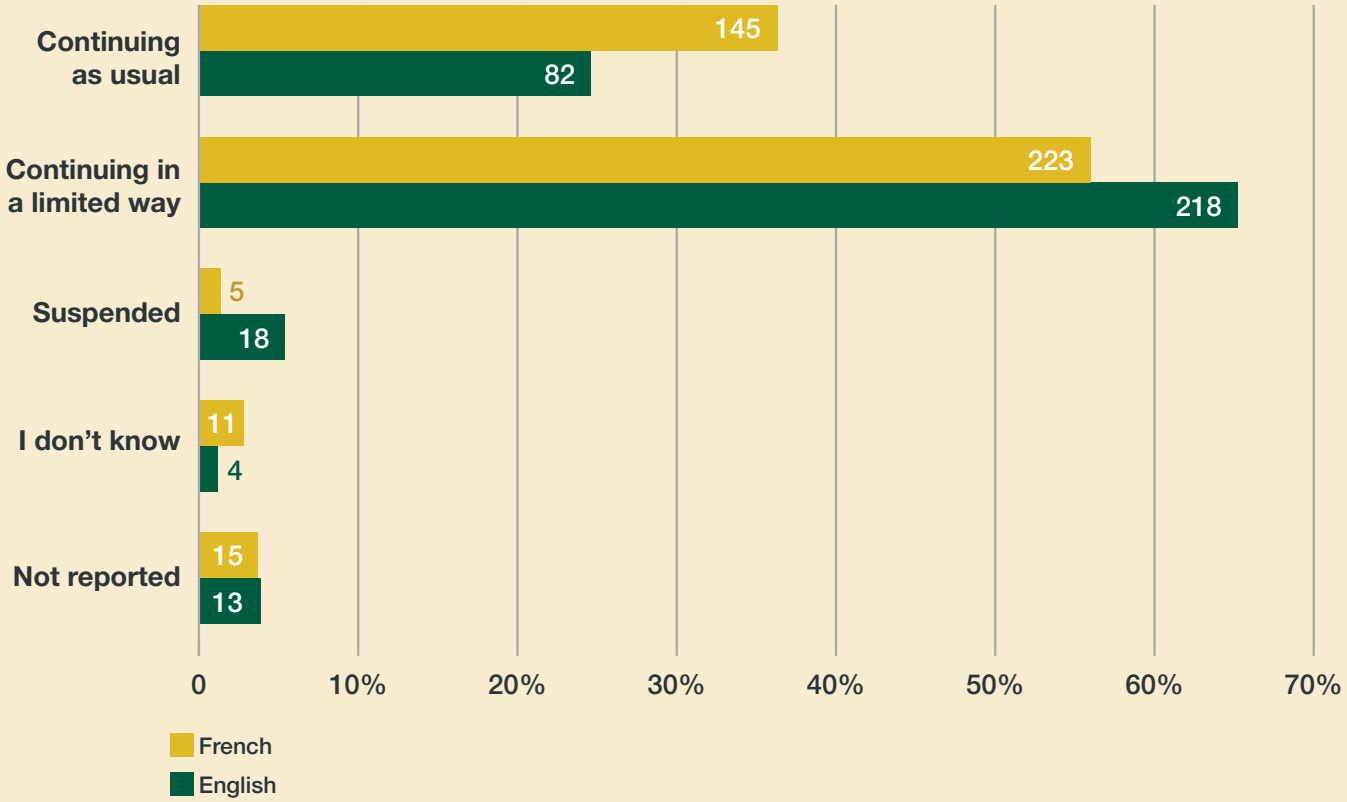
Eighty-seven percent of the Scholars (n=641) indicated whether the intervention they documented in their case study took place before or during the COVID-19 pandemic. Of those, nearly half (47% n=299) said the intervention occurred before the pandemic and just over half (53% n=342) during the pandemic. The case studies were written three to four months before the earliest COVID-19 vaccine introduction via COVAX. Overall, the majority of Anglophone and Francophone Scholars (70%, n=513) were involved in COVID-19 response at the time they produced their case study. Nearly all the others stated they were likely to be involved soon or that they were not involved but that their work was being affected by the COVID-19 emergency. Figure 7 shows the proportion of Scholars involved in COVID-19 response at the time of the exercise.

FIGURE 7. Percentage of Scholars by involvement in COVID-19 response at the time of writing their case study



Scholars were asked if immunisation services in their workplace were affected by the COVID-19 emergency. Overall, many reported that that immunisation services continued, but in a limited way (60% n=441); however, this was more pronounced in the English case studies (65% n=218). It was reported that immunisation services at their workplace continued as usual by 31% (n=227) of Scholars, and this was more pronounced in the French case studies (36% n=145). At time of reporting, suspension of immunisation services was quite rare, particularly in Francophone settings. These differences are shown in Figure 8.

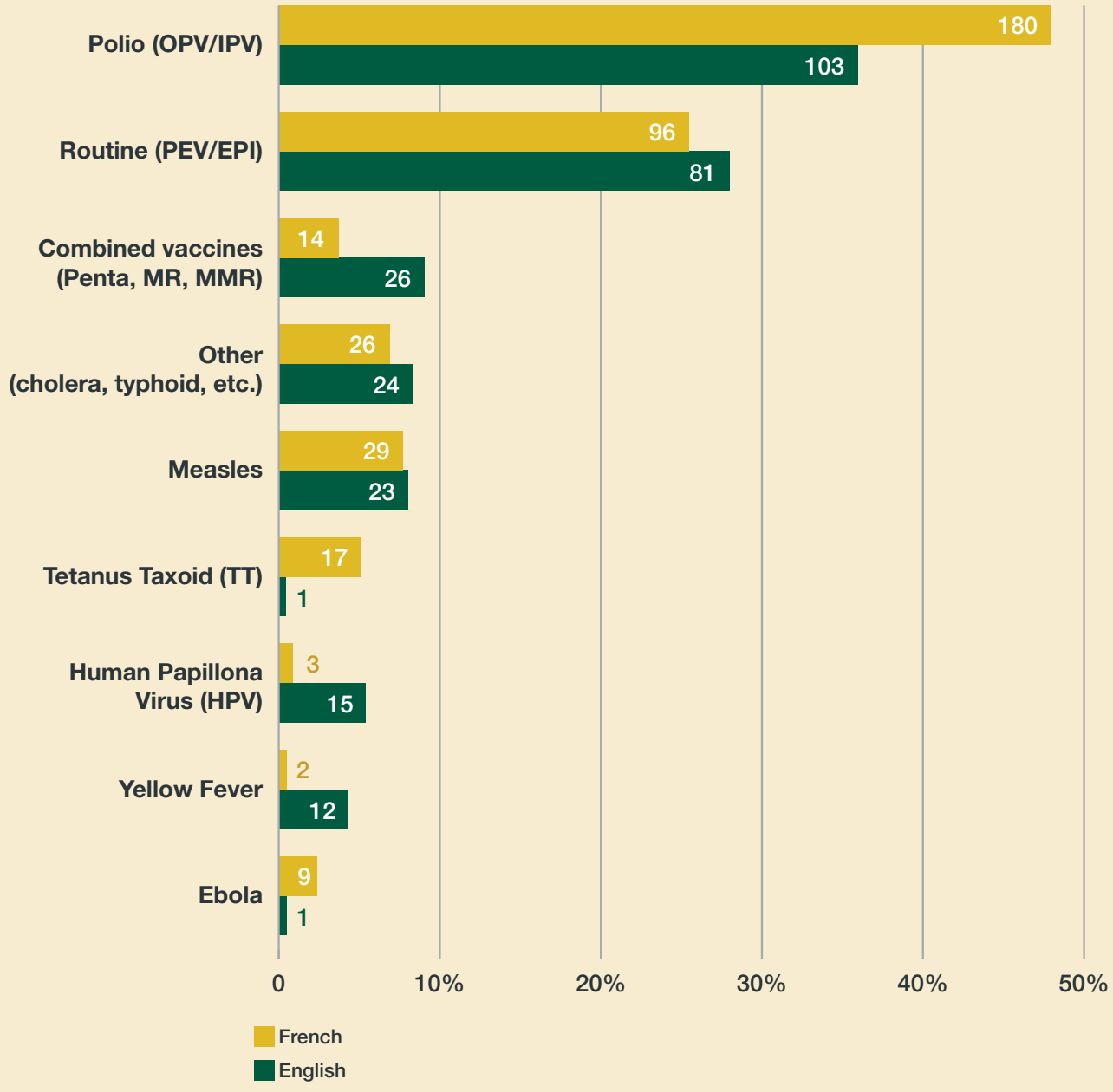
FIGURE 8. Percentage of Scholars reporting how immunisation services in their workplace had been affected due to COVID-19



In 90% of the case studies (n=661), the Scholar recorded the vaccine or antigen to which their case study related. Of these, 43% (n=285) were in English and 57% (n=376) were in French (see Figure 9). Polio was the vaccine about which the most case studies were related (43% n=283, within which 25 case studies referred specifically to the oral polio vaccine). When triangulated with the qualitative data, it was found that a larger proportion of the French case studies (48%, n=180) compared to the English case studies (36%, n=103) documented instances of hesitancy associated with the polio vaccine, even though more Scholars in the English dataset (n=23) than in French dataset (n=2) specified that the low vaccine acceptance described in their case was related to oral polio (OPV).

Following polio, the largest proportion of case studies (27% n=177) related to routine vaccines offered by the national system (Programme Élargi de Vaccination (PEV) in French cases, and Expanded Programme for Immunisation (EPI) in English). The proportions of case studies relating to routine vaccination programmes were comparable in the French dataset (26%, n=96) and the English (28%, n=81), while combined vaccines were reported more frequently in case studies in English (9%, n=26) than French (4%, n=14). A small proportion of case studies related to other vaccines and combined vaccines. The small number of case studies documenting HPV and yellow fever were more frequent in the English dataset compared to the French dataset. It should also be noted that at the time the case studies were written, the Ebola vaccine had only been rolled out in the DRC and Guinea (both French speaking).

FIGURE 9. Percentage of most frequently documented vaccines/ antigens in case studies reporting this information (90% of the total case studies, n=661).



Triangulation with the case study data also found hesitancy about the polio vaccine was more widespread in the rural communities included in this sample. Seventy-five case studies focused on acceptance of the polio vaccine included information about the area of intervention. Of those, 52 (69%) were in rural areas and 23 (31%) were in urban areas. Acceptance of routine vaccinations was also lower in rural areas in this sample. Of the case studies documenting EPI and PEV (n=177), 33% (n=58) specified whether the intervention took place in a rural or urban area. Among them, 46 (79%) were in rural areas and 12 (21%) in urban areas. Similar patterns were observed for other vaccines such as measles and combined vaccines such as mumps, measles and rubella (MMR), measles and rubella (MR), and penta vaccines. No differences were observed for HPV, tetanus, and yellow fever.

CASE STUDY NARRATIVE

‘Management of a refusal at the health facility’

The confirmation of cases of circulating PVDV2 reflects the weak immunity of the population accentuated by the insufficient supply of vaccination services in areas of difficult access and compromised use of vaccination sites. It is therefore very important to continue to strengthen the immunity of target populations against the poliovirus in order to consolidate the achievements of the interruption of its circulation.

To consolidate all these gains in the process of the polio eradication initiative, vaccination campaigns are still organised each year by the Ministry of Health through the Expanded Program on Immunisation (EPI) with technical support and funding from partners involved in immunisation. It is with this in mind that national immunisation days (NIDs) against synchronised polio coupled with the administration of vitamin A, were organised throughout the country from 4 to 7 June 2019 for the benefit of target children aged 0 to 5 years.

During this vaccination activity, the teams encountered a case of refusal, in a household of a veiled (Muslim) family in Conakry. For the record, this was a recognised reluctant family. This is a family where the father left instructions that vaccination teams are not accepted.

So, I mobilised with the sector chief and we went to the neighbourhood chief. When we arrived at the neighbourhood chief, we explained the situation to them. Directly he joined us, and we transported ourselves to the homestead with the health worker from the area concerned. I used active listening to rejection reasons, dialogue, polio awareness.

As soon as we landed at the case’s home, I asked for the person in charge and he was away, I asked the woman to call her husband on the phone. I started with my presentation… I made him believe that I have all the time to listen to him and that we have the same goal, that of having healthy children. I explained the consequences of not immunising and shared the right information about the vaccine.

The key messages conveyed. I asked the head of household if he knew that if his child is not vaccinated it is a danger for the community. So, if he is not vaccinated, he may contract the Polio virus and if he does contract it, it is very likely that he will infect the whole neighbourhood, all of Conakry and all of Guinea. I asked, ‘You think if this vaccine was what you think we would all defend it?’ This vaccine is none of those things.

In terms of results, after the father was convinced on the spot, he instructed his wife to let the vaccine teams vaccinate the child. We vaccinated four children. And the father gave us his commitment not to miss any vaccination for the survival of his children.

What surprised me much more was the commitment of the authorities concerned to the resolution of the case, but also, I understood that with each new situation a new corrective strategy can be used. Because in all my experiences in the field I have never witnessed such handling of refusal cases.

- Male, national-level Scholar, Guinea

UNDERSTANDING THE COMMUNITIES THAT SCHOLARS ENGAGED

This chapter presents an overview of the individuals and groups who were involved in the activities the Scholars described in their case studies, the manner in which these populations were engaged, and the gender aspects that were considered when Scholars engaged people in certain contexts. The themes presented are generalised across the data set and specific examples are reported where relevant.

The people engaged in the interventions described in the case studies

When describing the individuals and communities involved in their interventions, Scholars provided ad hoc observational demographic information. Most frequently, data were anecdotal and descriptive and centred around level of education, literacy, ethnicity and socio-economic status. For example, a scholar working in a health facility in Ghana said of the population served that

> *'they were middle-aged and uneducated'.*

A sub-national scholar in India observed,

> *'the mothers are young, ill built and all were nearly illiterate',*

and similarly, a Scholar working in a health facility in Nigeria concluded that

> *'mothers and fathers, especially those poor urban dwellers, had little or no formal education'.*

The community members that Scholars engaged in their interventions were predominantly lay people, often described as having a low level of education, including motorbike taxi drivers, mothers at the market, farmers, and miners. Some cases tackled issues of hesitancy in wealthier or more educated groups such as health professionals, teachers, university students and school principals. In such cases, Scholars often noted their surprise in observing such low levels of acceptance despite the higher levels of education of those involved.

As shown in Figure 10 below, many case studies (41%, n=303) focused on interventions engaging parents, caregivers and family members of children. In these cases, low vaccine acceptance related to routine vaccination and vaccination campaigns for children. Low levels of vaccine acceptance extended beyond the immediate family unit; it also existed within sub-groups in the community and amongst the community at large (23% of case studies, n=170). Interventions were therefore directed at increasing acceptance of vaccination for individual families or were targeted as part of wider community engagement strategies. Community leaders were only mentioned in a small number of cases (7%, n=52), but in these cases they were positioned as influential actors. In several cases, low

acceptance was seen to stem from the influence of community leaders who recommended against vaccination.

Some Scholars identified specific groups within the broader community that needed engagement through alternative communication techniques, tailored messages, and more focused interventions than were used for the general population. Low levels of vaccine acceptance were noted amongst nomadic and farming communities, whose lack of awareness and limited information about vaccines was attributed to their transient lifestyle, inaccessible settlements and inability to engage with health services. Other population groups such as migrant communities, marginalised minorities, 'illegal' (informal economy) workers, ethnic minorities, youth and adolescent groups and women's groups were also targeted for interventions. In some cases, it was reported that vaccine hesitancy within these groups was ongoing or longer term, due, for example, to religious beliefs (discussed further below). One district-level Scholar in Kenya observed,

> *'it was vaccine hesitancy due to religious issues… these communities do not believe in seeking health care services'.*

Other Scholars encountered hesitancy in groups for the first time as a result of evolving mis- or disinformation or in response to claims of adverse events following vaccination (AEFI) in the community.

