

Vaccination in Humanitarian Emergencies: Case Studies

The Vaccination in Humanitarian Emergencies Implementation Guide¹ covers strategies and best practices for delivering vaccination and improving vaccination coverage in emergency situations. It is complemented by these case-studies from the field. This document provides examples from crisis-affected countries, collected during a meeting in January 2016, and as a principle does not list country names or settings.

These case studies do not represent best-practices but rather outline successes and challenges encountered within specific settings and with specific strategies used. As each humanitarian emergency is different, immunization strategies should be tailored to the specific context, as what may work in one setting may not necessarily work in another.

Country A

Background

Country A began experiencing insurgency in 2009. The insurgency led to massive displacements of people from the affected areas to safer areas within the country as well as in neighbouring countries. It is estimated that over 2 million people have been displaced creating a major humanitarian crisis. Health facilities, providing free-of-charge curative, maternity and routine immunization services, have been established in the camps for internally displaced persons (IDP) and host communities; these facilities are supported by various international and non-governmental organizations such as UNICEF, MSF and ALIMA.

Immunization strategies and activities

Supplementary Immunization Activities

IDP camps are included during polio and non-polio Supplementary Immunization Activities (SIAs) by vaccination teams throughout the duration of the campaigns. Directly Observed Polio Vaccination (DOPV) is implemented to ensure correct delivery of the vaccines. Health Camps are also used in specific locations for vaccination against polio and other routine vaccinations as well as treatment of minor ailments, throughout the campaign period.

First Contact Vaccinations

WHO has deployed permanent transit vaccination teams in IDP camps who immunize children coming into the camps for the first time with oral polio vaccine (OPV) and inactivated polio vaccine (IPV). The teams are also equipped to treat minor illnesses.

Reactive Vaccinations

Following reported outbreaks of either measles or polio, reactive immunization activities are carried out in all the IDP camps and in settlements hosting a considerable number of IDPs. This is accompanied and

¹¹ Vaccination in Humanitarian Emergencies Implementation Guide.
<http://apps.who.int/iris/bitstream/10665/258719/1/WHO-IVB-17.13-eng.pdf?ua=1>, accessed November 2017.

followed by intensified surveillance activities in the camps both for polio and other epidemic prone diseases.

Accelerated Vaccination in Inaccessible Areas

A considerable number of children still live in inaccessible areas controlled by the insurgents. Reaching these children with vaccines is paramount to reduce the occurrence of disease outbreaks. The programme includes a plan to reach these children. Vaccinations in markets close to inaccessible areas are ongoing, carried out by permanent teams using OPV only.

Re-establishment of Routine Immunization Services in Newly Accessible Areas

Routine Immunization services are being re-established with provision of cold chain facilities and constant supply of vaccines. Supervision of these services is by the Emergency Operations Centre (EOC) partners and the government.

Country B

Background

Country B is one of the poorest countries in the world, with the vast majority of the population engaged in rural subsistence farming and cattle herding. In 2013, armed conflict began and as a result the health system and the immunization programme collapsed, and coverage with third dose diphtheria-tetanus-pertussis vaccine (DTP-3) dwindled.

Immunization strategies and activities

Multiple strategies have been used to deliver immunization services in conflict settings. The choice of strategy has been dependent on the situation, as areas previously thought safe could become insecure within a short time. Immunization delivery strategies have in many cases required dialogue with different government groups prior to the dates for implementation. The commonly used immunization delivery strategies include:

- Fixed/static immunization services in locations where there is a functional health facility equipped to carry out vaccination;
- Outreach and mobile sessions in locations considered safe and accessible on a monthly basis;
- Dry season campaigns planned and implemented to provide catch-up vaccinations in the form of Periodic Intensification of Routine Immunization (PIRI), taking account of difficult access in over 70% of the country during the rainy seasons;
- A strategy known as ‘firewalling’, whereby children in accessible areas are immunized in order to create an epidemiological firewall to protect those which cannot be reached in areas that are inaccessible because of insecurity;
- Quick “in and out strategies”, rapid response vaccination missions, and “hit and run strategies” have been conducted in areas that have intermittent secured access. Permanent vaccination posts in transit areas which are linked to previously inaccessible areas are used. Such special vaccination posts have been created in multiple locations, with community health workers trained and deployed to vaccinate children less than 15 years of age with OPV and other routine immunization vaccines.

