



LIST OF ABBREVIATIONS

AEFI - Adverse Events Following Immunisation

CBOs - Community-Based Organisations

CHVs - Community Health Volunteers

COVAX - COVID-19 Vaccine Global Access

DHOs - District Health Offices

EPI - Expanded Programme on Immunisation

GHO - Governorate Health Office

GHSA - Global Health Security Agenda

HIV - Human Immunodeficiency Virus

H&N - Health and Nutrition

HRH - Human Resources for Health

HWs - Health Workers

IEC - Information, Education, and Communication

INGOs - International Non-Governmental Organizations

IPC - Infection Prevention and Control

LMICs - Low and Middle Income Countries

MERS - Middle East Respiratory Syndrome

MoPHP - Ministry of Public Health and Population

PHC - Primary Health Care

PHEIC - Public Health Emergency of International Concern

PoCs - People of Concern

PPE - Personal Protection Equipment

RCCE - Risk Communication and Community Engagement

SARS - Severe Acute Respiratory Syndrome

SDD - Solar Direct Drive

SIA - Supplementary Immunisation Activity

SMoH - State Ministry of Health

VHS - Vaccine Hesitancy Survey

WASH - Water, Sanitation, and Hygiene



INTRODUCTION

On 30th January 2020, WHO Director General declared COVID-19 a Public Health Emergency of International Concern (PHEIC), the strongest global alert the WHO can formally make, and when it is declared, countries have a legal duty to respond quickly. Since 2000, there has been a lot of discussion on how the international health system, not only in Low and Middle Income Countries (LMICs), should have prepared for a possible pandemic. SARS, MERS, or Avian flu raised alarms and the international community went through the decision process on how to be prepared for a possible pandemic. Despite the directions taken, a lot remained on paper and little on the ground. At the moment of writing, almost 70% of the world population received at least one dose of vaccine and over 13 billions of the doses were administered, of which 2 billion doses distributed by COVAX. This makes the COVID-19 vaccination campaign the widest, fastest, and most complex vaccination campaign in human history. However, the scale and level of vaccination achievements vary between regions of the world and within different parts of countries, largely due to the unbalanced distribution and administration of vaccines.

The impact of the COVID-19 infection in low and middle-income countries is not easily measurable, as data reporting on infections and deaths has not been sufficient. In many African countries, it was possible to detect weak capacities both for surveillance and diagnostics, and this had a major impact on the response to the pandemic².

Although the campaign had a slow start in 2021, since January 2022 the distribution and administration of vaccines saw a decisive uptake. Such change was definitely due to a more adaptable flow of funding, but also thanks to the essential work implemented in the previous months, such as the great effort spent in the engagement of the local population and in providing correct information to the public, which lowered the effect of rampant misinformation and allowed to set up proper coordination in contexts where shortages in healthcare workforce, budget, and infrastructures are a constant issue.

Given the many challenges in ensuring the widest possible outreach of the vaccination campaign, especially in conflict affected protracted crises, and particularly in contexts that hosted a large number of forcibly

¹ Our World Data, Coronavirus (COVID-19) vaccinations, https://ourworldindata.org/covid-vaccinations

² Impact of poor disease surveillance system on COVID-19 response in africa: Time to rethink and rebuilt, https://www.sciencedirect.com/science/article/pii/S2213398421001494

populations, INTERSOS decided to support the COVAX facility (COVID-19 Vaccine Global Access Facility), leveraging the organisation's existing capacities and programmes including:

- Provision of protection support to the most vulnerable people, families, and communities whose lives are threatened by conflicts, extreme poverty, natural or manmade disasters, and extreme exclusion;
- Well established outreach, access, and presence in hard-to-reach and remote areas, where there is limited or no humanitarian support available;
- Built trust and acceptance, from the most vulnerable local communities and authorities in remote and hard-to-reach areas:
- Operating under a flexible approach, able to adapt its ongoing programmes and capacities.