Teachers were identified as a powerful group of influencers in the community. Although no interventions targeted groups of teachers per se, cases of non-acceptance in schools were reported, and some teachers and school principals were identified as propagators of misinformation. An example of this was illustrated in a case study developed by a sub-national level Scholar in Tanzania:

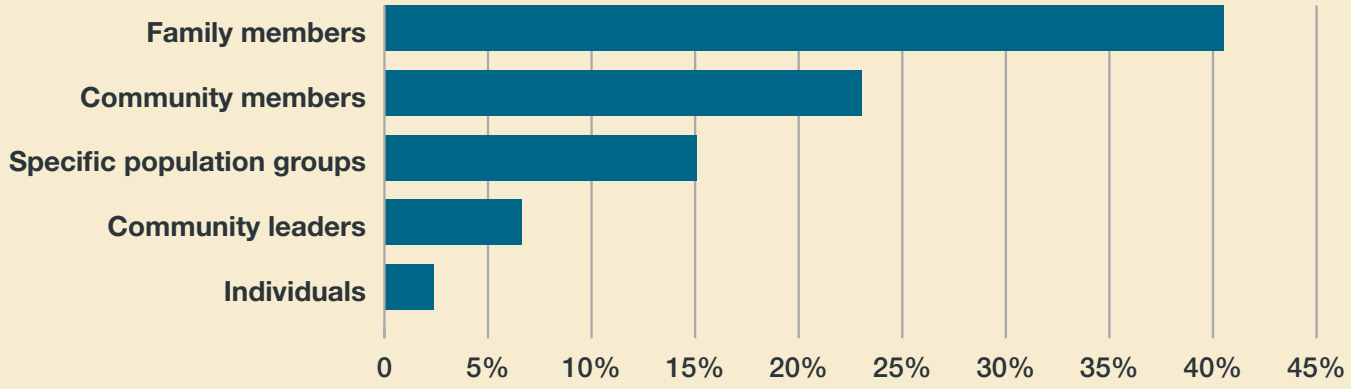
> *'This anti-campaign group was identified to be a small group, schoolteachers, who have [the] opportunity to follow social media and are critical politically. They normally have a common place and time where they discuss issues, and from which the information and ideas discussed can be spread to the community'.*

The data revealed greater degrees of reluctance amongst teachers towards the HPV vaccine compared to other vaccine antigens. This could be attributed to the fact that it was frequently reported that HPV roll-out strategies involved administration of the vaccination at school, and teachers therefore were indirectly involved in rollout process. Also, the HPV vaccine is often viewed as promoting promiscuity in younger unmarried females, and previous studies highlight the reluctance of teachers to support its promotion and administration in schools. In Kenya, the introduction of the HPV vaccine into the routine immunisation package for school-going girls began in 2020, and case studies highlighted the challenges involved. Several interventions therefore included teachers in sensitisation activities, either on a one-to-one basis or as part of wider community engagement. In addition, there were a number of case studies in which faculty members from Islamic and Koranic schools were purposively targeted because, as a national-level Scholar from Indonesia observed,

> *'they control physical access to children in the sites where immunisation can most efficiently be delivered'.*

In a minority of cases, Scholars engaged with individuals who were reluctant to be vaccinated themselves. Lack of acceptance in these cases was justified for personal and philosophical reasons. Such individual-level hesitancy appeared to emerge within specific population groups and in some cases could be linked to specific antigens. For example, experiences of low acceptance amongst elderly individuals were found in case studies from Peru, India and Mali, and in Peru and India were specifically directed towards the pneumonia vaccine. In Nigeria and Cameroon, case studies focused on under-25-year-olds who were reluctant to be vaccinated against meningitis, and Scholars from Chad and Cameroon discussed lack of acceptance amongst pregnant women for the maternal tetanus vaccination. In one case from Burundi, a Scholar described lack of acceptance of the MMR immunisation amongst a cohort of girl students.

FIGURE 10. Focus of the interventions Scholars documented in their case studies (percentage)



Religious minorities and sects

Religion was often found to influence decisions on vaccination, and religious groups were frequently the focus of Scholars' interventions. Regardless of religious background or geographical location it was evident that faith leaders played an important role in fostering vaccine acceptance amongst their followers and congregations. In 20% (n=70) of the English cases in the dataset (n=336 in total), reasons cited for lack of community acceptance of vaccines were those related to a conflict with religious or customary beliefs. This was cited as a driver of hesitancy in just under 6% (n=23) of the case studies in French. In the English dataset, 53% (n=37) of cases indicating links between low levels of acceptance and religious and customary beliefs came from Nigeria (accounting for 24% of cases from Nigeria and 5% of all case studies). The remaining cases were distributed across 13 countries with Kenya, Ghana and India largely represented with 14% (n=10), 10% (n=7) and 10% (n=7) respectively.

Religious community members often justified their lack of acceptance of vaccines by way of religious objection; however, many cases revealed that their reluctance actually

resulted from misinformation or a direct order from their religious leader opposing immunisation, rather than because of specific theological beliefs. The details included in a case study written by a Scholar at the sub-national level in Côte d'Ivoire was representative:

> *'the problem was the whole church community, with their head the pastor, refused to have their children vaccinated… The pastor… confirmed that vaccines make people sick. For this reason, the whole of this religious community refused routine and campaign vaccinations'.*

The profound influence of people in positions of power in the community was also frequently reported in the case studies. In some settings, traditional leaders were found to influence vaccine acceptance within ethnic groups. Notably their influence was found to have greatest impact within groups who were already 'sceptical' about health programmes or amongst those who tended to use traditional forms of medicine and healing. A case study by a sub-national Scholar in Kenya highlighted the vulnerability of these groups:

> *'The sect leader had brainwashed the followers demanding that they should not seek any medical attention or take their children for immunisation in hospitals. He threatened to banish anyone who goes against the command from the church. Many of these sect members were economically deprived and looked up to the leader'.*

Identifying communities for interventions

There was great variation in how Scholars identified the cases of hesitancy that were tackled in their case studies. For some, the initial interactions emerged from specific vaccination activities (e.g., as a result of vaccine outreach, through Supplementary Immunisation Activities (SIA), or in response to declining routine vaccination rates identified at the health facility). Others documented interventions that were in direct response to a reported case of vaccine hesitancy.

A number of exchanges arose organically in conversations between friends or neighbours when Scholars acted opportunistically to break down barriers to vaccine acceptance. In one case from Vietnam, the national-level Scholar explained,

> *'I discovered a group of my friends who did not want to vaccinate their child. Therefore, I decided to do a little research. I learned about the sources of information, which influenced their decision… My friends were graduates from university'.*

Another example from a case study in Cameroon illustrated how the closeness of the relationship between the district-level Scholar and the beneficiary fostered an easier, more relaxed approach to sensitisation:

'It was during a discussion with my neighbour that I realised the immunisation situation of his child. The baby had not received any vaccine since birth and therefore had no vaccination record. So, I decided to educate my neighbour. We have very good relationship, which makes it easier for me to sensitise her, as her friend, and as a health worker and parent'.

This sentiment was shared by a district-level Scholar in their follow-up interview, who emphasised the importance of informal approaches to engaging populations and noted that barriers to vaccine acceptance do not always need to be addressed in a structured manner. They concluded that

'to increase acceptance you can engage your family, your friends, and your neighbours, talking openly and asking questions will help you to address their concerns'.

Considerations for gender and decision making in interventions

Across the whole set of case studies, mothers were predominantly responsible for bringing children to vaccination sites. Tasks related to child rearing, caretaking and health seeking were consistently described as being the mother's role. In case studies from customarily patriarchal societies, however, the perceived self-efficacy and responsibility of a woman to allow the immunisation of her child could be limited if the male head of the household did not authorise the vaccination. Such situations were frequently reported in case studies from Nigeria (specifically amongst Hausa communities in the north of the country) and in Fulani communities across West Africa. The following account, from a case study by a Scholar based at a health facility in Nigeria, is illustrative:

'I was informed by the patient's mother who was a young, full-time housewife…that the patient's father had blatantly refused to have any of his children immunised. Despite my probing, she was not able to provide reasons for her husband's vaccine hesitancy. Her inability to explain her husband's reasons could be explained by the fact that Nigeria is highly patriarchal'.

In a few cases where a father had explicitly condemned the vaccination of his children, it was suggested that the mother's support for his decision had been given under duress, due to the threat of violence or divorce.

Scholars reported trying to address gender and power dynamics in different ways, including conducting sensitisation with mothers on a one-to-one or group basis to increase their levels of acceptance. Some Scholars reported having engaged men directly by meeting in person with a father or contacting an absent male household head by telephone to provide information or arrange a face-to-face meeting to address the causes of hesitancy. In one outlier case, vaccination was conducted in secret under the authorisation of the child's mother, without paternal consent.

CASE STUDY NARRATIVE

‘Vaccine hesitancy in relation to side effects’

Once upon a time during routine immunisation service in the fixed site, the vaccinator vaccinated the child soldier who was potentially in the military barrack. On that day the child developed swelling at the injection site. They then called the vaccinator and summoned him that he was the cause of why the child developed swelling. They decided that the child should be taken to the nearest health facility for further treatment. The vaccinator advised them not to take the child to health facility and said that it was vaccine that was working. After three days the child recovered well, and the parents believed that was how the vaccine works when a child receives the intended dose.

Now, before the child recovered, the news spread that the vaccine caused complication to the child and most of the parents in the surrounding area decided not to take their children to the health facility, even though the child had only developed minor side effects. For this reason, many children missed their intended doses for vaccination.

I found that story when I went to do supportive supervision in that particular area. After I gathered information from the health workers and the parent of the child who developed the minor side effect, I immediately intervened by organising a community meeting that involved military generals who were responsible in the area. The result was very fruitful.

Vaccine hesitancy is the leading cause of low immunisation coverage rates in most of the African region including South Sudan. The reality is that parents are not aware about the importance of immunisation and the majority believe in traditional healers. This comes from my experience when we implemented meningitidis campaign in 2016. The child developed minor side effecst and the family decided to take their child to a traditional healer which they believed was the most important aspect of getting proper treatment. Cultural diversities, lack of awareness from the communities, and the lack of demand generation are the contributors to vaccine refusal. There is a need for political intervention from higher levels as well as advocacy planning to understand the importance of protecting their children through immunisation with lifesaving vaccines. Effective communication and the adaption of policy is required. The EPI programme should employ all types of communication channels that include interpersonal, community based and mass media communications. Communicating directly and indirectly with targeted groups such as parents and teachers who influence attitudes, perceptions and eventually help in the decision-making process because they play significant roles in influencing the population. The strategy to reduce this hesitancy is to involve everyone including civil society organisations, faith-based groups and actors to participate in communicating the messages on behalf of their communities.

- Male, national-level Scholar, South Sudan

BARRIERS TO VACCINE ACCEPTANCE

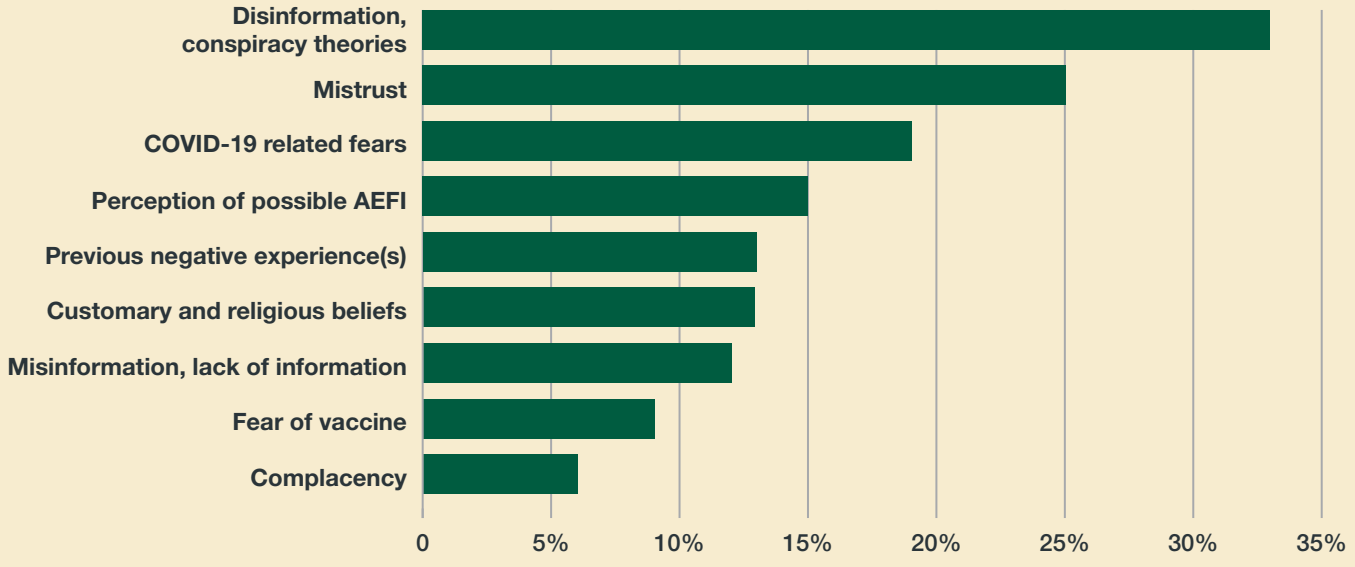
This chapter presents an overview of the numerous barriers to vaccine acceptance that were reported by Scholars in their case studies. Examples of conspiracy theories, mis- and disinformation, mistrust and perceived side effects of vaccination that contributed to low levels of vaccine acceptance are presented as well as issues related to fear, safety and complacency that also contributed to vaccine hesitancy.

The barriers to vaccine acceptance presented in the case studies were multifaceted, hierarchical and rarely driven by one factor alone. Rather, factors were layered and fear, mistrust, misconceptions, rumours, mis- and disinformation appeared, across all cases, to be intrinsically intertwined, each contributing to and perpetuating the other. One example in a case study from a Scholar based at a health facility in India was indicative:

> *'Their relatives living abroad began fuelling a new wave of anti-vaccine messages by asking them to refuse any vaccine during this period especially the ones given free during campaigns. Also, this hesitancy was further aggravated by the health facility because of a miscommunication with the district which led to health workers refusing to vaccinate within these premises. The individuals hesitant were mostly adults... the hesitancy was multifactorial from fear to inadequate sensitisation and finally misinformation'.*

Figure 11 provides an overview of the barriers to acceptance documented in the case studies.

FIGURE 11. Barriers to acceptance documented in percentage of case studies



Access to and spread of information

The way in which hesitant individuals and communities received information about the vaccine or antigen appeared to play a key role, and the analysis tried to distinguish between how mis- and disinformation was reported in the case study narratives. Misinformation refers to false information that is spread regardless of whether there is intent to mislead; it includes lack of information stemming from low educational levels and low-quality sources of information. Disinformation refers to deliberately misleading information and manipulated narratives that are circulated intentionally, such as conspiracy theories and 'fake news,' the latter being defined as purposely crafted and emotionally charged information.

DISINFORMATION AND CONSPIRACY THEORIES

Conspiracy theories and disinformation related to vaccination were dominant barriers related to the lack of vaccine acceptance in the community and were reported in 33% (n=244) of all cases studies (39%, n=132, of case studies in English, and 28%, n=112, of case studies in French). Conspiracy theories were nuanced and although specifics varied between communities and across countries, the overarching themes were consistent and were related to the side effects of vaccination, government cover-ups and population control. These issues dominated rumours and disinformation and when they emerged were reported to spread quickly and pervasively through communities.

Disinformation was closely linked to a high level of general mistrust in the justification provided for vaccination. Many people perceived the 'real' reason for vaccination to be family planning or sterilisation rather than the prevention of disease. This was reported across all contexts and in the majority of cases, it was assumed that vaccines were administered by governments and international actors to sterilise the population. In case studies from Africa it was frequently suggested that sterilisation through vaccination was an attempt by the international community to reduce and control the African population. The perceived use of vaccinations to sterilise populations was reported across a number of antigens; MR (Burundi), MMR (Uganda), Ebola (DRC), polio (DRC, Cameroon, Chad, Burkina Faso, Nigeria, Kenya), tetanus and diphtheria (Guinea, Central African Republic, Bangladesh) and yellow fever (Cameroon). Conspiracy theories related to the HPV vaccine focused on it being used to limit female fertility. As reported by a national-level Scholar from The Gambia,

> *'I had a neighbour who vowed for her daughter to never be vaccinated with HPV because he believes the vaccine is laced with anti-fertility drugs to render our girls sterile'.*

Administering HPV to girls and not boys fuelled misinformation about its contraceptive properties. A case study from a sub-national level Scholar in Kenya reported,

> *'the opinion leaders also questioned why the vaccine was only given to girls and not boys like any other vaccine. They claimed that the HPV vaccine contained family planning components aiming at bringing population down since their girls won't conceive again'.*

MISINFORMATION AND LACK OF INFORMATION

Lack of information as a barrier to acceptance was explicitly reported in 8% (n=59) of all case studies and was referenced more frequently in cases occurring during the COVID-19 pandemic (64%) than before (36%). Lack of information predominantly related to poor or inadequate knowledge of the vaccine campaign, the vaccine itself, and/or the healthcare system. For example, in two cases from Côte d'Ivoire, mothers were unaware that hospitals would provide free care for AEFI and intended to not vaccinate their younger children for fear of a possible AEFI and the subsequent need for financial outlay.