Successes

- An International Coordinating Committee (ICC), chaired by the Minister of Health, was established; it meets on a quarterly basis to monitor the progress of routine immunization implementation.
- An immunization task force was established, including representatives of the Ministry of Health (MoH), donors, partners, Civil Society Organizations (CSOs), and health pool fund managers. Weekly meetings are held to review and assess routine immunization (RI) issues. The immunization task force functions as an operational control centre for all immunization activities, including SIAs and outbreaks of vaccine-preventable diseases (VPDs).
- Strong partnerships with the Health Cluster have been established. The Health Cluster is able to mobilize partners to assist with immunization services and outbreak responses by means of a rapid response team, particularly in areas which are difficult to access.
- Partnerships and support from national and international security providers are mobilized prior to major immunization activities and in insecure areas.

Challenges

- Lack of resources for the national immunization programme (NIP). Like the rest of the health system, the NIP remains grossly under-resourced. Primary health care financing is provided by donors through contracting with NGOs. Interruptions in donor financing for primary health care further compound the situation.
- Weak and inadequate immunization infrastructures. Cold chain units are established in less than half of the functional primary health care facilities. The immunization supply chain is one of the most expensive in the world. Transportation from the national vaccine store to the counties is mostly done by air, commonly using hired helicopters that can land in places without much infrastructure.
- Lack of skilled personnel. Available health workers are few in number, under-skilled, under-paid and often not solely dedicated to immunization services. The depreciation of the national currency is also compounding the low pay and motivation of the existing health workers.

Way forward

Expansion of human resource recruitment methods and skills development for health workers are needed to manage the national immunization system. The first priority should be to scale up the current workforce development project in order to fast-track the establishment of functional support units for routine immunization. Specific priority activities are the following:

- Expansion of the current cold chain network to reach at least 80% of the functional health facilities. Choice of technologies should prioritize Solar Direct Drive refrigerators without batteries, as batteries are commonly stolen for charging mobile phones.
- Support for community-based immunization services delivery structures which are overseen by community resource persons, an arrangement likely to encourage acceptance in the community.
- Investment in strengthening the administration to oversee NGOs contracted to provide primary health care, in addition to providing the necessary technical and managerial support. In line with the SPHERE standards, catch-up vaccinations should be provided for all children entering IDP camps.
- Increase support to the country initiatives that have sustained immunization coverage above 50%, namely:
 - Dry season PIRI, harnessing the gains in access that come with the dry season, to improve vaccination coverage which falls in the rainy seasons;
 - Institutionalized support to Transit Point Vaccination service delivery units;
 - Rapid response vaccination missions to all newly accessible areas of the country.

Country C

Background

Country C was already facing an emergency situation when in 2015 an acute armed conflict and a natural disaster greatly affected the already fragile health system.

This situation resulted in 21 million people in need of humanitarian assistance, including around 2.5 million displaced people, more than 0.3 million children under 5 at risk of severe acute malnutrition, more than 15 million people in need of basic health services and around 1.8 million children forced out of schools. Lack of basic utilities such as water, food, fuel, electricity and medicines is aggravating the pre-existing poor living conditions.

Armed conflict led to significant failure of social and health services as most personnel fled to their villages of origin. Most expatriates, including the United Nations (UN) and international NGO staff, were evacuated from the country. Thereafter, the UN and international NGOs started returning but with only small numbers of staff.