With that in mind, **INTERSOS** identified the following areas of intervention to contribute to the vaccination campaign in protracted humanitarian crises:

- Cold Chain management;
- Managing and deploying vaccination campaigns in both urban and hard-to-reach and remote areas;
- Adverse Effects Following Immunisation (AEFI) monitoring;
- Conducting community engagement and awareness, identifying and facilitating access to communities and marginalised groups at risk of exclusion;
- Supporting communication campaigns to tackle misinformation linked to vaccination campaigns.

This report aims at providing key lessons learned from INTERSOS COVID-19 vaccination campaign implemented in humanitarian settings. This includes outlining of key activities, challenges and bottlenecks, as well as specific lessons and recommendations that could be utilised in future immunisation campaigns in humanitarian settings.





OVERVIEW OF INTERSOS COVAX CAMPAIGN IN NIGERIA AND YEMEN

INTERSOS intervened in two of the most protracted and multi-layer crises: South of Yemen and Borno State, in North-East Nigeria. In both countries, INTERSOS started supporting the COVAX campaign in its first months and has continued throughout 2022 and 2023.

Yemen

INTERSOS decided to prioritise Yemen as one of the two countries to conduct the COVID-19 vaccination campaign, given its ongoing strong operational presence on the ground (including having a presence in already established vaccination centres in hospitals supported by INTERSOS medical programme), as well as logical decision to incorporate COVAX-related Risk Communication and Community Engagement (RCCE) into the ongoing Health & Nutrition (H&N) education activities (which have been conducted in a format almost identical to H&N education normally conducted as part of broader H&N projects). Such an approach allowed the expansion of already provided services and increased the presence in the health sector at country and international level.



The COVID-19 immunisation campaign positively impacted the local health system on a long-term basis, strengthening several health system areas:

- Through outreach activities and coordination with community leaders, the campaign enabled outreach to the most vulnerable Persons of Concern (PoCs), like older people and individuals with comorbidities in their community;
- Vaccination efforts have been complemented with awareness raising activities on the importance of vaccination and precautionary measures against COVID-19, aimed at mitigating the risks of further spread of COVID-19 and consequential burden on the limited healthcare system's capacities. Additionally, INTERSOS conducted awareness sessions aimed at increasing vaccination acceptance and demand among staff. In a context where vaccination demand is decreasing, this activity proved the importance of bringing vaccination closer to individuals and insisting on explaining the importance of accessing vaccination;
- Through RCCE activities, the knowledge of the importance of immunisation programs increased,
 and this will impact positively also on future campaigns and other PoCs;
- Vaccinating health workers and training both health workers and community volunteers constituted
 a decisive step in strengthening the system, and allowed the campaign to proceed in the designated
 areas. Furthermore, thanks to the steady availability of vaccines, a number of individuals from outside
 the catchment areas of the supported vaccination centres were able to access vaccinations;
- Finally, thanks to the cold chain materials (i.e. Ice Lined Vaccine Refrigerator, a direct cooling technology with solar panels) donated by INTERSOS, the campaign could roll out successfully, and most importantly these materials remain available for future campaigns;
- In South Yemen in the governorate of Lajh, from October 2021 to November 2022, INTERSOS supported the vaccine administration for 14,392 people and has conducted 6,929 RCCE session awareness for 35,102 beneficiaries.



Nigeria

In Nigeria, INTERSOS direct administration of the vaccination positively supported the campaign in Borno State. INTERSOS implemented a multi-faceted approach, that included vaccine administration, cold chain management and support, as well as communication and community engagement action, aimed at disseminating information and raising awareness regarding the availability of the vaccine, its efficiency, and possible side effects.

To do so, several Information, Education, and Communication (IEC) materials were developed in the local languages to include written and visual aids to ensure the inclusiveness of a wider audience. Community Health Volunteers (CHVs) disseminated information regarding the COVID-19 spread and vaccine effectiveness via verbal, visual, and audio messages; public health messages and WASH messages were integrated in the campaign as well.