IMPACT OF COVID-19 ON MIS- AND DISINFORMATION

Rumours and misconceptions were more prevalent in cases reported during the COVID-19 pandemic (46% (n=342) of total case studies, of which 65% (n=222) were case studies in English and 355 (n=120) were case studies in French) compared to those that occurred before the outbreak of the pandemic (41% (n=301) of total case studies, of which 49% (n=148) were case studies in English and 51% (n=153) were case studies in French). Scholars suggested that the speed at which misconceptions and mis- and disinformation circulated and escalated on social media increased during the pandemic, and this was noted as an important factor driving lack of acceptance of vaccination in communities in the context of COVID-19.

Scepticism about the existence of COVID-19 emerged in case studies from all regions. Perceptions about the origins and transmission of COVID-19 further highlighted themes of mistrust in authorities and response actors. News of the emergence of a COVID-19 vaccine added an additional layer of complexity to existing rumours about vaccines being 'tested' on African populations by international actors. Scholars reported cases where communities refused routine vaccinations in the belief that they were being used as 'guinea pigs' for testing the COVID-19 vaccination.

Widespread mistrust

In 25% of all case studies, general mistrust was noted as a key driver of low levels of vaccine acceptance. A number of these cases reported longstanding mistrust in health and government institutions. Communities questioned whether their governments and international actors really represented their needs and priorities. Where communities had been overlooked for initiatives, government support, grants and other welfare benefits, levels of mistrust were higher and contributed significantly to reduced acceptance. Six case studies indicated that failure of the government to provide treated mosquito nets contributed to high levels of mistrust. This indicates the need for stronger links between the primary health care systems and routine immunisation services. In one case study, a national-level Scholar in Liberia reported,

> *'the reason for their hesitancy is they do not trust the current government…they asked why government is giving the vaccine free every time, frequently and why not food, mosquito nets, or drugs?'*

Other case studies reported that community members refused vaccination 'in protest' of government action or inaction. Several case studies from Nigeria (5% of total data

set (n=36)) described scenarios in which the government support package issued during COVID-19, colloquially known as 'palliative', failed to reach certain communities and was an additional trigger for vaccine refusal. The following explanation was suggested in a case study by a sub-national level Scholar from Nigeria:

> *'The hesitancy is as a result of grievance with the government, specifically the local government administration for refusing to reach out to the community during distribution of food and resources during the COVID-19 lockdown – known as palliatives. Digging further, … other communities close to them were reached in the distribution and it didn't reach them when it was their turn. In assumption, it looks like it was a conspiracy by the members of the community [to] reject anything from the government until their voice is heard because they were refused palliatives during the last distribution'.*

Legacies of mistrust in marginalised communities further fuelled mistrust and added layers of complexity. This was well illustrated in one case study by a sub-national Scholar in Cameroon which concluded,

> *'these people because of the socio-political crisis (because they believe they are marginalised), have the belief that nothing good can come from the government and will not accept any vaccines be it routine, campaign or new ones'.*

COST AND ACCESS

The cost of vaccines also fuelled general mistrust. In a small number of cases, community members queried their government's ability to provide vaccines for children free of charge. This was emphasised in scenarios where other government services and support were limited due to lack of finances. A case study by a sub-national-level Scholar from Nigeria noted that the community

> *'were worried about how [the government] could make polio and other vaccines reach them every season yet they lacked minimum infrastructure like a borehole for water'.*

Other case studies documented that previous experience with AEFI, and the costs associated with taking a child to a health facility as a result of AEFI, were barriers to vaccine uptake. Scholars noted that community members expressed frustration when children experienced severe fever and temperature after receiving vaccination, which resulted in caregivers having to take the child to a health facility. This required families to absorb often high levels of expense associated with travelling to the health facility and paying for treatment and medications. Case studies from India highlighted additional indirect costs associated with attending vaccination clinics and accessing treatment for AEFI because caregivers would experience a 'loss of wages' from having to take time away from work. In Kenya it was reported that caregivers

'prefer not losing their jobs than bringing their kids for immunisation'.

While the direct and indirect costs associated with vaccination were clear, they never appeared as an isolated barrier to vaccination, but rather compounded existing concerns and were reported in case studies as additional factors contributing to low vaccine acceptance.

MISTRUST IN HEALTH WORKERS

In some cases, health workers were found to contribute to feelings of uncertainty and mistrust. Negative behaviour, inadequate training (leading to incorrect administration of vaccines), lack of technical knowledge and 'conspiring' with government and international actors were reasons community members cited for mistrust of health workers. It appeared that levels of mistrust in health workers increased during the COVID-19 pandemic. In a case study that focused on a yellow fever vaccination campaign in Ghana, the district-level Scholar recalled,

'the man mentioned that he needed to verify where the vaccinators were coming from to ascertain that he was not being given a COVID-19 injection'.

Similarly, in Pakistan, a Scholar working at the health facility level reported in their case study of a routine vaccination campaign that

'there were lots of rumours in nearby districts about field vaccination teams. It was widespread that Government officials in hospitals and especially field immunisation teams are administering injections that may cause death of child'.

MISTRUST IN ORAL AND INJECTABLE POLIO VACCINES

The case studies highlighted a particular level of mistrust related to polio vaccination, particularly in countries with a long history of polio vaccination campaigns (Nigeria, India). The number of vaccines needed for full immunisation was a source of great concern for parents who believed the dosage was 'too much'. This was also reflected in a case study from a sub-national level Scholar in DRC:

'The father was reluctant and hesitant to have his child vaccinated against polio. His main concern was the multiplicity of doses of OPV vaccine already received by the child routinely and during the last campaign against polio organised two months previously in the locality. In fact, the father considered the doses already received as sufficient and too much. With the proposed new dose, he was afraid that it would harm the health of his child'.

In addition, many individuals were unaware of the multiple forms of administration for the polio vaccine (oral and injectable) and this was a cause for further mistrust. This concern was intensified in polio campaigns in countries that had already been declared 'polio-free'. In a case study from a Scholar working at the sub-national level in Nigeria, the Scholar reported that the father he was engaging

> *'was concerned about the OPV vaccination campaign despite the country being certified polio free. The child had received the polio vaccination during vaccination campaigns before. So the father decided that since polio was no longer an issue in the country, his children would no longer receive OPV'.*

Perceived side effects and negative experiences of vaccination

Case studies from across all geographic areas reported that perceived side effects of vaccination contributed significantly to vaccination hesitancy, although side effects were only explicitly noted as barrier in 8% (n=31) of case studies in French compared to 23% (n=80) of the case studies in English. Circumstantial evidence related to the side effects of vaccine antigens sparked rumours and conspiracy theories and mis- and disinformation and contributed to mistrust and fear within communities.

Experiences of AEFI, whether real or perceived, first hand or based on community anecdotes, were common. 'Boycotting' vaccination because of these experiences was reported in countries across Africa and Southeast Asia. Reported side effects included 'local swelling at the injection site' (DTP, Nigeria), 'caused cerebral palsy' (measles, Ghana), 'paralysis' (yellow fever, DRC; meningitis, Nigeria), 'fever' (polio, Burkina Faso; Penta, Nigeria), 'irritability' (measles, India), 'diarrhoea' (polio, Burkina Faso) and even death (measles, Philippines; polio, Côte d'Ivoire; polio, Guinea; maternal tetanus, Benin). In cases where AEFI had occurred, news of the symptoms and side effects spread quickly through communities with, at times, devastating effect. This was demonstrated in a case study from India in which the sub-national level Scholar reported,

> *'the Muslim community was against this polio vaccination as a previous isolated case of AEFI occurred in the past, but this news spread to all parts of the country like bush fire, and this left a very big impact on the minds of the people'.*

In a number of case studies, Scholars did their best to overcome the challenges resulting from first-hand experiences with AEFI and to encourage continued vaccine uptake. Their engagement offered both emotional support (demonstrating compassion and reassurance) and practical support (arranging finances to cover the costs associated with AEFI). Several Scholars voiced frustration when cases of AEFI had been inadequately investigated, and in a handful of cases they were restricted in the counselling they could provide families due to the lack of definitive information about these suspected cases. (AEFI is also discussed further below).

Fear, safety and complacency

Fear about vaccines, mis- and disinformation about side effects and conspiracy theories about governments and alternative agendas perpetuated anxiety within communities. Fear related to vaccines in general was reported in 9% (n=68) of the case studies. In the 342 case studies that focused on engagement that occurred during COVID-19, however, fears directly related to the pandemic were reported in 16% cases (n=56) and were a key barrier to acceptance of routine and campaign vaccinations. In a follow up interview, one Scholar confirmed that fear about vaccines had always existed within the community he worked with, but he concluded that disinformation about vaccines accelerated during COVID-19 and this 'served to accentuate existing fears'.

Fear was articulated in a variety of ways in the context of COVID-19. Fears about the spread of the COVID-19 virus were compounded by the lack of understanding about safety measures in place or the limited implementation of protective protocols. During one follow up interview, a Nigerian Scholar working at the health facility level described the situation that arose in their case study:

> *'We met a crowd of mothers and their babies outside the centre. They wouldn't go in because they observed that the health workers and vaccinators were not observing the safety precautions for COVID-19. Having made the journey to the health centre, I couldn't sit back and do nothing. I needed to engage them and the health workers to ensure all of those children were vaccinated in a safe way – making sure masks were worn correctly, social distancing markers were in place and that sanitisation protocols were clear'.*

Safety concerns were exacerbated by mis- and disinformation about vaccine side effects. In addition to worries about the safety of the vaccine itself, concerns about the supply, cold chain, and quality of vaccines were also recorded. During the COVID-19 pandemic, safety concerns across all regions were heightened. Details provided in a case study from a national-level Scholar in DRC were illustrative:

> *'All the information given by the community health workers as well as the providers to guarantee a demand for vaccination services during the Covid-19 period has not yielded the expected results because the community does not have confidence in the safety and the effectiveness of vaccines, but also in the quality and reliability of immunisation services'.*

Case studies in both English and French demonstrated community complacency towards vaccination. Scholars (n=60) documented individual and community perspectives that there was 'just no need' for immunisation. In ten of these cases, the justification for refusal was rooted in the fact that the parents of the child to be vaccinated and/or other children in the family were not vaccinated and appeared to still be 'healthy', 'strong' and 'fine'.

CASE STUDY NARRATIVE

‘Cases of refusal during the African vaccination week’

‘Working at the subnational level, I am responsible for the expanded package of immunistion (EPI) and my main role is the monitoring of vaccine activities in the different districts in order to achieve our vaccine coverage objectives and allow good immunisation of children. This situation arose during the African vaccination week held in April 2020 in context of the COVID-19 pandemic.

A case of categorical refusal was reported in a household where a family refused to have 3 children vaccinated with Penta vaccine. The problem was that this family believed it was the COVID-19 vaccine. As the head of the family was absent, the mother refused to accept the vaccine antigens. Her argument was that the vaccines were tests for the COVID-19 vaccine and therefore can harm the health of her children. In attendance at the scene were young men in their twenties. According to them, this COVID-19 test information was communicated on social networks and many activists and big personalities were opposed to it [the vaccine]. It surprised us that mothers did not have the power to decide on the health of the children even when the head of the family was absent, it was the young men present who had the power to decide on what to do.

As provincial supervisor my role is to ensure the effectiveness of vaccination activities in the districts and I have the responsibility to help the District communication team in the resolution of refusal cases. I tried to reason with those present by explaining that this campaign aims to protect children against several diseases such as neonatal tetanus, measles and polio. Using pictures, we showed those in attendance the consequences of cases of vaccine-preventable diseases and explained that, thanks to vaccination, it is rare to find disabled children; fewer children get or die from measles; whooping cough has almost disappeared, and cerebrospinal meningitis has become rare.

We also informed them about COVID-19 which has appeared suddenly and there is no vaccine available yet. After this ample information the situation seemed to be resolved. We were put in contact by telephone with the head of the family and thanks to the intermediary present among us – who is a community leader recruited to support vaccine sensitisation and who is from the locality who translated our little presentation into the local language – he was able to convince the head of the family to have the children vaccinated.

The approach used is innovative because we are not used to recruiting community leaders as outreach workers; most often it is young people from the locality who are most in demand. The key elements that helped us in relation to this case of refusal were that we had the image boxes, and having a respected leader in the locality, we were able to take advantage of his rank. The public notoriety and wisdom of the leader helped spread the message and raise household awareness about routine immunisation.

Leaders are respected in their communities and [us] being seen as outsiders we could not have stopped this case of rejection on our own. We believe that this approach would also be relevant elsewhere because we have the same realities everywhere. People identify more with a community and respect leaders who have more decision-making powers than the head of the family. To avoid such situations in the future we suggest recruiting these leaders or even the children of those people, who are more spiritually respected and their words respected, as relays to convey messages to the community.’

- Male, national-level Scholar, South Sudan

SUPPORTING INTERVENTIONS AND ACTIONS

This chapter outlines the factors that contributed to successful interventions to support immunisation. These included involvement of multiple stakeholders in the activities, employment of multiphase strategies across individual and community levels, adaptation of existing sensitisation activities in the context of COVID-19 and adopting gender considerations in the development and implementation of the interventions.

Multiple stakeholder involvement

Interventions were rarely conducted by the Scholar alone, but rather involved a number of other stakeholders. Across all regions, Scholars described working as part of multi-stakeholder teams, and case studies included examples of immunisation teams, community health workers and community, traditional and religious leaders being involved in a variety of capacities. Examples from case studies in Kenya and Senegal were illustrative. A district-level scholar from Kenya observed,

> *'We were a multisectoral team comprising of the medical officer, health promotion officer and the vaccinators, community volunteer in a dialogue with the chief of the area, the gate keepers, the elders in the community and religious leaders'.*

And a district-level Scholar from Senegal observed,

> *'The stakeholders in this situation were many and included the village head of families, the village head, the community leaders, the head nurse, the district management team, the teachers, the refusal management committee, the Deputy Prefect. The action taken to involve all of stakeholders to use the most sensitive lines [of communication] to convince [the community] … Our approach is recommended, because what has worked is the mobilisation of the authorities'.*

In most cases that documented a Scholar acting alone, the engagement was opportunistic insofar as the Scholar identified an unexpected or unplanned chance to engage with a hesitant person or community. When they occurred, these interactions tended to be organic, less structured and more informal. During their follow-up interview, one Scholar explained the importance of using ad hoc opportunities for engaging hesitant groups.