Immunization strategies and activities

The major health stakeholders, MoH, WHO and UNICEF, jointly identified the need to reactivate the already existing Immunization Task Force (ITF) to deal with the difficult situation that required the cooperation and support of all partners. Therefore, the ITF held its meetings every week in addition to the daily contact and follow-up by all other partners. The ITF was initially limited to the major partners because they were the most effective in immunization and it allowed for easier and efficient decision processes. Later, all returning NGOs were involved through bilateral contact and through the Health Cluster. All heads of department of the immunization programme attended the meetings to provide feedback and new strategic directions for the ITF.

The ITF has been chaired by the acting Minister of Health and attended by leading WHO and UNICEF representatives, especially in the first meetings where the most urgent problems needed to be addressed, particularly storage of vaccines, security, logistics and importation.

The main functions of the ITF include the following:

- Carry out a rapid assessment of the situation.
- Anticipate problems and be prepared to solve them and resolve any problems arising from the field.
- Ensure uninterrupted vaccine supplies and adequate distribution to the health facilities; this includes identification and management of vaccine stores at central and/or peripheral levels. The vaccines are pre-positioned in neighbouring countries where the UN or international NGOs have operation bases and are allowed to fly into the country.
- Ensure security of vaccines including the distribution of the vaccine stores at all levels.
- Develop an Emergency Action Plan for the immunization programme for six months.
- Supervise the process of developing emergency plans at the peripheral field levels.
- Establish various mechanisms for communication with the periphery including telephones (mobiles, land lines), email and fax, etc.
- Ensure functionality of the routine immunization programmes at the subnational and district levels and delegate authorities.

- Ensure effective decentralization such that the peripheral levels can take and implement decisions in the field.
- Establish a capacity development plan for improving the managerial and technical skills of the staff, especially at the peripheral levels.
- Propose and advocate for a flexible, controlled mechanism for payment of field-staff allowances, vaccine distribution, etc. to reduce bureaucracy.
- Closely monitor vaccination coverage, especially in emergency areas and among vulnerable groups.
- Advocate for resource mobilization and maximize the use of the limited available resources.
- Advocate for easier, more flexible mechanisms for implementation of field activities, payments and disbursements.

The ITF, in the first week of the crisis, established an Operational Control Room (OCR) to sustain communication with the periphery; this enabled the team to continue working in the difficult situation and continue sharing information. The OCR functioned continuously (24/7) to resolve promptly the problems that emerged from the field.

The main responsibilities of the OCR personnel were as follows:

- Communicate with the peripheral levels for information sharing;
- Follow up on the vaccine supply and safety;
- Follow up on the cold chain status;
- Follow up on the functionality of the health facilities and the immunization services;
- Issue daily situation reports and reports on the OCR activities and share with the ITF and with the periphery, as well as other relevant partners;
- Collect regular reports on vaccinations.

The main activities reflected in the Emergency Action Plan include the following:

- Administer OPV, measles and rubella vaccine and Vitamin A for the displaced populations and host communities whenever possible through campaigns and in the camps or concentration points;
- Continue the routine vaccination services in the health facilities as much as possible and take all necessary actions;
- Transport vaccines from the insecure areas to the nearest secure areas;
- Conduct vaccination sessions in the health facilities where there is no electricity or any other power source, using cold boxes or vaccine carriers;
- Conduct measles and rubella vaccination mop-up campaigns and 2 rounds of the national polio vaccination campaign.
- Implement 5 rounds of outreach activities instead of 4, as done in the previous years;
- Re-programme the GAVI and World Bank funds in accordance with the prevailing situation and priorities.

Successes

- The collaboration of the 3 major stakeholders led to implementation of all planned activities, especially the 5 rounds of outreach activities which were expected to improve routine vaccination coverage by at least 25%.

- Two polio campaigns in 2015 achieved high coverage of more than 90%, which was verified by independent monitors.
- The independent field supervisors contracted by WHO engaged and deployed qualified/experienced supervisors from the displaced health personnel to work in their native areas.
- The main partners, MoH, WHO and UNICEF, involved the Health Cluster in all activities, and the Health Cluster was used to mobilize more resources and involve more UN agencies and NGOs in the immunization activities. The routine immunization programme was one of the main items on the agenda in most of the weekly meetings of the Health Cluster.