Community based approach through focus group discussions was applied in all locations where INTERSOS implemented the communication and vaccination activities to enhance the understanding of preferable community methods of receiving information. As with other community-based programmes, INTERSOS involved the community leaders, with a particular attention to women leaders, equipping them with tools aimed at raising awareness among their communities, and to contribute positively to COVID-19 vaccine acceptance and positive attitude change.

In terms of sustainability and indirect impact on the health system, **INTERSOS** trained 241 CHVs and State Ministry of Health (SMoH) vaccination team members on the Adverse Effect Following Immunisation (AEFI) cases detection, and all vaccination teams were trained on Infection Prevention and Control (IPC) measures, to ensure waste management and how to follow disposal protocols.

In order to improve the cold chain capacity, **INTERSOS** procured and donated Solar Direct Drive (SDD) refrigerators including all needed accessories (batteries, power inverters, and cables). The donated and installed fridges improved the cold chain capacity for COVID-19 vaccines and other routine vaccination activities of the health facilities. **INTERSOS** also trained the organisation's local staff in the use of SDD and vaccine carriers including vaccines storage at the appropriate temperature for each of the different vaccine products. This provided additional support to the single health facilities, and also strengthened the health system in respect to cold chain management.

In Borno State, from August 2021 to February 2023, 382,637 doses have been administered, for a total of 255,071 individuals fully vaccinated.

BOTTLENECKS AND CHALLENGES

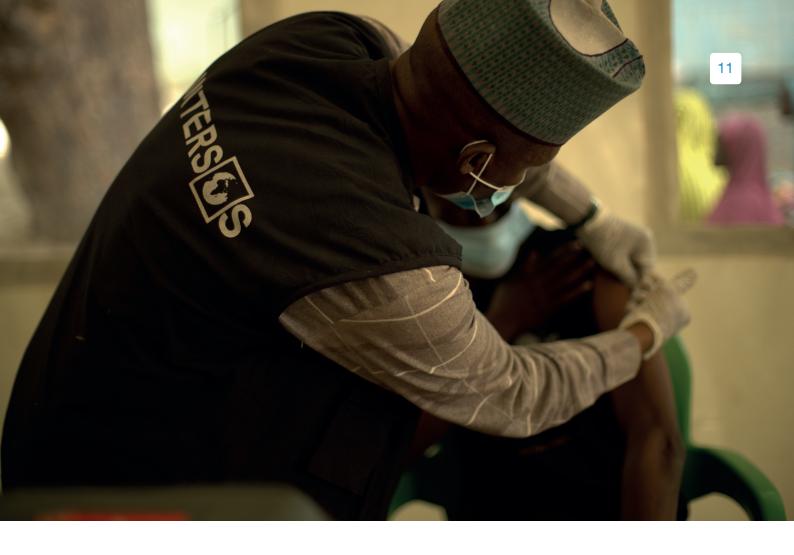
The successful implementation of the campaign suffered different frictions common in both countries, that can be summarised as follows:

- 1. INTERSOS had to adapt to different challenges in each operational context, including to individual institutional regulations, such as the restrictions imposed on outreach vaccination at the beginning of the COVAX program, which affected the impact of INTERSOS activities and of the campaign itself;
- 2. The multiple suspensions of the vaccination campaign due to the shortage in vaccine supply affected INTERSOS RCCE activities, as community members were encouraged to seek vaccination, while at the same time the vaccines were not available in a timely fashion, thus reducing the effectiveness of the awareness efforts;
- 3. Throughout 2021, insufficient and non-regular supply of vaccines batches also impacted the access to the second dose for some individuals, who had to delay it because of limited/no availability of the vaccines;
- **4.** For concerns regarding the allocation and distribution of funding, funds were coming from different donors and **INTERSOS** could not consistently access funding from institutional donors for the project: this generated a financial risk that could have affected the regular flow of the vaccination;
- 5. Due to budgetary constraints in Yemen, INTERSOS was not able to support all the districts with both vaccination and outreach activities. In order to make COVAX activities more cost-efficient, these should be integrated into broader health response, capitalising on already existing capacities and resources (e.g. vaccinators, vehicles, etc.);
- 6. In Yemen, coordination with the MoPHP, in charge of the COVID-19 immunisation campaign, was essential. Bilateral coordination was maintained with MoPHP and local offices (GHO and DHOs) to ensure sufficient and timely vaccine supply to the vaccination centres, but also to advocate for starting outreach vaccinations. In spite of an initial ban towards outreach, INTERSOS negotiation and coordination work with MoPHP allowed the implementation of COVAX activities in the absence of a formal sub-agreement;