COMMUNITY, RELIGIOUS AND TRADITIONAL LEADERS

Community, religious and traditional leaders and influencers were frequently engaged in the interventions documented in the case studies and were seen to play a significant role in ensuring successful vaccination outcomes. In some cases, leaders were involved due to accepted cultural practices where their permission was sought before engagement with the community could begin. A district-level Scholar from Kenya said,

> *'Religious leaders and gate keepers are a key entry point to communities when the government needs to reach all communities with health services. Sensitisation and awareness creation should target them as an entry point'.*

Leaders were approached as a gateway into the community because they needed to be sensitised and/or to act as mediators between the response team and the community. A case study from a sub-national level Scholar in Nigeria highlighted the complex nature of engaging leaders and the critical role they can play in disseminating messages to the furthest areas of the community:

> *'The point of the meeting was to sensitise the community leaders and to find out the reason for non-compliance in their communities. I then went ahead to mention all the household names, compounds and number of households with numbers of target children involved. We told them the importance of vaccination not just for polio but for all vaccine preventable diseases. Then we went ahead to solicit the help of their Traditional Ruler to ask all the community leaders to hold compound meetings with those households and sensitise them thoroughly. Informing them that when one child is infected with the polio virus every child is at risk. Which in turn makes the whole state at risk of contracting polio virus. Then meetings were fixed in all those communities, and we shared ourselves (the Local Government Area teams) to ensure that we were present in all the meetings to support the sensitisation by the community leaders'.*

Leaders were not always receptive to messages promoting vaccine acceptance. In some cases, ensuring their positive buy-in to interventions took significant effort on the part of the Scholars. Often sensitisation activities integrated messages from the Bible or Koran in an attempt to align religious scripture with public health messages. According to a district-level Scholar from Nigeria,

> *'the discussion was done through the use of Ayats from Holy Quran, Hadith and references from Islamic Scholars and their view on immunisation -that prevention is better than cure'.*

A handful of cases reported that leaders perpetuated misinformation in the community to fit their own agenda.

Across the case studies, the inclusion of leaders was repeatedly highlighted as one of the most reliable means of gaining community trust and a key factor in the success of activities. Numerous case studies described the value attached to having leaders employed as mediators between Scholars, immunisation staff and the community. In a small minority of cases, however, information delivered to the community by their leaders was not in line with the proposed or standard vaccine promotion information used by teams; instead the leaders' messages could have been perceived as coercive or threatening.

Multi-pronged strategies

The case studies described different types of engagement that could be broadly grouped into four key intervention approaches: targeted one-to-one counselling at the individual or household level; community sensitisation for larger groups; formal meetings (usually directed towards community and religious leaders); and organised training sessions during which particular sub-groups were engaged (e.g., training for religious teachers, health workers, youth groups, women's groups).

Interventions used several activities to break down barriers to acceptance. These activities seldom occurred in isolation, but instead formed part of a broader multi-pronged strategy for increasing acceptance in a given context. For example, one-to-one engagement with a family in their home was often accompanied by meetings with the community leader and further reinforced through wider social mobilisation activities. The number of approaches used during interventions did not appear to impact its successful outcome; rather, Scholars attributed the positive outcomes to the use of multiple approaches. Scholars characterised these approaches as directly targeting unvaccinated or undervaccinated populations and/or specific populations; increasing awareness around vaccination; demystifying misconceptions and mis- and disinformation; improving convenience and access to vaccination; engaging religious, community and influential leaders; and establishing a system for follow-up.

Many of the one-to-one exchanges described in the case studies revealed a high degree of understanding and compassion on the part of the Scholar. Scholars reported navigating sensitive dynamics, families in grief and issues related to vulnerable communities impacted by displacement or war. In DRC, the efforts of one sub-national level Scholar after the death of a child in the family led to positive interaction with the hesitant father and the successful vaccination of his other children:

> *'One week before the campaign, this family lost a six-year-old girl to malaria, and I took this opportunity to visit the family that I only knew. My role as communication officer, I should convince the father of the family to adhere to the vaccination. I prepared an envelope [with a note of condolence] for the mourning consolation…the father…he has always driven out vaccine providers, but mourning practices remained and provided an opportunity for me to meet him and discuss the benefits of the vaccination. When we arrived at the place, I first introduced with these words: "we have come to console you, we have learned with regret of the death of your daughter; that is why we are bringing you this little envelope"'.*

Adapting strategies during the COVID-19 response

Of the total case studies, 41% (n=299) documented initiatives that took place before the pandemic, 47% (n=342) took place during the pandemic, and the remaining 13% (n=93) did not provide this information. With the onset of COVID-19, Scholars identified new challenges associated with mis- and disinformation, online anti-vaccination movements and new and evolving fears. Teams were forced to adapt existing communication and sensitisation strategies to align with national COVID-19 safety measures. The reported use of innovative approaches varied slightly between pre-COVID-19 and during-COVID-19 cases. Of the 299 case studies that documented interventions before the pandemic, 50% (n=150) reported approaches that were innovative. Of the 342 cases that documented interventions during the pandemic, 53% (n=181) reported innovative approaches.

Case studies that reported interventions during COVID-19 often noted the need for quick and innovative action on the part of the response team. This primarily involved Scholars' reacting quickly or in an ad hoc manner to sensitisation opportunities; reassuring communities about their safety if they followed public health and social measures when accessing vaccination services during lockdown and periods of restrictions; including COVID-19 safety messages in vaccine promotion interventions; and leveraging opportunities to debunk mis- and disinformation and conspiracy theories related to the pandemic. In a case study from a district-level Scholar from Nigeria, it was suggested that

> *'in a lockdown state, it became necessary to quickly design strategies that would help in reaching missed children during COVID-19 pandemic and lockdown'.*

As a result of the pandemic, many vaccine acceptance interventions incorporated components of COVID-19 education and information. Scholars reported including ad hoc COVID-19 related messages into their activities, from informational meetings with local government administrations to formal training for health workers and community awareness. Examples of how COVID-19 messaging was blended into activities in different contexts are presented below.

TANZANIA *'In the community we included COVID-19 education and information as part of routine vaccine promotion… We decided to provide awareness health education on COVID transmissions, possibility of infection, the need of being frontline and being observant on all WHO guidelines, the ministry standard procedure and guidelines for health workers. The aim of this was to remove fear among healthcare workers and accelerate vaccination practice without fear since the community was not highly threatened by the disease due to lot of health education, responding to rumours on time and community health education and other preventive measures'.*

(district-level Scholar)

PAKISTAN

'I arranged individual personal community meetings (Bethaks) in the major localities of my union councils regarding routine immunisation importance in the context of the COVID-19 period and invited all the major community influencers of the union council with strict standard operating procedures of personal safety from COVID-19. They addressed to the community in favour of immunisation'.

(facility-level Scholar)

ARGENTINA

'I explained to her [the person in charge of the vaccine distribution centre in my city], watching carefully to not insult or undermine her expertise, that specially during the pandemic, routine vaccinations were supposed to be encouraged at all times and places, and that, if the protocols in place are followed, the risk of a COVID infection during a vaccination act is extremely low. I mentioned at this time, too, that I was part of an International Vaccination Peer Hub, and that this conduct [encouraging vaccinations] was the rule all over the world'.

(facility-level Scholar)

A notable adaptation during the pandemic was the increased use of telecommunications and online approaches for community engagement. A case study from Lebanon reported one-to-one sensitisation 'meetings' with Syrian refugee mothers and their community leaders taking place over the telephone. In Cameroon, media watch units were established to defuse disinformation and anti-vaccination messaging (see Vignette 2 in the following chapter), and case studies in Nigeria and India documented the use of social media to disseminate vaccine promotion messages.

Gender considerations

Gender issues were considered in several case studies. Scholars discussed the importance of employing a gender sensitive approach when selecting teams to be deployed in specific contexts: 'our team divided into two groups, one each for males and females mobilising the community members to come for the durbar' (district-level Scholar, Ghana); 'there were two of us (man and woman) apart from the two vaccinators… This must have created a climate of trust' (district-level Scholar, DRC). Further, some interventions put a gendered approach at the forefront, with different strategies designed for men and women. Vignette 1 below showcases a case study from Kenya (no Scholar system level information provided), which documented such an approach. The text has been extracted from the full case study.

VIGNETTE 1:

Encouraging male involvement in interventions, Kenya'

'Approaching the male parties to come in and give feedback was kind of a challenge, because I come from that type of community where men tend to believe that kids' stuff is more of an issue for women to handle, because for [men, their role is] to provide. Convincing tactics were used because our team went up to the men's 'den', this is where they watch or play football, where newspapers are sold, because they tend to go to such places to discuss politics and what's trending, construction sites etc. This action was done mostly during the weekend for the outside facility activities, but the ones who came for treatment were handled separately, we had questionnaire forms that guided us on what to ask.

Some of the questions were (i) Do you know what immunisation is? (ii) Are your under 5 years old kids all immunised? (iii) If the answer for 'ii' was yes, how sure are you? (iv) Do you know why supplement vaccinations are given during outbreaks? (v) If the answer for 'iv' was yes, were any of your under 5 years given? For this cohort the sample size was 200 male parties who specifically had children under 5 years old. After analysis, we found out that 55% were sure their kids received immunisation, 40% of the respondents said they 'thought so' because they saw/heard their mothers went to the clinic, and 5% were completely unaware because they assumed that's a woman's job.

We had a male CHW who was the community elder to do most of the talking because we believed the men would understand or agree to listen to him better than a female CHW. The final outcome was a success because we at least convinced the men that it's also their duty to assist the women when it comes to the kids' immunisation schedule. They agreed to either accompany them during the session, remind them and ensure to check the immunisation booklet documentation, bring the kids themselves if the women were held up (for this type of men when we saw them at the facility, we gave them an express pass) and they also agreed to ensure that their kids receive OPV supplements during outbreaks. Believe you me, in all the 7 actions that we had, this was the most challenging of them all, 'men are a difficult species.'

Involvement of military, security, and police forces

Working with the military and/or security and police force was discussed in a small number of case studies (3%, n=22), but only a few case studies detailed their actual involvement. In general, Scholars agreed that resorting to force was a last resort to be adopted only 'when sensitisation fails'. Case studies suggested a correlation between instances of vaccine hesitancy that been addressed using security or police force services in the past and greater levels of reluctance within the community to engage with Scholars and their teams. However, some case studies threatened the involvement of security personally as a means to 'encourage' communities to accept vaccination. In one case study from Nigeria, a district-level Scholar proposed that 'coercive measures can be used as a last resort to protect the people against themselves'. In contrast, another national level case study from a Nigerian Scholar suggested that the threat of using security personnel to enforce vaccination of children was 'jeopardising effective prevention of childhood illness in the state'.

CASE STUDY NARRATIVE

‘OPV vaccine hesitancy to acceptance”

‘I work with Ministry of Health. This event took place during a polio campaign before the COVID-19 pandemic. I was on supervision in one sub-county when my attention was drawn to a block rejection of the vaccine by a section of the community in one ward. They were elites from the village and they were mostly caregivers and village elders. Their reason for not allowing their kids to be immunised was because of the widespread rumours that the vaccines could be contaminated with anti-fertility agents and carcinogens just to reduce their population.

My role was that of a supervisor who should be able to brainstorm with the sub-county team and occasionally the head of the department of health representing the county health management team (CHMT). It is also important to note that we were with the county immunisation champion (a polio survivor) and a respected community member assigned as a villager elder. Their responsibilities are to easily resolve non-compliance or vaccine hesitancy during any campaign in timely manner. My first action was to enquire about the effort of the sub-county management team (SCHMT) and other community influencers towards resolving the rejection. After a short discussion with my team we decided to go to the village and had to explain to the team about the reasons for the polio vaccines even if one had gotten in the routine immunisation services.

The reason for this briefing was to equip each of the group (care givers and village elders) with the right knowledge and information, so that during the discussions with hesitant individuals they will be able to contribute to the discussion which will aid in persuading the individuals to accept the vaccine. And in order to overcome such hesitancy, we gave time to the immunisation champion who is a polio survivor and former nominated councillor in the county assembly, she narrated how she survived polio and how it affected her and people calling her ‘Jisay’ in Somali which means the disabled. She told her story:

‘I was born in the rural part of the county. My parents are herders as they treasure livestock. They did not know the importance of immunisation and I became sick at the age of three years old. My parents slaughtered an animal and bathed me with the blood, covered my body with the animal skin.’ She read passages from the Quran, and she was emotional and also crying. She told them how her parents tried all means and ways to cure her, but all in vain. She pulled her dress up to the knee to show the callipers she was wearing, and she will live with the callipers for the rest of her life. She really suffered a disease which has no cure but it can be prevented and this has actually made the work easier through the village elders who made sure their care givers accepted the polio vaccine.

The approach that is recommended is the use of the immunisation champions who are goodwill ambassadors and are committed to ensuring no child dies of vaccine-preventable diseases. And it’s important to push for laws that would address the immunisation issue. The key element that actually made my work easier is the use of the county immunisation champions who made a difference in the county through advocacy and other activities to support immunisation. The champions use their life stories to demonstrate the challenges they face due to disabilities in order to encourage parents and communities to get their children immunised.

This is essential for enhancing the generalisability of current interventions and the development of more targeted and contextually tailored interventions that can really work for any country, region, and district. Few interventions like the use of polio survivors in Wajir have been shown to be effective in decreasing vaccine hesitancy. This may be due, at least in part, to the paucity of knowledge on the determinants of vaccine hesitancy and thus a lack of interventions which focus specifically on causal mechanisms.’

- Male, sub-national level Scholar, Kenya

TOWARDS VACCINE ACCEPTANCE: MESSAGES AND DELIVERY

This chapter presents an analysis of the delivery mechanisms, language and messaging techniques that were reported by Scholars in their case studies. Examples of successful delivery strategies, including high levels of personal involvement and use of local languages, Information Education and Communication (IEC) materials and social media, are examined, and the challenges encountered by Scholars are outlined. The information used to sensitise communities in relation to AEFI, cost-benefit and COVID-19 is discussed along with the key messages Scholars presented to communities.

Delivery of interventions

The tone and delivery of interventions were as critical to successful vaccination outcomes as the activities themselves. In the vast majority of cases, Scholars were directly involved in the delivery of the vaccine promotion information and messages, although they seldom acted alone (as discussed above). Local health workers, vaccination teams and community and religious leaders frequently accompanied Scholars to intervention sites and supported them in sensitising the target populations.

SHARING PERSONAL STORIES

Across the case studies, Scholars displayed a high level of personal involvement in the dissemination of messages to promote vaccine acceptance. Personal anecdotes from Scholars and those supporting them in the intervention (health workers, influencers, leaders, et al.) were found to be particularly effective in communicating messages to promote uptake. One national-level Scholar from India explained,

> *'the Muslim religious leader visited the family with the PHC team. He convinced the mother by telling her the baby in his own family also gets immunised from the same PHC'.*

Many Scholars shared similar accounts of their own experiences with immunisation and stories from their families and communities. In a case study from Nigeria, the sub-national-level Scholar noted,

> *'I even went the extra mile to show him my BCG scar just to build his confidence that I myself have been immunised and he could see that I am fine'.*

Personal pictures and videos were also commonly used to gain the trust of local populations and to foster a sense of confidence in the vaccination process. In a case study from Ghana, a Scholar working at the district level reflected,

> *'I decided to use my children's photos when they received the vaccines to show that as health workers, we don't just vaccinate others' children but our own children as well. When these pictures were shown to them it motivated them and cleared any doubt or misconception'.*

Immunisation 'demonstrations' were common. For some antigens (yellow fever, oral polio), case study authors and their colleagues, working in vaccination teams, were immunised in a public display. Other Scholars and vaccination team members authorised the immunisation of their own children in front of hesitant parties to promote acceptance. Scholars also reported cases in which they ingested drops of the oral polio vaccine to demonstrate its safety.