Country D

Background

The Expanded Programme on Immunization (EPI) was well functioning in Country D before the onset of armed conflict in 2012 which led to the rapid decline of routine vaccination coverage. In 2013, several dozen wild polio cases were confirmed in the country. The response to the polio outbreak was rapid and nation-wide – 17 polio vaccination campaigns (national, sub-national) were conducted from 2013 to 2015.

Immunization strategies and activities

As the security situation changed every day, the EPI team was forced to implement only short term plans. The implemented strategies for vaccination included the following:

Polio/SIA strategies:

- Fixed sites
- Mobile teams (house to house and outreach).

EPI activities (fixed and outreach):

The MoH, in collaboration with WHO and UNICEF, developed a plan to strengthen routine immunization by deploying outreach teams. EPI fixed health clinics are still functioning in most areas. Regular visits to IDP camps are conducted by staff from the nearest health clinic for routine immunization activities. Special efforts were made to vaccinate children by outreach teams. Regular risk assessments at district and governorate levels were done to help in situation analysis and planning.

The administrative coverage is still low due to:

- Mass population movement;
- Irregularity of services due to insecurity and sometimes vaccine non-availability;
- Number of children under 5 years not clearly identified due to internal and external population movement;
- Reporting of vaccination activities not regular or complete;
- Impact of the situation on people's demand for vaccines.

World Immunization Week:

World Immunization Week was conducted in all areas with the exception of one where the mobile team's movement was suspended by the controlling authorities.

Measles- containing vaccine (MCV) campaign:

The target was children between 6 months and 5 years of age, of which around 60% could be vaccinated; the majority received measles, mumps and rubella vaccine.

Local access negotiation:

The WHO country office recruited a focal point responsible for EPI/ Polio Eradication Initiative (PEI) activities in each area, except two which are covered by the MoH. That was done on a contractual basis to avoid affiliation with a UN organization, in order to secure free field movement. These focal points are well respected local residents who are accepted by the community. They lead the negotiations in their areas between local authorities and NGOs to facilitate transport of vaccine in insecure areas.

Role/coordination of partners' input:

The main partners are the Ministry of Higher Education, Ministry of Education, UN Relief and Works Agency (UNRWA), Red Crescent, Women's Union, Youth Union, religious leaders and Paediatricians Association. Partners facilitate vaccine delivery, social mobilization in local communities, monitoring, and access to camps. A monthly meeting led by the MoH is held with all partners to discuss activities and responsibilities.

Successes

The main facilitating factors could be summarized as: political commitment; strong partnerships; community demand for vaccination, which is still intact; technical and financial support from WHO and UNICEF; strong commitments of EPI staff at all levels, especially field vaccinators; and strong community trust in the MoH vaccines.

Challenges

- Inaccessibility: the situation is unpredictable; this leads to difficulties in planning to reach all targeted children.
- Insecurity: this creates barriers to movement of mobile teams and weak supervision in high risk areas.
- Change of administrative borders in conflict areas: the areas are changing according to the group in control, therefore some foci might be missed.
- Internal displacement: continuous population movement from highly insecure areas leads to inaccurate calculation of numbers of children to be vaccinated.
- Shortage of vaccines at the national level: UNICEF is trying to fill the gap but remains affected by the global shortage of vaccines.
- Difficulties in vaccine delivery: this is especially problematic in hard-to-reach areas. WHO and the MoH are working hard to facilitate vaccine delivery through innovative processes.
- Inadequate remuneration of health workers: because of the poor remuneration package, considerable numbers of health workers have left the programme for various reasons, including migration and transfers to other programmes or health facilities, causing serious staff shortages.
- Non-functional health centres: more than 20% of the health centres were rendered non-functional during the emergency. These were compensated by outreach teams covering the same area.
- Supervision-related problems: reduced supervision at all levels (i.e. central, district and field level) led to deterioration of programme quality in some areas. WHO supports supervisory visits at all levels.