- 7. A smooth and swift coordination at different levels is conducive to deploying the needed actions in the field. In Yemen, for example, coordination fora (COVID-19 working group and RCCE working group) have sometimes been weak, as multiple meetings have been cancelled due to conflicting commitments by different key stakeholders, with several months passing without meetings. Although partner NGOs would meet to discuss issues, the absence of key decision-making actors impacted the implementation delays;
- 8. Concerns, rumours, and misbeliefs about COVID-19 vaccinations have been found to be widespread in target locations, stressing the importance of the implementation of RCCE and IEC activities. Nevertheless, the inability to physically reach the vaccination centres still constituted a main barrier to vaccination;
- 9. The unstable security situation and the recurrent security incidents had an impact on the implementation of the project. To face these constraints, INTERSOS closely monitored the evolution of the level of security in the field and adapted accordingly. In certain conditions, to reach the PoCs, INTERSOS mobilised vaccination teams and the community to deliver vaccines and raise awareness at the new locations. At times, the road were interrupted due to violent attacks, and in such cases, INTERSOS was able to arrange the air cargo to support the vaccine delivery;
- 10. During the implementation of the campaign, INTERSOS faced several recruitment constraints, such as the reallocation of the staff from main cities to field locations. Often, the staff was not able to stay in the same working position for long, particularly in the areas where the risks were higher and the conditions harder. This was mainly encountered within the medical staff;
- 11. Lack of financial means to cover the transport to the vaccinations centre, or the limited accessibility to the vaccination sites, where INTERSOS mitigated these challenges by implementing the mobile approach and semi-static approach to facilitate the reach.





LESSONS LEARNED

The vaccination campaign against COVID-19 is a milestone in the history of public health and response to epidemics. To successfully achieve its vaccination campaign goals, all the different stakeholders had to work at a speed and on a scale that was never experienced before. Such a vaccination response to the COVID-19 pandemic proved to be extremely valuable, and in some sense, reinforced the experience of previous epidemic breakouts. It is possible to affirm that the narrow passages and difficulties faced since the beginning of the pandemic provided a valuable experience and outlined a path that should be followed in order to, first, keep diminishing the effects of the still ongoing COVID-19 pandemic, and enhance preparedness to monitor and react to a possible future pandemic.



The lessons learned during the pandemic response summarise and widen already known patterns, but it is fundamental to draw a map of the journey done:

- 1. Coordination: the close and strong collaboration between Governments, donors, UN Agencies, INGOs, national NGOs, Ministry of Health, and local communities proved to be decisive. When the relationship flow between these actors met some obstacles, the campaign showed a sort of "hiccup trend" that heavily undermined the implementation of the campaign. The supply chain is part of the coordination, and different countries, especially at the beginning of the campaign and throughout 2021, had to deal with the irregular supply of vaccines affecting the effectiveness of the campaign. A vaccination campaign is like a chain where every link has an impact on other links; therefore it is necessary that all different stakeholders' mechanisms, from donors to implementing agencies, work smoothly and in continuation;
- **Fragile health systems:** the pandemic had disruptive effects on health systems that were already facing structural issues with limited human resources, funds, and infrastructure. Weak health systems, especially in LMICs, have been overwhelmed and overstretched by the COVID-19 pandemic. Essential health services and routine immunisation programmes that are normally strengthened by Supplementary Immunisation Activities (SIAs) and national campaigns have been severely affected. The reasons for this are mainly linked to the scarce availability of human resources and of PPE for health and frontline workers;
- 3. Human resources: the capacity of retaining Health Workers (HWs) in humanitarian settings is deeply undermined by the general conditions of the contexts where they work. The pandemic has somewhat exacerbated this dynamic. Some of the reasons have to be found in the level of safety and security in some operational areas, further compounded by the scarce availability of PPE and testing, long working hours, existing travel bans, as well as challenges with regular staff payments. Lack of security also played an important role both for implementers and for patients. Limited or restricted access to certain areas and people's constant movement due to conflict or violence, made access difficult to some PoCs groups and particularly for the HWs. The low retention of HWs in humanitarian settings has affected the campaign and the production of essential health services. Recruitment constraints are a constant, with a particular challenge in longer term deployment to higher risk areas with more difficult living and working conditions;

³ Lessons Learned and Good Practices: Country-specific case studies on immunization activities during the COVID-19 pandemic https://www.unicef.org/documents/lessons-learned-and-good-practices-country-specific-case-studies-immunization-activities

⁴ WHO Special feature: immunisation and COVID-19 https://www.int/immunization/GIN_June_2020.pdf

4. Community engagement: as with other epidemic outbreaks, the engagement of local communities proved to be the cornerstone of the vaccination campaign, ensuring access to the most vulnerable communities and individuals. The time taken to sit with the communities and understand their different needs, how and if they collide or not with the campaign, is the very first step to understand how to tackle barriers to vaccination that can be linked not only to misinformation but also to a different perception of the needs. Focus groups discussions, creation of audio, visual, and written IEC materials in local languages, has been key to reach all the community members, as well as the coordination with the community leaders to reach older people and individuals with comorbidities in their accommodation. Particular attention must be paid to the involvement of women leaders too, equipping them with the ability to raise awareness and contribute positively to the vaccination acceptance and attitude change.

The work done through the RCCE activities with the communities is fundamental. The sole administration of vaccines without the RCCE would not result in the success of the campaign, as negative perceptions by the population towards the vaccines were high, creating major hesitation. Past experiences have shown how crucial is RCCE in correctly steering the need for health services. One of the reasons for the low demand for COVID-19 vaccines in humanitarian settings is the persistence of inequitable access to the vaccination. Identifying the main obstacles to the vaccination and the main reasons of hesitancy among the population can direct local and international actors towards solutions to make the vaccination more accessible. Other competing needs of populations of concern in humanitarian settings, for example unprecedented hunger and malnutrition, are surpassing the importance of "vertical" deliveries of COVID-19 vaccines;

5. Flow of funds: the very first step for the success of a vaccination campaign is to ensure the constant and regular flow of funds that anticipate funding of full capacity to reach the very last mile. This was not the case from the beginning, and especially during 2021, the campaign suffered funding constraints. Insufficient funding of NGOs was a particular problem for implementing vaccination campaigns in humanitarian settings. Most of the funding for COVID-19 vaccine rollout in humanitarian contexts was channelled through governments, and little of the resources allocated for the pandemic reached the frontline actors. The funding mechanism of the campaign for NGOs and INGOs proved to have different criticalities, and the "hiccup flow" of funds undermined the smooth deployment of the campaign. It impacted, for example, IEC or RCCE, whose effect was diluted in time and not

⁵ "The Ebola outbreak response initially failed to adapt to the needs of people and their health-seeking behaviour, and this led to tensions and understandable mistrust by large parts of the local communities. As the outbreak evolved, most organisations on the ground began engaging with people and we must build on this learning experience" https://www.msf.org/six-lessons-learned-drc-ebola-outbreak-ends

⁶ Taking Stock of Humanitarian Access to Pandemic Vaccines https://www.gavi.org/sites/default/files/covid/covax/taking-stock-of-humanitarian-access-to-pandemic-vaccines-dp.pdf

⁷ Principles of effective COVID-19 vaccination response in Humanitarian contexts. https://www.icvanetwork.org/uploads/2022/09/Principles-of-effective-COVID-19-vaccination-response-in-humanitarian-contexts.pdf

closely linked to the vaccination administration itself. Funding, and its deployment mechanisms, in certain stages of the pandemic response, have not been sufficiently responsive and comprehensive.