In addition, there were numerous accounts of Scholars sharing their personal contact details, including their phone numbers, to build trust, for follow-up and to answer any further questions. In a case study from DRC, a Scholar working at the health facility level concluded,

> *'to gain her trust, I gave her my number to contact me if one of her children still reacted to the vaccine so that I pay for the care, or in the event of any problem, anything… the lady can have confidence in me'.*

The high level of personal involvement appeared to arise as a result of the Scholars' commitment to the communities and the intervention they were implementing. These personal exchanges assisted Scholars in building trust and developing honest relationships in order to foster vaccine acceptance. Findings from the follow-up interviews conducted with a small subset of Scholars also suggested that the level of personal involvement could stem from the lack of support and national guidance for vaccination teams working in communities. One interviewee working at the sub-national level implied that they had to find their own ways to encourage vaccine acceptance,

> *'the training might be there, but it is not cascading down to the level of those working in the community who really need it'.*

Local languages

The tone and language used in vaccine promotion messages varied between Scholars and across contexts. In reflecting on what worked well from their case studies, Scholars consistently highlighted the benefit of having a member of the intervention team (themselves or another) who spoke the local language. It was evident that communicating in the local language(s) was central to positive community engagement and the use of appropriate words and relevant terms was key for local comprehension. Speaking the local language(s) allowed Scholars to adapt messages to the immediate context in a

manner that was relevant and appropriate. Not only did this increase awareness and understanding, but it was also reported to foster a greater sense of trust and to help communities accept that the team member(s) were 'part of them' (Scholar based at a health facility, Cameroon). The following statements, affirming the importance of language in implementing community level sensitisation activities, were representative:

> *'never neglect the tool of language which is the most acceptable means to help us build perfect trust with a stranger'. (Scholar based at a health facility, DRC)*

> *'I believe speaking her local language made her comfortable enough to share with me what was in her mind towards accepting her vaccination hesitancy and giving me her views'. (Scholar based at a health facility, Kenya)*

In a small number of cases, the use of local languages to accurately convey messages was found to have had an impact beyond the intended recipients. For example, when sensitisation was delivered in a public setting and in a language that was widely understood within the given community, messages reached other families and groups in the locality by word of mouth. While rumours and conspiracy theories could spiral quickly, so too could positive messages when they were delivered in an appropriate manner, in a way that could be easily understood. In a case study from Nigeria, one sub-national level Scholar explained,

> *'those people in the surrounding area who were listening to our conversation – because I spoke in the language that they understand – they overheard and brought in their children for vaccination'.*

Conversely, where members for the intervention team did not speak local languages and no translator was available, this was reported to be a significant barrier to the successful implementation of interventions.

Although tone was not explicitly discussed by Scholars, many case studies referred to the importance of displaying compassion, kindness and empathy and of adopting 'a soft approach'. In a small minority of case studies, however, Scholars reported adopting a forceful tone, saying they or immunisation teams had used explicitly threatening or coercive language to deliver messages. For example, one district-level Scholar in Nigeria reported,

> *'I asked her if she had she seen any child with floppy limbs who cannot walk, and she said yes. I told her that polio could make a person cripple and the only way to prevent that was to make sure that children receive multiple doses of the polio vaccine…It was after these explanations that she was convinced and she gave out the child to be immunised. She was also given a mosquito net for her and her baby'.*

Another sub-national Scholar in Nigeria reported,

> *'The community leaders told them that they have the authority to arrest them when they refuse and even after arrest and they still don't comply they would be asked to leave the community and never to return as they said that they have been mandated to ensure 100% compliance by their community members and hence appropriate measures would be taken on any non-compliant individual. Hence, they should all comply and come to them when they have any health challenge'.*

INFORMATION, EDUCATION AND COMMUNICATION MATERIALS AND THE MEDIA

It was acknowledged that for widespread community sensitisation efforts, visual resources and Information Education and Communication (IEC) materials were particularly helpful. Six percent (n=44) of cases studies mentioned the distribution of leaflets, pamphlets and/or posters using pictures, phrases and slogans, often printed in local languages, in support of the verbal messages delivered by the vaccination teams. In addition to IEC materials, some Scholars also used forms of mass media to deliver appropriate information, including radio messages, public announcements, and television broadcasts.

Pictures and videos were found to be particularly useful in interventions to support uptake of polio vaccination. Visual media effectively captured the impact of disability and the consequences for children of non-vaccination. In one case study from Guinea, the national-level Scholar reported,

> *'we showed them the images of the disease while explaining point by point the definition, symptom, management and prevention, and also in case of adverse effects following immunisation'.*

Similarly, in a case study from Afghanistan, the national-level Scholar explained the use of videos to provide information about polio transmission:

> *'By showing pictures, and giving reference of videos, I said that polio is untreatable but is preventable by polio vaccine and can be eradicated as smallpox is eradicated. We are near to eradicate the polio if we convince the refusals showed them a video which described, how a person from outside come to their relative home and transmit the polio virus to their daughter in home and cause her arm and leg paralysed'.*

Mobile phones, especially smartphones, facilitated easy access to videos and information online. In smaller or one-to-one sensitisation scenarios, Scholars reported using

their personal mobile phones to show pictures and videos. Some Scholars described downloading videos and/or photos from the internet to their smartphones for use in awareness activities. An example of such an approach was outlined by one district-level Scholar in Nigeria:

> *'I downloaded videos of some vaccine preventable disease cases (VPD) from YouTube on my phone, I got some pictures from the previous VPD cases I have investigated during surveillance. I then used the videos and pictures to demonstrate to them the devastating effect of these diseases. I told them stories of some VPD cases I have investigated with picture evidence. Many of the community members then accepted to regularly take their children for routine immunisation'.*

Access to internet connectivity via mobile phones enabled Scholars to provide evidence-based information in real time, and having access to YouTube and other information websites was reported to be of immediate benefit. Many longer, more formal education and training programmes were reported to be delivered using different forms of mixed media (pictures, videos, social media).

Restrictions in response to the COVID-19 pandemic affected many community-based sensitisation activities. During this period, mass media proved helpful in supporting the dissemination of messages whilst adhering to local safety protocols. In a case study from Myanmar, the national-level Scholar explained how mass media assisted in spreading messages to promote the uptake of the newly introduced HVP vaccine:

> *'in this situation we encountered some limitations in performance engaging people because of the pandemic. But we had an engagement to the community through mass media and collaboration with stakeholders'.*

In a case study from Nigeria, the sub-national Scholar concluded,

> *'in the context of COVID 19 pandemic [we] engaged town announcers to disseminate information on the importance of the vaccine'.*

Social media

Social media was regarded as an important tool for sharing accurate information, although it was noted that rumours and mis- and disinformation spread quickly over social networks and media channels. The majority of case studies mentioned that vaccination mis- and disinformation and 'conspiracy theories' were prevalent on social media, and these had contributed to decreased public confidence and overall trust in vaccines. Many Scholars commented on the speed at which rumours spread online. This was particularly evident in case studies that documented an intervention after the outbreak of the COVID-19 pandemic, across which a notable increase in the use of social media was reported. The impact of social media on the spread of information was widely discussed, as illustrated in the following accounts:

'Since the occurrence of COVID-19 the panic born of the rapidity of contamination and especially the rumours and fake news conveyed by these media and social networks, has created a psychosis among parents and guardians of children'.
(sub-national level Scholar Cameroon)

'the rate and depth of the misinformation campaign about the veracity, vaccines origins, symptoms, prevention, treatments and of course vaccines (hesitancy) with regard to the COVID-19 pandemic are on full display in the WhatsApp groups I belong to'.
(Scholar based at a health facility, Nigeria)

Vignette 2 showcases an innovative approach from Cameroon in which media watch units were established to tackle disinformation and anti-vaccination messages. The text has been extracted from the full case study.

VIGNETTE 2:

Establishing media watch, sub-national level Scholar, Cameroon

We have opted for the creation of a media watch unit at the regional level and in the health districts; raising awareness through active and continuous participation in radio broadcasts; the drafting and publication of responses to all the rumours conveyed, the clarification of opinion on fake news; the creation and revitalisation of WhatsApp allowing the sharing of useful information, the setting up of educational discussion sessions; and home visits on the importance of vaccination despite the COVID-19 context.

We have chosen these actions to address the problem of proliferation of fake news and rumours related to vaccination in the COVID-19 context, in order to bring back people who have become reluctant to resume routine vaccination or AVS [additional vaccination activities], support for advocacy meetings held by the various administrative and traditional authorities , support for the action of religious authorities through the sending of press releases to be distributed in churches and mosques, the identification of public influencers and their training and integration into community awareness teams on the benefits of vaccination despite the COVID-19.

Information and messages

Throughout the case studies, messages to encourage uptake of vaccination focused on promoting the benefits of specific vaccines and debunking rumours and misconceptions. Messages that were targeted towards parents and caregivers focused on themes of love, protection and removal of harm. In a case study from Pakistan, a district-level Scholar stated,

> *'we tell them each parent loves their children and they don't want to harm them at any cost'.*

The importance of immunisation was often framed not only in terms of the health benefit for an individual, but also in relation to mitigating the spread of disease, building herd immunity and fostering the good health of the population. In a case study from Nigeria, the sub-national level Scholar reflected,

> *'I told them, one child affected by polio virus can affect over 200 children. That means all eligible children should be vaccinated at the affected areas and neighbouring areas'.*

In many cases, information to promote the benefits of vaccination was reinforced with statements about the impact of non-vaccination. These messages focused on risks associated with not vaccinating a child, which were discussed in terms of disease, illness, disability, and the possibility of death. Videos and pictures of children with disabilities were used to emphasise the long-term implications of disability and were frequently used in communities with low uptake of polio vaccines. Some Scholars noted that they emphasised to parents the 'burden' of a child with disabilities and the limitations that disability would have on their lives. In a case study from Nigeria, the sub-national level Scholar reported,

> *'[I told them] they should not tamper with the life of their children… because any child that contracted polio virus if a sign manifests, has no cure and their children cannot become a counsellor for their ward or chairman of the local government or a governor if they have deformity'.*

In a small number of case studies Scholars referred to examples of famous people with a disability, or people known in the community to be living with a disability as a result of not having been vaccinated. In Kenya, where many case studies involved the HPV vaccine, Scholars reported using images of cervical cancer to encourage vaccination.

Some Francophone Scholars reported providing caregivers with pertinent information relating to a child's vaccination schedule. Scholars explained the importance of timely vaccination in line with dates prescribed in children's health passports or notebooks. In some cases they also took time to explain the rationale behind the vaccination schedule and the importance and benefits of adhering to the schedule for their child's immunity. This theme appeared less frequently in the English case study data.

Adverse Effects Following Immunisation

As part of efforts to debunk misconceptions, Scholars often discussed the potential side effects of vaccination to help communities understand AEFI. Scholars suggested that this was particularly important in cases where lack of vaccine acceptance was linked to either a previous negative experience or a case of AEFI (perceived or real). Scholars provided information about what side effects could be anticipated in relation to a given antigen and, when possible, provided accurate information to dispel misconceptions. In a case study from DRC, a Scholar working at a health facility reported,

> *'we had recognised the existence of side effects like any other drug, we explained the circumstances in which these side effects occur, and what to do in the event of an occurrence and then explained the benefits of vaccination. We made the mum understand that the vaccine is not the cause of the fever. If there was a reaction, then there was a hidden disease'.*

Some Scholars explained that they engaged health workers and members of the local vaccine management committee to provide clarification about specific cases of AEFI and to support sensitisation messages.

Cost benefit of vaccines

In their case studies, several Scholars reported using a cost benefit argument to promote vaccination, emphasising the efforts of the government and international actors to provide immunisations to the population free of charge. As discussed above, the provision of free vaccines contributed, in some contexts, to scepticism, fuelling rumours and adding to levels of mistrust in government and international actors. Some individuals, however, were more concerned with the costs that would be incurred should a child need additional care (e.g., as a result of AEFI) than with the costs the vaccination itself. In a small number of case studies, Scholars noted offering free aftercare where barriers to vaccine acceptance related to the anticipated costs of AEFI. Other cost-benefit messages focused on promoting vaccination as a way to avoid future healthcare costs associated with treating illnesses such as polio and measles. As a Scholar from Kenya noted in their case study,

> *'we gave health education on measles and the importance of the vaccine. I told the mother, "Imagine your child is hospitalised with measles, don't you think you will spend too much money in the health facility for treatment of this child?"'.*

COVID-19-related messaging

In case studies that documented an intervention during the COVID-19 pandemic, Scholars frequently mentioned their attempts to debunk mis- and disinformation about the COVID-19 vaccine with ongoing vaccine promotion messages. COVID-19-related information included confirming the existence and spread of COVID-19 across the world, the importance of observing the government safety measures and clarifying the stringent regulation process for approving vaccines in humans. Providing information about COVID-19 was often found to provide a platform of more targeted vaccine promotion messaging. In one case study from Côte d'Ivoire, a Scholar recalled,

> *'we went to meet each community, raising awareness about the misplaced rumours of the COVID19 vaccine and to show the benefits of continuing routine vaccination'.*

Another Scholar from Côte d'Ivoire also concluded,

> *'it was then the place for me to educate the gentleman on the importance of vaccination and to break this link he made with COVID-19'.*

CASE STUDY NARRATIVE

Community Refusal of Polio Vaccine During COVID-19'

I am working as surveillance medical officer and I am responsible for quality implementation of SIAs, Polio eradication, Measles & Rubella elimination, conducting VPDs surveillance, supporting routine immunisation and AEFI surveillance. This is recent story…. India was conducting OPV Polio SIA after lockdown due to COVID -19. Community health workers and health workers both were in apprehension, because of COVID-19 people were avoiding any interaction with anyone. People were fearful of people breaching trust with the virus, no one had experience of such unprecedented situations in their life. Although the Ministry had issued guideline for the campaign, these were not properly followed up at the implementation level for several reasons, including high demand of health workers in COVID-19 sites, preparing containment, daily contact tracing and huge recruitment of new health workers.

It happened that when I reached one area during monitoring, I found unvaccinated children in that area of the community. On further enquiry, I found the community were resistant because they were fearful, and the vaccination team were new in the job and new in that area. Both were male vaccinators and without any identity cards. These families were educated but fearful of vaccination amid COVID-19, [they were] not sure whether the polio vaccine was safe during COVID-19 or not. They were apprehensive to see two unknown vaccinators moving in the streets during house-to-house activities of polio SIA. This happened because local vaccinators were moved to some other areas for COVID-19 work and other polio rounds.

So, I talked to family members and tried to identify real issues and their concerns. Then I called the medical officer of that area and talked to the vaccinator teams. I took the time to reassure the families and introduced the new polio team. I talked to the vaccinators and reinforced the importance to wear their identity card, and I provided on-job training to make sure they understood to introduce themselves prior to vaccination. Also, I asked the medical officer to change the team composition and provide at least one female and local member. I was wearing my identity card so the community could relax knowing that I am authentic. Then I introduced team members saying, "see both these vaccinators are government deployed and trained vaccinators. The only thing is that they are first time deployed to your area. Your local health worker has been assigned COVID-19 duty and soon she will be back to also join this team" For their concerns about the safety of OPV vaccine during COVID-19, I explained, 'see as per the experts around the globe. The polio vaccine is safe even during the COVID-19 pandemic and if your child will not get the dose of polio vaccine, that may cause paralysis which has no cure or in some cases death may occur. Polio is searching for the unvaccinated child to survive, and I think you will not let your child be a polio virus victim. I know as a parent you will protect your child from all diseases including polio.'

The families were relieved by identifying us as from the genuine health department and allowed their children to be vaccinated. One senior community member took the lead and asked all families to come forward for vaccination. Ultimately all children got the vaccine. By understanding their concerns and addressing these issues properly, the hesitant community came forward and took vaccine. I was surprised to see one senior community member also took charge and moved with us and asked families to come forward for vaccination. We were also surprised by witnessing changes of behaviour of community after properly addressing community concern. Later the community started discussing the benefits of vaccination among themselves and greeted us while we were departing. I focused on listening to the community concerns and acting accordingly. This approach is not new, but in the field we seldom listen to it properly. Hence, I recommend listening and try to understand community concerns first and then frame your answer.

I can tell you this experience changed my life. It has changed my practise and made me think differently about the way I work, considering the thing I didn't before think about.

Male, sub-national Scholar, India

RISK, CONTEXT, AND REPLICABILITY

In their case studies, Scholars were asked to include the risks and ethical considerations associated with their interventions, the context-specific factors that were at play and the overall replicability of their intervention.

At times, the interventions and actions documented by Scholars in their case studies carried a number of risks. Most frequently, Scholars noted risks associated with potential negative reactions from the community towards the immunisation teams or their messages or to the intervention itself. To mitigate such risks, Scholars reported taking appropriate contextual considerations into account before implementing any activity. Recruiting local leaders, influential people in the community and respected health workers to support the community-level interventions was the most frequently reported strategy for ensuring Scholars and immunisation teams would be accepted without threat. Across the case studies, the incorporation of appropriate action to address social norms, customs, language issues, social hierarchy and power dynamics was correlated with a lower perceived level of threat and a greater level of community acceptance. A number of case studies highlighted the negative consequences of proceeding with interventions without having taken appropriate measures into account.