- Negative perceptions and rumours: the dissemination of negative perceptions and rumours has compromised the programme. This was compensated by communication activities through media and the Paediatricians Association.
- Difficulties in estimating the number of children: because it has not been possible to estimate accurately the number of children inside the country at all administrative levels, information from national immunization days was used for the estimation.
- Weak reporting of routine immunization activity from some districts: UNICEF supports a monthly meeting for data collection.
- Weak coordination regarding cross-border operations.
- For political reasons, in selected districts NGOs were not willing to work with the MoH. In some areas there were inconsistent policies regarding vaccination, so that routine immunization and national immunization days were conducted only irregularly at fixed sites.

Country E

Background

Country E faces multiple security challenges. Large areas of the country have been inaccessible for vaccination since 2009, due to a ban on vaccination issued by a controlling militant group. Following offensives on the ground, a district may become accessible or inaccessible for vaccination. The security situation remains very volatile, preventing access to an estimated 20% of the target population. The militant group controls most of the vital routes to rural towns, making the delivery of humanitarian supplies by road difficult. UN agencies and most international NGOs are banned from operating in areas held by this group. There are few reliable local partners working in these areas.

In addition to a ban on vaccination, the security situation greatly complicates any operations on the ground. The UN imposes some strict security rules and Standard Operating Procedures (SOPs) to all field staff, including a limit on the number of international staff allowed on the ground. This operating environment remains very challenging.

Immunization strategies and activities

A number of innovative strategies were implemented to raise population immunity in or around inaccessible districts, including Short Interval Additional Doses (SIAD) in newly accessible districts, permanent transit vaccination posts at the entry/exit point of inaccessible areas, low-profile vaccination teams, prepositioning of vaccine and expanding the age group for vaccination.

However, some of those strategies are only partially implemented, and for others, their impact is not well documented. A better understanding of the logistics and operation on the ground is required as well as a critical review of the current strategies and discussion regarding what else could be done to reach those populations.

There is no reliable estimate of population size. The management structure is weak at all levels and the only viable structure is the Polio Eradication network. Through this polio structure, child health days (CHDs) were conducted in all accessible areas of the country between 2009 and 2014. Walk-in cold rooms were built with the support of UNICEF. In addition, the Polio Eradication Initiative (PEI) fund was utilized for improving routine immunization advocacy and communication. Access was negotiated for polio campaigns, measles and CHDs. Access was negotiated along clan lines, with the help of clan elders and religious leaders.

Actions to overcome the challenges include the following:-

- Establish WHO/UNICEF joint leadership of an integrated polio eradication unit at field and capital levels. The same model was applied for routine immunization (RI).
- Establish administrative and logistical hubs in each zone.
- Maintain close partnerships with humanitarian agencies and NGOs.
- Deploy adequate numbers of national and international staff for polio. This has been done for RI.
- Involve the community in selection of national staff and vaccinators for polio, measles and CHD campaigns.
- Ensure staff safety by complying with UN Security regulations.
- Secure necessary funding, for polio, measles and CHD on a timely basis.
- Ensure flexibility of administrative and logistic procedures, as applied to complex emergencies, especially for polio.
- Collaborate with neighbouring countries to synchronize SIAs, address border issues, etc.

Successes

- Establishment and strengthening of coordination;
- Re-opening of MCHs (> 600 AFP sites) and expansion of cold chain;
- Establishment of EPI unit within MoHs, which provides a gateway to local ministries;
- Integrated services delivered in a campaign mode, e.g. CHD;
- Capacity building, technical assistance and financial support provided to the country;
- Negotiation of access along clan lines, especially for Polio/CHDs;
- Cold chain expansion;
- Utilization of the polio structure to support RI and other health interventions (CHDs).