INTERSOS, in some cases, could access vertical institutional funding that allowed operations to have a wider impact and a longer time span. But as happened in Yemen, the organisation had to rely on a patchwork of funding that put a serious financial strain on the operations and necessarily undermined their size and therefore the impact on a larger scale.

Not having the possibility to access regular funds had a negative impact on: RCCE activities to overcome barriers to vaccination, retaining HWs, partly wasting the effort spent in training HWs and CHWs, and undermining the trust of local communities. Additionally, service delivery costs proved to be widely different depending on the operational context, and the costs for each vaccine, from the production to the delivery of the vaccine to the patient, could be six or more times higher in fragile health systems;

6. Inclusivity: the access and the ease of access to the vaccination has to be as inclusive as possible. Some categories suffered external barriers to vaccination, due to their physical condition, ethnicity and nationality, gender, religion, status, or for other reasons for persecution. As "no one is safe until everyone is safe", all the actors and stakeholders of the campaign have to address these needs in order to include who is in a more vulnerable condition. Furthermore, ethically speaking, INTERSOS advocates for an equitable access to vaccination for the population in LMICs that would respect the right to access to health care. Safe and affordable vaccines have to be available to all populations that require it.

⁸ CARE Report, The true cost of delivering COVID Vaccines: South Sudan https://www.care.org/wp-content/uploads/2021/08/South-Sudan-costing-study-July-28-branded.pdf



RECOMMENDATIONS

Understanding the efforts from the international community to respond to the COVID-19 pandemic is key to developing better preparedness measures for future pandemic outbreaks that might arise. On the basis of our operational experience, and the bottlenecks and challenges that INTERSOS experienced in the field, the following recommendations stand out as possible solutions for future responses:

1. Health Systems Strengthening

The response to COVID-19 pandemic was driven through a vertical approach that, in humanitarian settings, effectively meant relying on fragile health systems, characterised by insufficient capacities. Although the vertical approach to a global pandemic was required in order to try and immediately counter the spread of the pandemic, such an approach in fragile health systems with limited capacities meant that it also negatively affected the provision of other health services. At the same time, the COVID-19 response, and especially the vaccination campaign, also faced other barriers, in which INTERSOS shed light on through the Vaccine Hesitancy Survey (VHS)⁹. These barriers included the communities' fear and lack of trust towards the vaccine, due to misinformation and rumours on its effectiveness and side effects, as well as logistical and economic reasons, such as the struggle to reach the vaccination centres because of distance or for the cost of the transportation to get to the centre.

On the other hand, the investments in training, cold chain, or RCCE, deployed to counter the COVID-19 pandemic, have already contributed to the strengthening of health systems. In order to make the most of these investments, COVID-19 vaccination campaign needs to progressively exit the vertical approach and become integrated into other primary health care services, including the Expanded Programme on Immunization (EPI). In the process of identifying services that can be integrated with COVID-19 vaccination, it is useful to take into account what follows:

All contexts are different, and therefore possible solutions have to take into consideration different variables before being applied. Undertaking a community based approach will be conducive to framing and implementing the best solution for the given context;

⁹ COVID-19, Vaccine Hesitancy: data from our projects https://www.intersos.org/en/covid-19-vaccine-hesitancy-data-from-our-projects/