Activities at both household and community levels brought with them tangible risks to the safety of the team. In relation to their one-to-one activities with individuals, some Scholars mentioned fears linked to uncertainty about the reception they would receive on arrival at a homestead or dwelling and the 'potential for harm' (sub-national Scholar, Ethiopia). The safety of the intervention teams was as paramount, and several factors contributed to perceived levels of risk highlighted by Scholars. Whilst it was noted in many case studies that collaborating with relevant stakeholders was critical for the success of engagement activities (as discussed above), it was also noted that careful consideration had to be given to each specific situation.

Engagement of key stakeholders, though important overall, sometimes further complicated the dynamic. For example, some case studies described risks associated with allowing community leaders to steer the dialogue as this could lead to inappropriate messaging, threats and coercion. In one case study from Nigeria, a sub-national level Scholar concluded,

> *'In response…the village head warned him and every other person that anybody who hinder health activities again in this community through his/her action or in any other way, such person would be severely punished - such as keeping him or her alone and will not be allowed to farm in their land…'*

Politics and violence

The likelihood that an immunisation professional would be rejected by a community appeared greater if the community had been affected by AEFI, particularly if it had resulted in severe illness or death. In such situations, Scholars perceived the risk of violence to be greater; however, engaging appropriate influencers from the community often helped to defuse the situation. Details provided in a case study from Burkina Faso were representative:

> *'the limits were that the blacksmith could assault us as he was fiercely opposed to vaccination and initially accused health workers of causing his child's death through vaccination. However, by taking care to request an appointment with the neighbourhood chief and being surrounded by vaccine agents, we have limited the risk'.*
> *(no Scholar system level information provided)*

Where high levels of mistrust in government were reported, potential risks to the successful implementation of interventions were assumed to be greater. Some Scholars spoke of the challenges that arose when representatives from local government administrations were included in community outreach, particularly for the case management of vaccine refusal due to mistrust in government. In several case studies, Scholars reported that communities believed immunisation staff had aligned themselves with government parties and as a result were unwilling to engage with them due to their differing political affiliation. As one district-level Scholar concluded in their case study from Ghana,

> *'Because they [health workers] were distributing the vaccine it prevented people from receiving vaccination since people have strong affection for their political parties and will believe rumours relating to politics'.*

Case studies from DRC highlighted increased levels of perceived insecurity and violence, which Scholars attributed to the political tensions and social unrest resulting from the 2018-2020 outbreaks of Ebola. Widespread misconceptions about Ebola vaccines and heightened mistrust of health workers and government in the context of Ebola compounded feelings of unease.

A small number of case studies reported that immunisation teams had actually been injured or harmed when working in areas of conflict or in unstable political environments. In a case study from Cameroon, a sub-national level Scholar explained,

> *'This case is one of vaccine hesitancy in the anglophone community. For four years, the anglophone communities are in serious war between the state and separatists as a struggle to gain independence. A greater proportion of the community members are in support of the separatists and as a result reject nearly all activities sponsored by the government. These cases of hesitancy were identified in one community during the poliomyelitis vaccination campaign. We were*

mostly using the 'hit and run' strategy [administering the vaccines in the community and leaving as quickly as possible] but during this time the population rejected this campaign [thinking] that the government wanted to wipe off the anglophone population by loading the vaccine with COVID-19 virus. It should be noted that there are no functional health facilities, no traditional ruler, no religious leaders in this community due to the war. They have all sought refuge in neighbouring regions. Some state health staff have been killed during this crisis'.

COVID-19-related risks

In several of the case studies documenting an intervention during the COVID-19 pandemic, the perceived risk to the intervention focused on the Scholar's/team's ability to manage COVID-19 safety measures. Some Scholars emphasised that additional actions were needed to ensure teams were adhering to safety protocols so as to minimise the risk of transmission whilst conducting vaccine promotion activities. Several case studies noted that as a result of lockdown and quarantine, human resources became increasingly limited. Health workers were reallocated to pandemic response efforts, resulting in reduced availability of staff for vaccination programmes. This further impacted the capacity for sensitisation campaigns, follow-up and supervisory activities.

Ethical considerations

As part of the case study rubric, Scholars were asked about ethical considerations for their specific intervention. Although most denied any ethical concerns, the analysis of case studies revealed a number of situations where interventions and the actions of Scholars and their teams did not comply with recognised ethical standards of good practice. In particular, issues of coercion and lack of informed consent were noted. In a small number of case studies, Scholars acknowledged that their actions may not have been the 'recommended approach' and reflected on how the lessons they learnt would impact their future practice. In one case study from Côte d'Ivoire, the district-level Scholar reflected,

'The ethical problem is that I subtly threatened him… Did he cooperate because I talked about imprisonment or did he cooperate because he really understood the value and importance of immunisation? I'll never know. What I will do differently is avoid talking about this law which obliges parents to have their children vaccinated or face imprisonment'.

Replicability of interventions

In 40% of the case studies analysed, Scholars asserted that their interventions could be replicated in other geographic and cultural contexts. Many Scholars highlighted that tailoring an approach to the needs of an individual or a community was fundamental. Scholars broadly agreed that it was feasible and practical to replicate interventions and that when interventions were in line with approved approaches (from government and/or INGO's) they could be suitably adapted to ensure scale up.

In contrast, a minority of Scholars reported that their actions would not translate to other contexts. In most of the case studies where this was noted, specific and sometimes unusual actions had been taken. In one case study from Chad, for example, a Scholar working at a health facility concluded,

> *'in a different context, there are potential risks or probable ethical problems that may arise if we adopt this same technique which will result in loss of confidence of the population, loss of the credibility of your sense of professionalism vis-à-vis your hierarchy, leading to an increase in refusal of vaccination'.*

In a small number of French case studies, the need to take into account 'anthropo-sociological considerations' and place greater emphasis on understanding the community was identified. Several examples related to the multidisciplinary community engagement with Twa communities in DRC.

CASE STUDY NARRATIVE

‘Overcome resistance to vaccination through interpersonal communication and communication for behaviour change’

There was a group of a vaccine-resistant religious sect that claimed to treat all illnesses spiritually and did not accept medication from whites. But also after investigation some of the parents simply refused for fear of the vaccine, and said in case of fever or illness after administration of the vaccine, they would have to go to the Health Centre and would be forced to pay the treatment costs even if this was sometimes due to the vaccine given by the same healthcare workers.

We organised meetings with influential people identified within this group and gave explanations of the manufacture and commissioning of vaccines, doing awareness raising on the treatment of certain diseases and prevention through vaccination. There was also a door-to-door survey and sensitisation of households on vaccination and AEFI (their occurrence, treatment, the system put in place to avoid them). And we used community intermediaries and independent monitors during the survey to take advantage of sensitising households.

After having convinced some of the leaders of the group, the vaccination sites were relocated and a site within their church was installed. We also made it so that in some cases vaccination took place in the evening and used the children of the nursing staff to show them being vaccinated in the presence of the population. The vaccination coverage of the campaign was 98.6% after the end. The process survey and vaccination continued two days after the end of the campaign in these localities to reach more of the target children. For this success we have benefited from the support of community health workers, independent monitors, supervisors of the health zone and managers of certain households and religious leaders who we convinced to echo the awareness among the population. The scale of the awareness raising and the duration of the campaign in these localities made it possible that many of the people who had fled into the forests or who were doing rural activities could come out of them even for the vaccination.

In the face of reluctance, we have to innovate a little by vaccinating the children of healthcare workers in the presence of the population to convince people of the very safety of vaccines. This has proven to be productive in view of the results. As health care workers, setting an example in vaccination uptake inspires others to follow suit, and so does using influential people in the community. We thought about recommended approaches and tried to adapt them in the context that we found ourselves. Reassuring the population about the free management of cases of post-vaccine adverse events, which at least remain very negligible, and explaining to them the measures taken to minimise this. The fact of vaccinating the target children of healthcare workers in their presence also convinced them about the harmlessness of the vaccine. Agreeing to move the vaccination site into the sect’s church and to vaccinate in the evening for some also enabled several followers.

I recommend in future to favour the interpersonal communication approach and for behaviour change in the resolution of cases of refusal / resistance. And to always accustom the community to notifying cases of AEFI, to adopt an attitude to notify them, be it mild or serious, and to return to where the child was vaccinated in the event of AEFI because poor information on AEFI can cause vaccine hesitancy. An investigation to identify the causes of cases of refusal is always necessary to imagine and adapt specific actions that could have a positive effect for each community according to its habits and customs. Since this experience I have used the same approach again and again, but the engagement changes in every case and sometimes we are more limited in our actions. The most important thing I have learned is about maintaining consistent communication and contact with the community.

- Male, district-level Scholar, Democratic Republic of Congo

OVERCOMING BARRIERS TO ACCEPTANCE – LESSONS AND RECOMMENDATIONS

This chapter presents reflections on what worked well, the lessons learned and recommendations for future action, as suggested by TGLF Scholars. The recommendations are based on the experiences of the individual Scholars in their given context; however, across the data set these were broadly consistent. Scholars identified factors that had contributed to the success of their case study interventions and applied them to recommendations for their future work or that of others. Four interconnected themes were identified: community inclusion and engagement, community gatekeeper involvement, teamwork and collaboration, and communication.

Community inclusion and engagement

Community members who were engaged through the interventions brought differing perspectives to the vaccination conversation. There were clearly articulated calls for vaccine acceptance interventions to 'meet people where they are' and for activities to be suited to the population's needs. In 28% of the case studies (n=206), Scholars made explicit that community engagement – building trust and developing awareness – was a key factor for vaccine acceptance, but it was implied to a greater or lesser degree in the majority of case studies. Many Scholars emphasised that the community had to be included in, indeed needed to be 'at the heart' of, vaccine campaigns for them to be successful. A case study from a Nigerian Scholar working at the sub-national level was representative in this regard:

> *'the approach of community engagement (initially one-on-one engagement) helped a lot in resolving the issue of vaccine hesitancy in the community I visited. This is a method that is usually carried out to tackle issues like this'.*

Many cases promoted ongoing community engagement before, during and after vaccine campaigns. This involved listening to the concerns of the community before delivering and disseminating tailored communication strategies, acknowledging their concerns and providing reassurance. In one case study from Myanmar, the national-level Scholar concluded,

> *'another important point is listening to the social voices and reassuring them to be on the right way. We have lessons learned, the immunisation staff should be polite, patient and engaged to parents for increasing demand of vaccine in the community'.*

Similarly, a district-level Scholar from India asserted,

> *'The success story reflects upon the fact that to gain trust we must listen to build a rapport among the community members. This is of utmost importance and can go a long way in overcoming the vaccine hesitancy in a large scale'.*

And in a case study from Uganda, a national-level Scholar reported,

> *'In essence, the success of the intervention could be attributed to the efforts made to seek understanding of the target audience, facilitate open dialogue and integrate activities with familiar processes and systems'.*

It was suggested that embedding activities that directly addressed community concerns and needs led to successful outcomes. Using this approach, Scholars were better placed to respond directly to anti-vaccine misinformation.

Scholars consistently highlighted listening, understanding, reassuring, and showing compassion as key tools for building relationships to increase community engagement and participation. It was noted that fears and issues of mistrust should be directly addressed rather than avoided, but that building sufficient levels of trust was necessary to create safe spaces where community members could honestly and freely discuss sensitive issues and feelings of anxiety. In a case study from Nigeria, the Scholar based at a health facility explained,

> *'For me, this experience demonstrated the need to stay very engaged with the counselling process for the parents and other caregivers. Obviously, a communication gap existed for this mother with regards to her beliefs and mistrust about immunisation. It was important to not be judgemental, but to get to the root of the problem and once that was discovered to be miscommunication, giving appropriate information with patient feedback to establish that the right message had been communicated. My key recommendations to any colleague facing a similar predicament are to first of all try to be compassionate and show genuine concern and understanding while engaging the individual in a conversation. In the process try to gently quell their fears using logic and real-life examples and short stories (if you have any) and try to involve the community leaders or other respectable influential persons in the community to build more trust and confidence'.*

Recommendations from Scholars, grounded in the specific experiences they documented, also focused on sustained community engagement. It was noted that efforts to build and maintain relationships with the community should be proactive (rather than in reaction or response to emerging issues). A number of Scholars also called for increased efforts to conduct research and situational analyses to better understand and correctly

address the needs and priorities of communities. Again, in many case studies, cooperation, collaboration, and communication were emphasised as prerequisites for success. This was emphasised in a case study from Nigeria, in which the district-level Scholar concluded,

> *'My recommendation for the application of methods should always be based on its relevance to and acceptability of the community, the people and the situational context. It is essential to know that the successful application and outcome of this method is based on effective team spirit, specific goals, objectives and ability to work together in harmony with relevant partners, stakeholders and the community'.*

Involvement of community gate keepers

TRADITIONAL AND RELIGIOUS LEADERS

In 25% of the case studies (n= 184), Scholars specifically noted the importance of the involvement of stakeholders and trusted community figures like community and religious leaders, influencers, women, and youth groups for positive outcomes. Again, though, the role of these actors was implied in many more case studies. Forging partnerships with traditional and religious leaders and promoting their involvement in community engagement strategies was one of the most cited factors for successful vaccine acceptance interventions. Including leaders in interventions was found to increase levels of participation within communities and congregations and thus promote higher levels of engagement, which in turn contributed to positive health outcomes (see Vignette 3 below).

Many Scholars regarded traditional and religious leaders as highly esteemed, authoritative members of society with the power to convince members of their communities to accept or reject vaccination programmes. Therefore, efforts to involve them in whatever capacity possible were encouraged and it appeared that their mere involvement was more important than the level at which they actually engaged with the intervention. Indeed, across the case studies leaders engaged in several different ways: as passive gatekeepers, as vaccination champions promoting sensitisation in the community, and as mediators between community and immunisation teams, actively delivering messages, debunking misconceptions and facilitating stronger relationships. In a case study from Kenya, the district-level Scholar explained that

> *'when the community leaders and the religious leaders were engaged and sensitised on polio disease there was a change on how the community was approaching health care'.*

Similarly, in a case study from Ghana, another Scholar working at the district level concluded,

> *'the use of community leaders and religious leaders as vaccination ambassadors played a key role in mobilising their followers and assisted in educating the community members on the importance of immunisation'.*

Where leaders had not been engaged, this was acknowledged as a limitation to the success of the case study.

Ensuring that key gatekeepers were involved in efforts to increase vaccine acceptance in their communities was consistently emphasised by Scholars in their considerations for future action. While the specific role of leaders in sensitisation activities, the means by which they should be engaged and the suggested levels of engagement varied from one case to another, their inclusion (in some relevant capacity) was consistent across the case studies. Observations included:

> *'Religious leaders and gate keepers are a key entry point to communities when the government needs to reach all communities with health services. Sensitisation and awareness creation should target them as an entry point'.*
> *(district-level Scholar, Kenya)*

> *'[we should] use the community structures like the opinion leaders and chiefs in the communities for doing health education on the importance of vaccination'.*
> *(Scholar working at health facility level, India)*

> *'a permanent relationship with the neighbourhood chief and his team should be established to share our projects with them and set up an awareness system for the neighbourhood on the use of health services'.*
> *(national-level Scholar, DRC)*

> *'in case of refusal by the community, [we should] appeal to the opinion leaders of the community in question with who share the same customs, the same language, the same habits, the same behaviours, so as not to exacerbate the situation'.*
> *(district-level Scholar, Niger)*

Vignette 3 demonstrated how sensitising a tribal king in Nigeria and encouraging him to exert his influence led to the acceptance and administration of the measles vaccine in his community. The text has been extracted from the full case study.

VIGNETTE 3:

Engaging leaders in sensitisation, sub-national level Scholar, Nigeria

My team encountered vaccine hesitancy during a supplementary immunisation activity for measles, before the pandemic. Reluctance and rejection were from most community members (men and women) who are mostly illiterates living in a rural community. They were concerned about lack of development and neglect from the government, so they ignorantly reject anything coming from the government which they perceive not to be of any benefit to them. We went to see the King to sensitise him so he could influence his people to change their wrong perception about vaccination.

We chose to visit the King because he had great influence on his people. When we met the king and introduced ourselves, we stated the problem encountered and proceeded to educate him on the importance of vaccination. It turned out positive because we were able to change the 'ing's perception who in turn changed the perception/behaviour of his people and they accepted for their children to be vaccinated.