Challenges

- Inadequate or complete absence of government and basic infrastructure;
- Lack of coordination in the beginning of the crisis and poor coordination thereafter;
- Inaccessibility and insecurity due to continuous fighting;
- Difficulty in having international staff present outside major towns;
- Extremely difficult logistics for delivery of vaccines to areas controlled by different authorities and factions;
- Road-blocks and need for negotiations to have the roads re-opened for vaccine delivery;
- Risk to staff in relation to activities such as hiring vaccinators and renting vehicles during national immunization days (NIDs) and CHD;
- Killing of UN staff that resulted in limited UN staff movement;
- Continuous population movement;
- Looting of cold chain equipment;
- Limited availability of commercial flights and high cost of direct supply using chartered flights;
- Changing security scenario requiring dynamic planning;
- Changing access scenarios and poor vaccine availability for newly opened/accessible areas;
- Coordination at zone level, at which level coordination has been slow to improve;
- EPI structure at regional and district levels could not be established;
- High turn-over of staff diminishing the efforts of capacity-building activities.

Country F

Background

In Country F significant numbers of children used to be consistently missed due to insecurity, including the killing of vaccination workers, inaccessibility, non-local vaccinators and concerns over “why only polio?”

Immunization strategies and activities

As an innovation to overcome these challenges, WHO in coordination with the authorities, community leaders and partners, designated Continued Community Protected Vaccinators (CCPV).

CCPVs are well supervised local female vaccinators protected by their own community. CCPVs have been in place since 2014 to provide oral polio vaccine (OPV) and other health interventions on a monthly basis in the most sensitive and insecure areas.

The other health interventions include:

- Distribution of routine immunization cards and following vaccine uptake by children and women of childbearing age;
- Provision of folic acid and assessment of oedema among pregnant women;
- Provision of oral rehydration solution and hygiene orientation, and search for acute flaccid paralysis cases;
- Referral of patients through Polio Eradication Officers to a relevant hospital.

The process required a lot of effort and intensive communication with religious and community leaders to ensure the acceptance and endorsement by the local tribal assembly, which resulted in the following:

- From strong families of each tribal sect, Community Support Teams (CST) were assigned to create continued community-based safe zones during all phases of vaccination.
- The zones created by the CST provided a safe and enabling working environment for CCPVs, supervisors and monitors.
- CST was also responsible for the transport and distribution of vaccines and logistics from nearby health facilities in secure areas to Community Based Team Support Centres (CBTSC) in insecure areas.

Successes

1. The deployment of CCPVs proved feasible and applicable for insecure areas.
 - No serious security incidences were reported from these areas since the start of the programme.
 - The community has solved the security issues.
 - UNDSS removed CCPV areas from the list of “no go areas for UN staff”.
2. Community-based safe zones facilitate the following:
 - Selection and deployment of CCPVs for vaccination and other health interventions.
 - Community Team Support/EPI Centres, implementation of Health Camps with RI, IPV campaigns and implementation of OPV and RI strategies in insecure areas. This strategy prevented food-associated polio and VPD outbreaks in 2015 for the first time since the unprecedented floods and associated outbreaks of 2010.

The strategy using CCPVs might be useful in other insecure situations, but a different modality would be needed in each area, depending mainly on a critical analysis of social context.

- Mediators should be carefully selected by the stakeholders.
- Sustainable communication is necessary with parties of any conflict.

Country G

Background

Country G has a prolonged history of conflicts and combats with large-scale population displacement as the consequence of protracted active armed conflicts and violence. The security situation is fragile in various parts of the country. Conflict situations rapidly replace peaceful conditions in different areas, disrupting health-care services including immunization. Vulnerable populations in conflict areas are not reached regularly by the health system. Many of the unimmunized children live in areas where access to health facilities is restricted for several reasons, particularly the continuing conflicts.

Active armed conflicts and violence, earthquakes, landslides rainfall/floods, droughts, and heavy snowfalls/avalanches are among the causes of periodic humanitarian emergencies in this country.

Due to the magnitude of the problems posed by prolonged conflict, in the affected areas access to health care is possible only around the main health centres.