- Integration of COVID-19 vaccination within other Primary Health Care (PHC) services, including EPI, must address barriers such as physical access, as well as cost of delivery. Integration needs to be holistic, addressing multiple barriers and levels at once, including individual barriers, such as vaccine hesitancy, sociological barriers, such as social norms, and structural barriers, such as physical access, resources, logistical considerations, and trust in authorities¹⁰;
- A holistic and multilevel approach is useful in order to address barriers and the different levels of people's needs. Cross cutting programming that intertwines protection and health supports the addressing of access, trust, and barriers;
- **d.** The entire spectrum of health needs must be taken into consideration to integrate vaccination campaigns in order to favour and increase the demand for vaccination. Vaccination campaigns must be linked to the health needs on the ground;
- e. In the definition of an integration approach, RCCE sessions and CHWs work are pivotal in defining a crosscutting access strategy for specific groups. This will support integration programmes that will be applicable for different communities;
- f. Increase the level of trust in the health system and confidence in health workers also through a powerful community engagement;
- g. Integrate COVID-19 campaign logistic investments and ultra cold chain into primary health care services.

2. Health workforce

The campaign stressed the need to create the conditions for the health workforce in humanitarian settings to produce and deliver the needed services. The challenges for the Human Resources for Health (HRH) in the field are many, and need to be addressed, as HRH is the main and ultimate asset by which all the services and policies need to plunge their roots. It is worth stressing that HRH includes Community Health Workers too.

¹⁰ Key Considerations for Integrating COVID-19 Vaccination Services: Insights from Iraq and Syria for the MENA Region https://www.socialscienceinaction.org/resources/key-considerations-for-integrating-covid-19-vaccination-services-insights-from-ira-q-and-syria-for-the-mena-region/

In order to develop and retain HRH in humanitarian settings, the health international community needs to address the following:

- a. Providing safety guidelines, measures and proper protection means during all the stages of the response from the very first moment;
- **b.** Foreseeing incentives for HRH in hard-to-reach settings to increase the level of retention;
- Undertaking a community based approach that aims at recruiting and integrating refugees and/or people from host communities in the response to the outbreak in order to address gaps and specific needs, but also to increase staff retention in the medium run;
- **d.** Switching from a parallel epidemic response to a more integrated health response to foster HRH retention, growth, and presence in the community;
- e. Planning of training programs for HRH and recruitment campaigns in order to build a pool of professionals ready to be operational when needed. Trained staff will strengthen the health system when not responding to epidemics;
- **f.** Facilitating international agreements to allow HWs who gained a degree abroad to work in humanitarian setting.

3. Funding

As previously stressed, funding and its deployment mechanisms, at certain stages of the pandemic response, proved to be insufficiently responsive and comprehensive.

In order to better and more swiftly react to the pandemic outbreak, sufficient flexible funding must be mobilised quickly, to ensure response without delays and gaps in implementation. In order to improve financing and financial mechanisms for vaccination in humanitarian settings and pandemic response, donors and stakeholders should take into account that:

a. Costs might differ greatly from context to context, and this has to be taken into consideration in allocating budget and evaluating proposals;



- b. Funding mechanisms, requirements, standards, and disbursement procedures should be defined and agreed to during a "non-pandemic preparedness phase", enabling an efficient financial mechanism that can be mobilised immediately after a Public Health Emergency of International Concern (PHEIC) is called:
- Vertical financing programs are vital and necessary to react promptly to PHEIC; however, the funding modalities and requirements should be adapted to, and integrated into, other health priorities at further phases, to tackle the wider health spectrum;
- **d.** Funding for a roster of experienced implementing actors, with proven capacity and track record, should be secured, so that these resources could be mobilised from day one of the response to the pandemic.