Another element was that since we were sure of the traditional ruler's strong influence on his people, we went to him and assured him that vaccines are free, safe and effective and that they are coming from the same government. We let him know that government had nothing to lose if they hesitated to take the vaccines but instead, it was for their own safety and that the government wanted them safe, which is the reason they have made the vaccines available.

Local health workers

Health workers also played an important role in interventions. On a practical level, health workers and community-based health workers administered vaccines, delivered health education and vaccine promotion and, as noted by a district-level Scholar from Kenya, were found to be

> *'an important component in follow up and continued utilisation of health care services by hesitant communities and households'.*

They also assumed significant supportive roles: accompanying Scholars and immunisation teams in unfamiliar communities, acting as gatekeepers, and providing context-specific information to the teams about cases of hesitancy, cultural norms and expectations. This was exemplified in a case study from Madagascar in which the Scholar asserted,

> *'our main asset in the conversion of hesitant people was… the intervention of the community agent in local dialect and to help us understand'.*

Some Scholars also emphasised the value of having a health worker on the team who was already embedded in the local community and therefore known to community mem-

bers. In a case study from Ghana, the district-level Scholar reflected that through the health workers, immunisation teams could

> *'build trust with community members…including respecting community protocols, ensuring effective community entry process, seeking more information from those concerned, investigating, and clearing every rumour'.*

In one case study from the Gambia, it was suggested that given the training of health workers, they were in fact best placed to deliver information to promote vaccine acceptance.

Among their recommendations for future activities, Scholars particularly emphasised the role of health workers to help dispel misconceptions and deliver accurate immunisation information. Scholars also suggested that more consistent structures to support health workers in regular awareness raising and conspiracy debunking were very important to ensure vaccine acceptance. In a number of cases, it was noted that health education, including vaccine promotion, should be ongoing and that health workers and community health workers should be integrated in vaccine follow-up mechanisms. To support this, improved training for all cadres of health workers was recommended. One district-level Scholar in Ethiopia suggested that

> *'more technical support needs to be provided to health extension workers in revitalising the community level services and the accountability of community health workers needs to be enhanced'.*

Another sub-national Scholar in Chad suggested that tailored training should be targeted to different levels of the health workforce:

> *'We should ensure the training of community relays and social mobilisers on community identification of suspected cases of [specific] diseases with epidemic potential…and the procedures to be adopted in the face of these cases. And also, we should build the capacity of vaccine agents on good interpersonal communication techniques during polio campaigns and other vaccination activities'.*

In a followup interview, one Scholar working at the health facility level suggested that engaging trusted healthworkers allowed teams to better track mis- and disinformation in the community and follow cases of hesitancy. Since the onset of COVID-19 this was found to be of particular importance:

> *'Healthworkers can become ambassadors in communities. However, there must be trust, otherwise it becomes an easy target for World War 3. Because the people are scared. They are coming from a place of fear, and they are afraid of what they don't know. Pre COVID-19 it wasn't like this but since the pandemic until now we haven't moved on the fear and conspiracies are still the same'.*

Role of the government

Government representatives from local- and district-level administrations were engaged as stakeholders in many cases; however, the broader role of the government in supporting interventions was rarely discussed. More frequently, Scholars emphasised the need for greater investment from governments and international agencies to support vaccine acceptance – through increased efforts to cascade accurate information to communities, by actively tackling rumours and conspiracy theories and by supporting health worker training and financing. The following recommendations were indicative:

> *'The government at all levels should be proactive in passing the right information about emerging issues and also dispel rumours and misconceptions as quick as possible using several media that the people at every level can understand'.*
> *(District-level Scholar, Nigeria)*

> *'The government and development partners should support the health workers with finance in order to perform immunisation actively and debunk the rumours'.*
> *(National-level Scholar, Myanmar)*

Men as gatekeepers

In only four case studies (0.5% of the total sample) did Scholars explicitly suggest that vaccination campaigns should target fathers. Nevertheless, Scholars found engaging fathers to be particularly relevant in patriarchal societies or in environments where men typically made decisions about their children's health. This was reflected in several additional case studies where mothers 'refused' to vaccinate their children because of their husbands' decisions (as discussed above).

Teamwork and multi-partner cooperation

Whilst most case studies highlighted that Scholars worked in collaboration with other stakeholders, only a small number explicitly articulated the need for strong partnerships to identify and implement successful strategies for addressing vaccination needs. In a case study from Burkina Faso, a Scholar working at district level suggested that demonstrating the 'synergy' between actors at central, regional and district levels built community confidence in the credibility of the intervention. Another Scholar from Benin explained how bringing partners together benefitted communication activities:

> *'all the authorities of the territory have been mobilised to find an appropriate solution… the gathering of leaders alongside politico-administrative, health and religious authorities, with the presence of local radio hosts, was an opportunity during which the best strategy*

to set up a concerted multisectoral communication mechanism, one where each of the stakeholders had an element of power and a bit of authority, was integrated into our approach'.

In thinking about future work and recommendations for colleagues, several Scholars suggested that collaborations must extend beyond working with local religious and community leaders, to more comprehensive partnerships with healthcare professionals, academics, global agencies and other organisations that support immunisation. It was suggested that ongoing collaboration can save time and resources well as adding more positive, reliable voices to the public conversation about vaccine acceptance. A district-level Scholar from Ghana noted,

'for me, the key element that made it work was the fact that the WHO team was an external body, and I believe the parents of the child – knowing what WHO stands for – agreed [to vaccination because of this]. I could have also used the opinion leaders and chiefs in the community to achieve the same result, but it would have taken a much longer time'.

Communication

In just under 30% of case studies (n=220), Scholars emphasised the importance of improving communication strategies. This included listening to people's fears, understanding the source of hesitancy, improving the interpersonal skills of local staff, and involving local teams who speak the local languages. Communication was widely identified as a specific determinant of success in reducing barriers to vaccine acceptance. Inadequate and insufficient communication about vaccines was seen to contribute to low levels of acceptance. Scholars also discussed the importance of multi-faceted communication strategies to address misinformation and the need to embed communication within existing community engagement structures. One national-level Scholar in Uganda affirmed,

'[We need] to address the issues [of rumours] using a variety of communication and engagement channels and giving attention to all aspects of community life that might influence vaccination decisIs...This approach also appears to align itself with natural community processes – seeking out community leaders; and encouraging dialogue across multiple levels in order to both inform and influence'.

Scholars reported that intentional, timely and effective communication increased uptake and that by using multiple channels of communication, messages could be disseminated widely. The need for clear messaging was emphasised particularly in relation to demystifying rumours and conspiracy theories. It was also suggested that greater efforts should be made to ensure consistent and ongoing communication strategies. A national-level Scholar from Myanmar confirmed,

'Before pandemic, we organised regular health talks at each health facilities to educate the importance of immunisation that can save the life and prevent the infectious disease to community. By doing these communication strategies for identifying issues, debunking rumours among the vaccine hesitant, the immunisation demand for new vaccine can become increased. We can inoculate the community by giving correct information like the nature of diseases, mode of transmissions, how to prevent the infectious disease, the benefits of vaccination to all children and minor symptoms of AEFI after injection'.

The need for greater discussion and transparency around side effects and AEFI was also noted in several case studies. In a case study from Ghana, the Scholar working at health facility level affirmed,

'it is important to have a good understanding of vaccine safety and the systems put in place to address AEFI. Such systems show that there is transparency around issues of vaccine safety and can help us increase the trust of people around vaccines'.

Developing a communication loop to promote free-flowing dialogue between community leaders, community members and vaccination teams was also important. Several Scholars noted a lack of ways to facilitate dialogue and acknowledged the benefit of establishing stronger communication mechanisms. Case studies from Bhutan and Cameroon suggested that only when all communication approaches and avenues had been exhausted should external force (in the form of police or military enforcement) be considered.

The need for scaled-up communication in the context of COVID-19 was highlighted. Scholars indicated that increased disinformation and conspiracy theories in the wake of the pandemic (as discussed above) required more nuanced sensitisation and messaging, both about vaccination and regarding COVID-19 prevention measures when accessing services. One Scholar based at a health facility in Nigeria suggested,

'There is a need for more orientation about immunisation at this time, especially in the unlearned communities. Now there is more vaccine hesitancy than before because people do not believe there is COVID-19, they say it's the disease for the upper class. So, people go about their normal activities without the use of face mask and not a lot of social distance. There is also claim that the health facilities are infectious ground for contracting COVID-19. Giving the populace frequent information about the disease will go a long way'.

In their follow-up interviews, Scholars further emphasised the need for targeted messaging to debunk rumours and adapted messaging to encourage vaccine acceptance. One interviewee suggested,

> *'The messages need to be reoriented and adapted to our current context in a way that it can be easily integrated in the daily life of the community members. This means having good information and a simple delivery. Also, the communication should be revised frequently along with the evolution of the virus'.*

Interpersonal Communication

Interpersonal communication was identified as a critical tool for positive engagement. Quantitative analysis indicated consistency across case studies in English and French, with 16% (n=56) of English case studies and 15% (n=58) of French case studies highlighting interpersonal communication as a key component of successful interventions. In a case study from Sierra Leone, a Scholar at the district level confirmed,

> *'interpersonal communication with caregivers helps one to know major issues of vaccines hesitancy in communities and in turn helps you to build trust and confidence of the people in the EPI programme, thereby increase uptake'.*

Reflecting upon their own experiences, several Scholars commented on how interpersonal communication training had enabled them to take a softer and more sensitive approach, to develop improved listening skills and to show greater levels of empathy, all of which was beneficial for improving their relationship with the communities they served. In a case study from Argentina, a Scholar working at the health facility level reflected,

> *'you have to make sure your approach is gentle and not accusing or reproachful, and that you present clearly the facts and the importance of vaccinations'.*

Similarly, in a case study from Nigeria, a sub-national level Scholar confirmed,

> *'I followed the pattern [I learnt in a] series of trainings [on] interpersonal communication which made me use empathy as part of my communication skills to make the community leader understand the benefits of polio vaccination'.*

In a small number of cases, Scholars identified problematic attitudes of health staff as being 'off-putting' for mothers, and as such advised that health workers receive improved training in aspects of interpersonal communication and that they embrace a more holistic and nuanced communication style.

CASE STUDY NARRATIVE

‘Reluctance to Ebola vaccine in Democratic Republic of Congo’

After the death of a confirmed cased of Ebola following a hospital stay, the safe and dignified burial of the deceased was not done in her home village, but rather in the health zone where the death took place. In the custom of the deceased, it is required that the burial be carried out in the native village in the presence of customary chiefs with the accompaniment of certain rites of the locality, but this was not possible. The religious and traditional chiefs, who are the guarantors of the customs, know the community and the young people of the locality. Their primary concern was to bring the body of the deceased to the Ebola treatment centre in their native village to allow the traditional authority for the community to perform customary rites on the body, however this was not possible. This was the main reason for the reluctance to vaccinate against Ebola. As well, the communities also feared a risk of transmission of Ebola disease after vaccination, and so there was a wave of reluctancy amongst the contacts of the confirmed case in relation to the Ebola vaccine.

My role was to coordinate and supervise all vaccination activities around the case and reassure myself of the vaccination of all contacts around the confirmed Ebola case and contribute to the various meetings and discussions to adopt the right intervention approach. We initiated support from anthropologists and representatives from other commissions (communication, surveillance, psychosocial, vaccination and infection prevention and control) to engage with religious and traditional chiefs.

First, we updated the data on the epidemiological situation in the health zone (number of cases, mortality rate, number of cured, etc.) We explained the transmission mechanisms of Ebola virus disease and that the benefit of taking the vaccination early could prevent the spread of the disease…. These different messages were given in the language of the territory with the support of a local agent working in the response and from the village. This approach helped reassure the community.

Secondly, we listened to the community on the required conditions, which included making a new burial in the village where the deceased was born and respecting customary principles. As the body could no longer be exhumed in the health zone, it was necessary to purchase a goat for sacrifices…dig a hole and proceed with the burial according to custom. The fulfilment of all these conditions associated with the awareness sessions in the local language allowed us to lift the hesitation and thus break the chain of transmission in the health area.

The important lessons I learned were do not offer to others what you would not accept if you were in their shoes, treat others as if they were your own parents. You need careful listening and analysis of community feedback to overcome this hesitation. And look for solutions like reinventing funeral rites while respecting infection prevention and control measures.

Innovation is about listening to the community; taking their concerns into account and making consensual decisions together to avoid future hesitation in introducing new vaccines. The involvement of traditional and community leaders and others associated with young people and community groups allows strong community support for response activities in a context where vaccine hesitancy exists. Further, by anchoring the response activities within the community it enables communities themselves to be stakeholders and actors in the response, and recruiting local human resources for immunisation activities helps reduce vaccine hesitancy. This allows us to consider the community as an actor and not a victim of the response. When introducing new vaccines taking a multidimensional and multisectoral approach is a necessity.

- Male, national level Scholar, DRC

CONCLUSION

The data presented in the report are first person narratives generated as part of a TGLF COVID-19 Peer Hub learning exercise aimed at supporting Scholars to share experiences of addressing vaccine hesitancy in their communities. Although the primary focus of the exercise was to foster reflective peer learning in advance of COVID-19 vaccine introduction, the rich case studies – told in the Scholars' own words – showcase the value of existing local knowledge, practices and understanding, which is often overlooked. Findings from this report reveal that reducing barriers to vaccine hesitancy is not a one-size-fits-all model.

Reflections on key findings

COMMUNITIES ENGAGED

Most of the individuals and communities documented in the case studies were parents, caregivers and family members of children, and interventions were therefore directed at increasing acceptance towards vaccination for individual families directly or were targeted as part of wider community engagement strategies. Some Scholars identified specific groups within the broader community that needed engagement through alternative communication techniques, tailored messages, and more focused interventions than were used for the general population. Other population groups such as migrant communities, marginalised minorities, 'illegal' (informal economy) workers, ethnic minorities, youth and adolescent groups were also the focus of interventions. Findings from a small number of case studies identified teachers as a powerful group of influencers in the community. Although no interventions addressed groups of teachers per se, cases of non-acceptance in schools were reported and some teachers and school principals were identified as propagators of misinformation.

DRIVERS CONTRIBUTING TO LOW LEVELS OF VACCINE ACCEPTANCE IN THE COMMUNITY

Analysis revealed factors contributing to low levels of vaccine acceptance in the community. In 33% (n=244) of the case studies, conspiracy theories and mis- and disinformation related to vaccination identified as primary barriers to vaccine acceptance. Conspiracy theories were multifaceted and although specifics varied by location, the overarching themes were consistent across countries. The belief that vaccination was related to sterilisation was common throughout the dataset, particularly in cases from Africa. Rumours and misconceptions were more frequently reported during the COVID-19 pandemic. Scholars also noted that the speed at which misconceptions and mis- and disinformation circulated and escalated increased during the pandemic, particularly over social media platforms.

In 20% (n=70) of case studies in English, reasons cited for low levels of vaccine acceptance in the community were linked to a conflict between vaccination and religious or customary beliefs. Of these 70 case studies, 53% (n=37) were from Nigeria (accounting for 24% of cases from Nigeria and 5% of all case studies), 14% (n=10) were from Kenya, 10% (n=7) were from Ghana, 10% (n=7) were from India, and the remaining 13% (n=9) cases were spread across different countries. Associations with religious and customary beliefs were reported as a driver of low levels of acceptance in just under 6% of the case studies in French (n=23).

Perhaps surprisingly, lack of information as a barrier to acceptance was only explicitly referenced in 8% (n=59) of all case studies, although evidence suggesting limited community awareness of issues related to vaccine uptake was more widely seen. Lack of information, when identified, related predominantly to poor or inadequate knowledge of the vaccine campaign, the vaccine itself, and/or the healthcare system. For example, many individuals lacked awareness of the multiple forms of administration for the polio vaccine (oral and injectable), and this fuelled feelings of mistrust. This concern was intensified in polio campaigns in countries that had already been declared 'polio-free'. In a case study from Nigeria, a sub-national level Scholar reported that the father he was engaging 'was concerned about the OPV vaccination campaign despite the country being certified polio free'.