Immunization strategies and activities:

Strategies for delivering immunization services in conflict settings differ considerably from the routine immunization programme strategies in peaceful settings. Strategies are predominantly campaign-based (NIDs, SIAs, pulse immunization activities). Usually the denominator is unknown and an extended age group (children aged <2 years) is considered for pulse immunization activities and supported by donors and partners.

Different strategies were used/are being used to reach hard-to-reach populations with immunization services by SIA or pulse immunization activities.

As a basic strategy to facilitate access to hard-to-reach areas, local access negotiators were selected in consultation with local community elders and with engagement of local and international NGOs. These NGOs have been facilitating negotiations/meetings between the programmes and the government opposition. Local access negotiators are instructed on the importance of maintaining neutrality of the immunization programme and of mobilizing communities.

Other strategies used to reach children with vaccinations in emergency situations included:

- Contracting out delivery of polio NIDs/subnational NIDs to local NGOs; establishment of permanent polio teams (PPTs) in security-compromised areas;
- Establishment of permanent transit teams to provide additional opportunities to reach some children moving to and from inaccessible areas;
- Short Interval Additional Doses (SIAD) to reach children with small-scale immediate immunization response with a one-week interval when access is gained in hard-to-reach areas;
- Cross-border team strategy and partnership with private, for-profit health services providers to increase access to RI and the basic package of health-care services in underserved provinces.

Successes

Based on the achievement and lessons learned, some of the strategies are effective for reaching children in emergency situations. Negotiation of local access is crucial for reaching the hard-to-reach populations for immunization if the access negotiators are appropriately recruited and retained (i.e. from within the same communities) to continue strengthening dialogue for safe passage by vaccination teams during RI activities including SIAs. For continuation of the PPT strategy in efforts to expand to inaccessible areas, it is necessary to ensure that PPT team members are selected from within the communities, and that there is appropriate monitoring and supportive supervision.

The assessment team has recommended continuing the permanent transit team strategy, further improving supportive supervision, replenishing vaccine at the team locations, and ensuring local team members and supervisors reside in the same communities.

One of the important lessons learned in provision of immunization services in security-compromised areas was the importance of conducting a comprehensive analysis of the situation, collecting information from various sources for real-time access and implementation of the strategy.

Country H

Background

The routine immunization programme in Country H was well-established before the onset of armed conflict. This conflict resulted in a large-scale humanitarian crisis. The conflict has become more widespread and unpredictable and compounded by the rise in general criminality in the region, leading to millions of internally displaced persons and making the humanitarian operating environment even more challenging.

Instability around the country's borders is adding to the overall humanitarian burden, with thousands seeking refuge in the country. The majority of displaced persons have settled in refugee camps. Children in the conflict-affected zone were denied access to immunization services, which left all the birth cohorts since that time unvaccinated by routine immunization services and by polio and measles vaccination campaigns. In this situation there is a constant risk of outbreaks of vaccine-preventable diseases. In addition, there is risk of reinfection and even re-emergence of polio outbreaks, in view of the inadequacy of the immunization services and recent transmission of circulating vaccine-derived polio virus in neighbouring countries.

There are no accurate and validated population estimates in the conflict areas.

Immunization strategies and activities

A plan to implement a polio vaccination campaign, also including vitamin A supplements and Mid-Upper Arm Circumference (MUAC) screening for children under age five years in conflict areas, was developed by the UN in 2012. There have been several attempts to implement the campaign, however disagreement over political and security concerns has prevented progress.

The UN has kept the plan updated on a regular basis (every 6 months) and in June 2015, - under the leadership of WHO, UNICEF and the World Food Programme completed the last round of revisions.

The vaccination campaign is often planned to take place in two phases:

- Phase I would include interventions that are simple to administer with minimal training (polio vaccination, vitamin A supplementation, and MUAC screening), while assessing the situation on the ground (cold chain capacity and human resources).
- Phase 2 would involve administering more complex vaccines such as measles and other vaccines.