4. Community engagement

The positive perception of the community is a crucial element for the success of a vaccination programme, which is often not the case. In order to achieve a conducive environment for the vaccination, it is vital to clearly understand the perceptions and different barriers to vaccination, as well as how and why this might differ from one social group to another. All contexts are different, and therefore possible solutions have to take into consideration different variables before being applied. Undertaking a community based approach will be conducive to framing and implementing the best solutions for the given context. A successful community based approach for deploying RCCE and IEC activities must focus on the following elements:

- a. Community-led approach must be tailored to the local context and needs, to fully understand context specific issues, attitudes, and cultural norms, to maximise the population's engagement and ownership;
- **b.** Leaders and representatives of the community must be fully engaged as pivotal people and key actors representing different social and age groups;
- c. Community Based Organisations (CBOs) must be fully engaged in assessing health needs, prevention, and outbreak monitoring;



- d. Community based approaches must incorporate proactive engagement at different levels, including on social and mainstream media networks, community events, sport events, use of theatre, and similar;
- Monitoring on how barriers to vaccination change and evolve, essential to adapt the response approaches;
- A holistic and multilevel approach favours addressing barriers and the different levels of people's needs. In order to strengthen access, trust, and overcoming the barriers, humanitarian organisations should ensure integration of pandemic response activities with ongoing programming, including protection and health.

5. Technological innovation and data management

The COVID-19 pandemic and its vaccination campaign pushed the strengthening of the data collection and sharing system worldwide, while the investment in immunisation monitoring systems also brought new electronic and digital solutions particularly in those countries with fewer resources. Timely and high-quality data are fundamental for better and faster decision-making. The possibility of having all the data available in a single platform allows to have a proper overview of an area and to adapt the strategy to the actual situation. Therefore **INTERSOS** advocates for:

- a. Embracing the use of e-tools to support micro-planning and campaign monitoring: the progressive transition from paper-based campaigns to a digital system is essential, to allow all the actors to visualise "real-time" data and provide better information on the campaign development¹²;
- b. The technology initiatives must be supported, as fundamental to data collection, monitoring, and evaluation, to improve efficiency and time-management of the vaccination teams. Unfortunately, in many areas, paper-based processes are the only solution, particularly the remote and hard-to-reach areas:

¹² Lessons Learned and Good Practices: Country-specific case studies on immunisation activities during the COVID-19 pandemic https://www.unicef.org/documents/lessons-learned-and-good-practices-country-specific-case-studies-immunization-activities



¹¹ Ted Chaiban, Data systems strengthening is among the most crucial legacies of this pandemic. https://www.linkedin.com/pulse/data-systems-strengthening-among-most-crucial-legacies-ted-chaiban/?trackingId=b6qXbWoFi61Sfu8qTk2Sx-g%3D%3D

- c. Harmonising and standardising the systems used for collecting and sharing the data, and the integration to the public system, to have a uniformity between the data that allows the exchange of useful information among all the stakeholders involved, as well as to have timely and refined data to take better and quicker decisions;
- d. Integrating the newly created COVID-19 vaccination monitoring systems and digitalization into the primary health care and public services, extending the use of the new electronic tools to other immunisation programs, such as polio, HIV, malaria¹³;
- Fostering the use of renewable energy especially in areas where electricity power is unstable or absent.

6. Surveillance system

In the years since 2000, COVID-19 was the seventh infectious disease that gave birth to an epidemic or to a pandemic, including Ebola, Marburg, Zika, Avian, and Swine influenza, and the different coronaviruses that brought SARS, MERS, and now COVID-19. Global public health provided a rapid response, but was also found insufficiently prepared. In order to be better prepared for a possible future pandemic, INTERSOS strongly advocates for:

- a. The strengthening of a global surveillance network to provide early warnings and response to possible outbreaks and prevent epidemics through the implementation of the Global Health Security Agenda (GHSA);
- b. Creating international funding mechanisms that could allow the set up of such a network on a global scale, especially in LMIC, where health systems are fragile and the impact of epidemics and pandemics on the entire society can be devastating;
- c. Conducting pandemic preparedness at national and local levels with enough tools, protocols and supplies to slow the spread of the pandemic.

Ted Chaiban, Data systems strengthening is among the most crucial legacies of this pandemic. https://www.linkedin.com/pulse/data-systems-strengthening-among-most-crucial-legacies-ted-chaiban/?trackingId=b6qXbWoFi61Sfu8qTk2Sx-g%3D%3D



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