In 25% of all case studies, general mistrust was noted as a key driver of low levels of vaccine acceptance. Mistrust was directed towards governments, international actors and health workers and was also related to issues of associated costs, the frequency of vaccine doses/campaigns and perceived episodes of AEFI. While both direct and indirect costs associated with vaccination were clear, they never appeared as an isolated barrier to vaccination, but rather compounded existing concerns. In a small number of cases, community members queried their government's ability to provide vaccines for children free of charge. This was emphasised in scenarios where other government services and support were limited due to lack of financing. Where communities had been overlooked for initiatives, government support, grants and other welfare benefits, levels of mistrust were higher and contributed to reduced acceptance. Six case studies indicated that failure of the government to provide treated mosquito nets contributed to high levels of mistrust. A case study from Liberia highlighted the need for stronger links between the primary health care system and routine immunisation, and as the national-level Scholar reported,

> *'the reason for their hesitancy is they do not trust the current government…they asked why government is giving the vaccine free every time, frequently and why not food, mosquito nets, or drugs?'*

Case studies from across all geographical areas reported that perceived side effects of vaccination contributed to vaccination hesitancy. Circumstantial evidence related to the side effects of vaccine antigens sparked rumours and conspiracy theories and mis- and disinformation and contributed to mistrust and fear within communities. Experiences of AEFI, whether real or perceived, first-hand or based on community anecdotes, were common and frequently led to 'boycotting' vaccination. Several Scholars voiced frustration when cases of AEFI had been inadequately investigated, and they were sometimes restricted in the counselling they could provide families due to the lack of definitive information about these suspected cases. In a small number of case studies, Scholars noted offering free aftercare where barriers to vaccine acceptance related to the anticipated costs of AEFI. Other cost-benefit messaging focused on promoting vaccination

as a way to avoid future healthcare costs associated with treating illnesses such as polio and measles. As a Scholar (system level undocumented) noted in a case study from Kenya,

> *'we gave health education on measles and the importance of the vaccine. I told the mother, "Imagine your child is hospitalised with measles, don't you think you will spend too much money in the health facility for treatment of this child?"'.*

SUCCESSFUL STRATEGIES FOR INCREASING ACCEPTANCE

Across the data, the approaches used can be viewed as an 'inventory of examples' rather than a series of prescriptions for 'what works'. At their core, interventions centred around multiple stakeholder involvement, specifically including engagement of community, religious and traditional leaders. The interventions also used a variety of engagement strategies, including direct one-to-one counselling at the individual or household level; community sensitisation for larger groups; formal meetings; and organised training sessions.

Many Scholars regarded traditional and religious leaders as highly influential, authoritative members of society. Efforts to involve them in whatever capacity possible were encouraged, and it appeared that their sheer involvement was more important than the level at which they actually engaged with the intervention. Across the case studies, leaders were engaged in a multiple ways: as passive gatekeepers, as vaccination champions promoting sensitisation in the community, and as mediators between community and immunisation teams, actively delivering messages, debunking misconceptions, and facilitating stronger relationships. Although religious and traditional leaders were repeatedly highlighted as reliable channels through which to gain community trust, a small number of case studies highlighted that some leaders may perpetuate misinformation in the community to fit with their own agenda.

Key determinants of successful intervention implementation often highlighted tone and delivery of information, and the approach was found to be as critical to successful vaccination outcomes as the activities themselves. Examples of successful delivery strategies included high levels of personal involvement by Scholars, use of local languages, use of IEC materials and social media. Further, the use of different communication approaches was found to have a positive effect, from using pictures and videos to interpersonal displays of understanding and compassion. This enabled Scholars to navigate sensitive dynamics such as families in grief and those in vulnerable communities impacted by displacement or war.

In recommending future action, Scholars made suggestions that were broadly based on what had worked well in their own experiences. Their suggestions can be grouped into four priority and interconnected areas: community inclusion and engagement; community gatekeeper involvement; teamwork and collaboration; and communication. Several Scholars suggested that collaborations must extend beyond working with local religious and community leaders and should include more comprehensive partnerships with healthcare professionals, academics, global agencies and other organisations that support immunisation. It was suggested that ongoing collaboration could save time and resources well as adding more positive, reliable voices to the public conversation on vaccine acceptance.

Moving forward: from recommendations to context-based action

TGLF's network doubled in size in 2020 – from 15,000 to over 30,000 – primarily through the growth of the COVID-19 Peer Hub that culminated in the peer learning exercise focused on vaccine hesitancy. It has continued to develop since the exercise was run. As of October 2021, over 40,000 health professionals were involved in the Peer Hub (80% working at sub-national level and over 50% working within Ministries of Health), with self-organised teams of alumni coordinating knowledge sharing and implementation activities in 24 countries. One of the strengths of TGLF case study dataset is the potential it offers for further enquiry. Adopting a longitudinal approach, at scale, could be extremely powerful and provide insights that are not readily captured elsewhere.

It is clear from the data presented in this report that the barriers to vaccine acceptance are complex and multifaceted. Against the backdrop of global, regional and national-level guidance, investment in identifying and supporting local level solutions is urgently needed if vaccine confidence and acceptance are to grow and be sustained. This requires greater focus on the capacity of immunisation staff to adapt their practice to best fit the local context and immediate situation. Too often, guidance highlights issues related to low levels of vaccine acceptance without providing clear and practical recommendations for health professionals on the ground. Moving forwards, greater emphasis should be placed on 'how' immunisation staff can effectively improve the situation within their own communities. This may involve better recognising and supporting the capacity of local staff to create local, context-specific solutions or adapt existing ones, rather than trying to apply normative 'one-size-fits-all' guidance.

The case study narratives present a rich body of evidence that details the realities of how frontline immunisation staff creatively address issues related to low levels of vaccine acceptance in their local context. The use of ethnographic case study data has highlighted forms of knowledge and experience that are less easily accessed through formal research approaches. The situations described are of considerable value as they address contextual, social and behavioural dynamics that may not always be considered, and present real-world strategies used by Scholars to build confidence in vaccines and vaccination with the communities they serve. Further, the case studies emphasise the need for the voices of frontline immunisation staff to be heard on the global stage.

ANNEX

Annex 1. Exercise rubric

The Geneva Learning Foundation | COVID-19 Peer Hub | Exercise 2 | **Rubric version 1.2** | 20 November 2020

RUBRIC TO DEVELOP A SHORT CASE STUDY BASED ON EXPERIENCE

DISCLAIMER: In this COVID-19 Peer Hub exercise, practitioners from all levels of the health system, referring to global guidance and recommendations, have expressed an interest in learning from sharing their experience as peers. We do not endorse any particular strategy, approach, or reflection shared by participants, and explicitly advise against inferring conclusions from context-specific cases that may not be generalizable.

Part 1. Share your story (500 words)

CURRENT LEVEL OF WORK

0	1	2	3	4
There is no story, it is not about the topic, or it cannot be understood.	There is a story, but it is not credible, coherent, or concise	The story is somewhat credible, but it is not coherent or concise	The story is credible. coherent, and concise, but requires minor improvements	Excellent story

Think of a time when you helped an individual or group overcome their initial reluctance, hesitancy, or fear about vaccination during routine immunization, a campaign, or a new vaccine introduction. Be concise and get to the point. Your story needs to be credible, coherent, and concise. Include only relevant information. Tell your story by answering the questions below. Add anything else that is important. **A complete stranger should be able to make sense of your situation, what you did, when and where, how, and why.**

1.0	Introduction	Briefly introduce where you work (health system level, location [city/district and country], employer), and your role/function/title.
1.1	Situation	What was the situation? Was it before or during the COVID-19 pandemic? Which vaccines were involved? It is more about the vaccine or about the person receiving the vaccine? Can you identify the individual, group, contextual influences, and any vaccine-specific issues that resulted in the situation?
1.2	Stakeholders	Who was involved? What do we need to know about the individuals or group involved (ex: age, gender, educational level, etc.)? What were their concerns? Were these concerns related to the vaccine, the person(s) receiving the vaccine, or to other considerations (ex: fear of COVID)? What were the underlying reasons why the concerned individual or group of individuals were vaccine hesitant?
1.3	Your role	What was your role or responsibility?
1.4	Options	What specific actions did you consider?
1.5	Action	Which specific actions did you eventually take? Why did you choose these actions?
1.6	How	How did you carry out these specific actions?
1.7	Key messages	When you had an important conversation, write out the key messages and recall the specific words you used to convince the vaccine hesitant individual or group.
1.8	Outcome	How did it turn out? What did success look like? What is the evidence to support your claim?
1.9	Support	Who or what helped you?
1.10	Surprise	Was there anything that surprised you?

Reviewers: Do you fully and easily understand what happened, how, and why? If not, ask questions to clarify. Explain what the author should add or remove and why. If you are not convinced by what is being described, explain why. Suggest specific ways to strengthen the credibility of the case study. If coherence or concision are the problem, suggest how the author can improve these.

Part 2. Reflect on your story (500 words)

CURRENT LEVEL OF WORK

0	1	2	3	4
No reflections.	Relevant questions are not answered or given due consideration.	Reflections on the story requires major improvement.	Reflections on the story requires minor improvement.	Excellent reflections on the story.

Think about and then answer the following questions:

2.1	Innovation	Did you follow an approach that is recommended or that is usually carried out? If not, what did you adapt or change? Why did you do so?
2.2	Context	What are the key elements that made what you did work? Explain any relevant local and contextual factors.
2.3	Limitations and risks	What were the limitations, risks or ethical issues in what you did and how you did it? In hindsight, would you have handled the situation differently? If yes, explain what you would do differently, why and how.
2.4	Generalizability	Can what you did be applied in a different context (country, region, or district)? Why or why not? On the basis of this experience, what would you suggest to prevent such situations in the future?
2.5	Insights	What are your key recommendations to a colleague who is facing a similar situation? Highlight any potential risks or ethical concerns if someone tries to do the same thing in a different context.

Reviewers: Are you convinced by the author's self-reflection on the story about its limitations, level of risks and ethical issues? Are there any risks or ethical concerns that you think the author is not aware of but should consider? Do the author's recommendations seem practical and feasible to you? Will they convince a sceptical colleague?

Annex 2. Coding matrix

Theme	Parent code	Description	Sub-code	Description
Programme	0.1	General Context		
	0.2	Stakeholders involved		
	0,3	Action leading to identification of hesitancy		
	0,4	Participant role		
Gender of target audience	1,1	Male		
	1,2	Female		
	1,3	Both		
Who is hesitant	2,1	Family members		
	2,2	Individual themselves		
	2,3	Community	2.3.1	Community members themselves
			2.3.2	Community leaders
	2,4	Specific population groups (Nomadic/refugee/religious)	2.4.1	Religious groups
			2.4.2	Teachers
			2.4.3	Health workers
Cause of hesitancy	3,1	Conflict with customary/religious belief/order/practise		
	3,2	Previous negative experience (personal/in community)	3.2.1	With health system
			3.2.2	With health workers
			3.2.3	AEFI (adverse reaction to the vaccine)
	3,3	Perceived side effects	3.3.1	Of specific vaccine
			3.3.2	Of vax generally
	3,4	Mistrust	3.4.1	In government
			3.4.2	In health system
			3.4.3	In international actors
			3.4.4	In justification for vax/quality/frequency
	3,5	Fear	3.5.1	Fear of vaccine itself
			3.5.2	COVID related fears
	3,6	Lack of awareness	3.6.1	Disinformation / rumours / conspiracy theories
			3.6.2	Misinformation / No info /wrong info about vaccine
			3.6.3	Complacency (no need of vaccine)
	3,7	Convenience (access/ finance)		
Intervention / Action itself	4,1	Provided information/education	4.1.1	One-2-One (personal/at a household level)
			4.1.2	Community sensitisation / social mobilisation
			4.1.3	Education programme/ strategy
			4.1.4	Formal meeting/ discussion / focus group

Annex 2. Coding matrix (continued)

Theme	Parent code	Description	Sub-code	Description
Intervention / Action itself	4,2	Formal training		
	4,3	Engaged community at different levels	4.3.1	Traditional /community leaders/ Religious leaders
			4.3.2	Community members
			4.3.3	Provincial/regional admin
			4.3.4	Representatives from health sector
			4.3.5	Refusal management committee/ other committee
	4,4	Other	4.4.1	Conditional
	4,5	Social listening/observing		
Messages and delivery	5,1	Importance of vaccination and general benefits	5.1.1	Information about the virus/disease
			5.1.2	Information about the vaccine/antigen
			5.1.3	Cost benefit
			5.1.4	Side effects and AEFI
	5,2	Dispelling managing rumours and mis/dis info		
	5,3	Impact of non-vaccination		
	5,4	Safety and quality	5.4.1	Of vaccine
			5.4.2	COVID-19/ safety measures in place
	5,5	Finding balance between religious/customary beliefs and public health arguments		
	5,6	Emphasise roles (individual/ community buy in)		
	5,7	Community engagement (including listening and reassuring community, giving space, understanding their perspective)		
	5,8	Telling personal stories/ sharing experiences		
	5,9	Using audio/visual resources/media		
Risk and Challenge	6,1	Risk		
	6,2	Challenge and limitation of the approach		
What worked well/ Recommendations for action/future action	7,1	Improved safety measures		
	7,2	Social media		
	7,3	Use of film/radio/media - Visual communication materials (flyers, posters)		
	7,4	Multiple stakeholder involvement (Ongoing involvement of community/trad leaders/ local government)	7.4.1	Involvement of women/ women's groups specifically
			7.4.2	Engaging specific religious leaders, community influencers, community leaders
			7.4.3	Through schools, teachers and education
			7.4.4	Health workers

Theme	Parent code	Description	Sub-code	Description
What worked well/ Recommendations for action/future action	7,5	Communication/advocacy	7.5.1	Interpersonal skills (patience, listening)
			7.5.2	General communication
	7,6	Value and build community experience (trust/ confidence/discretion/local understanding)		
	7,7	Develop/adapt strategy/ plans/messages/research (including for reluctance management)	7.7.1	Pro-active and on-going communication/ sensitisation strategies
			7.7.2	Research/ situational analysis
	7,8	Training for local teams / involvement of local teams and vaccinators	7.8.1	Individual focus (reflecting on own experience/training)
	7,9	Local languages		
Context and scale up	8,1	Context specific considerations		
	8,2	Replicability of this approach		
Insight	9,1	Positive outcomes / what worked well		
	9,2	Innovation		
	9,3	Unexpected considerations/ surprises		
	9,4	Reflections		
Outliers	10			
Specific cases of interest	11			

Annex 3. Follow-up interview framework

BACKGROUND – PARTICIPATION IN LEARNING HUB:

- Have you participated with TGLF in other learning hub exercises, or just this one? Have you worked with TGLF in other ways?
- What was your experience of the learning hub exercise on vaccine hesitancy?
- If you think through the whole process (submission, feedback, review etc.) what was most useful / challenging aspects at each stage?
- How did the experience help your practice?

  What were the key points you learnt?

  How did it influence how you have approached similar situations since?
- Reflecting on the learning experience itself, do you have any recommendations, suggestions or comments (positive or negative) about the exercise?
- Would you recommend TGLF learning hub to others? Why / why not?
- Do you plan to participate in future activities? Why / why not? If you do plan to participate, what would you like the learning hub to focus on?
- Is there other support they could give you?

EXTENSION OF CASE STUDY:

- Can you tell me why you selected this experience for your case study?
- Was this experience representative of your work or something different?
- Have you used the same or similar approach since? To what effect? (if positive effect - Why do you think this is a good approach to take?)
- Following your specific case study experience were there any further developments in the situation you described? (e.g. changes in community acceptance/adherence to vaccination schedule/engagement with leaders/communication between community and vaccination teams)
- What do you think is the key factor for reassuring hesitant communities?
- Successful interventions were often based on immunisation staff's high personal involvement. This can be difficult to replicate and do at scale. What guidelines are there in your country for community communication and engagement related to immunisation?
- How do you think immunisation staff could engage the community more?

  What are the specific actions that could be taken?

  What are the barriers that have prevented communities from engaging with vaccine sensitisation activities?
- Thinking about the COVID pandemic, what are the key lessons that should inform how colleagues address hesitancy for COVID-19 vaccines?

  How do you think immunisation workers should prepare to face hesitancy for COVID-19 vaccines?

  Are there any suggestions you would give to a colleague to address hesitancy stemming from lack or/wrong information?