The time-frame required for the vaccination campaign is 2 weeks and ideally will entail house-to-house vaccination; however, alternative service delivery (e.g. fixed sites or a combination of both fixed and mobile) can be used depending on the situation on the ground. The campaign will use the services of local health staff and volunteers from the areas concerned who will first need to undertake refresher training in immunization and MUAC screening. In addition, UNICEF and WHO international staff will monitor the implementation of the campaign.

With regard to the logistics of the implementation of the plan, land transport, air transport or a combination of the two will be considered. Facilitating factors are the main cold supply chains, which can be used to transport a large number of vaccine doses.

The MoH established a task force to investigate ways of addressing the shortage of health workers in remote areas.

The task force proposed two types of intervention to address shortages in both the short term and the long term:

1. Short-term intervention: placement schemes for strategic health workers (doctors, midwives, nurses, sanitarians and nutritionists) in remote locations. This would be done with a specialized contract containing both financial incentives (increased pay) and non-financial incentives (the opportunity to become permanent employees as civil servants). The incentive structure was designed to improve retention of professionals in remote areas.
2. Long-term intervention: provision of financial support for those studying in medical fields with the aim of increasing the overall supply of medical professionals over time.

Challenges

There are several general challenges to the immunization programme:

Insecurity issues

Transportation of supplies:

- Shortage of transportation vehicles;
- Hijacking of programme vehicles;
- Targeting governmental and organizations' cars for shooting and bombing;
- High cost of car repair and car rental in conflict areas;
- Complicated process to permit movement in conflict areas.

Weak local financial support

Cold chain:

- Shortage of functioning cold chains;
- Damage to cold chain equipment and supplies.

Lack of accurate population and vaccination coverage data

Difficulty in monitoring the immunization services provided by the community or NGOs

Human resources:

- Instability/shortage of trained health-care staff in conflict areas;

- Weak capacity of some locality immunization officers (lack of training or supervision);
- Most of the vaccinators at immunization sites are volunteers.

Rumours/lack of trust in vaccines

Specific challenges in relation to the envisaged vaccination campaign:

- Lack of health sector implementing partners;
- Lack of accurate and up-to-date information regarding population data;
- Security concerns for the vaccination teams. Obtaining a cessation of hostility agreement remains the primary step in facilitating the vaccination campaign. This commitment should clearly state a time-frame for the ceasefire that falls after the rainy season.
- Both parties to the conflict have expressed concerns in relation to the origin of the vaccines (sourced locally or through neighbouring countries), potentially hampering the start of the campaign. A proposal to allow UNICEF to obtain the vaccines from Denmark and informing the parties in conflict about the procurement process, is a potential option to overcome this obstacle.
- Logistical constraints. It is impossible to implement the proposed vaccination campaign during the rainy season due to the insurmountable logistical challenges; in reality the campaign could only start at the end of the rainy season.

Specific challenges in re-establishing immunization in conflict areas:

Gap areas: People living in certain areas experience problems in accessing health services including vaccinations. Furthermore, a large number of health centres in these areas have no qualified vaccinators, nurses or midwives. This is due to a general shortage of medical professionals as well as the reluctance of vaccinators to take up posts in conflict areas.

The immunization programme aims to address the shortage of vaccinators in these gap areas, through an incentive structure designed to improve retention of immunization health workers.

Specific challenges to immunization in partial access areas:

Limited opportunities for implementation: WHO and the MoH try to use the time when warring factions stop fighting for two days or longer to administer polio and measles vaccines to children. These interventions provide an opportunity to include other activities, such as reinforcing and providing primary health care services and building capacity of national staff.

Problems in accessing quality health services: The government has previously provided resources to local governments to build additional health facilities in the conflict areas. While this has brought primary health care service closer to the communities, local governments have experienced major difficulties in providing the health facilities with qualified health workers. A rapid survey conducted in 2014 found that a large number of health centres in these areas have no medical doctors, nurses or midwives.