

Vaccination in Humanitarian Emergencies

IMPLEMENTATION GUIDE

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PREFACE



Vaccine-preventable disease (VPD) outbreaks occurring in recent humanitarian emergencies highlighted the need for a comprehensive and evidence-based decision-making framework for vaccination in humanitarian emergencies. In 2013, “Vaccination in acute humanitarian emergencies: a framework for decision making” was developed and disseminated by the World Health Organization (WHO).^{1,2} Through a series of consultations with partners in 2016 the following has been accomplished: (i) “Vaccination in acute humanitarian emergencies: a framework for decision making” (hereafter referred to as Framework) has been revised and updated, and (ii) “Vaccination in humanitarian emergencies implementation guide” (hereafter referred to as Implementation Guide) has been developed. These two guidance documents provide a complementary package. In addition, a set of interactive tools is being developed to facilitate the use of this package and to keep its content up to date.

Lack of access to vaccination services in acute or protracted conflicts and humanitarian emergencies represents an important and growing reason for stagnating vaccination coverage. Delivery of immunization services in such settings presents many challenges.

In order to benefit from the vast experience of countries and partners, WHO convened three meetings in 2016.

- January 2016, Cairo: WHO representatives from country offices of Afghanistan, Iraq, Lebanon, Pakistan, Somalia, Sudan, Syria and Yemen, the WHO Eastern Mediterranean Regional Office (EMRO) and WHO Headquarters compiled strategies and best practices for delivering vaccination during humanitarian emergencies.
- June 2016, Geneva: WHO and Médecins Sans Frontières (MSF) organized a partners consultation to identify challenges and potential solutions to resolve barriers to the timely supply of affordable vaccines in humanitarian crisis.
- October 2016, Geneva: experts from United Nations agencies, international non-governmental organizations, partner agencies including Gavi and the vaccine industry agreed on a package of documents and solutions to guide vaccination in humanitarian emergencies which would include an updated version of the Framework on decision making, the Implementation Guide, and a communication plan to ensure availability and use of this package.

This Implementation Guide does not supersede existing general guidance and principles related to humanitarian emergencies, but complements them, while focusing on vaccination in the context of humanitarian crisis.

For more information, please see The Sphere Handbook³ on minimum standards in humanitarian response. For further information on the WHO's role in responding to emergencies, please refer to the Emergency Response Framework (ERF).⁴

Please send comments on the usefulness and/or suggestions for improvement, indicating “Feedback on the Implementation Guide” in the subject line, at: vaccines@who.int.

¹ Vaccination in Acute Humanitarian Emergencies. A framework for decision making. <http://apps.who.int/iris/bitstream/10665/255575/1/WHO-IVB-17.03-eng.pdf>, accessed July 2017

² A Strategic Advisory Group of Experts (SAGE) on Immunization Working Group on Vaccination in Humanitarian Emergencies was formed in June 2011 to determine key scientific, ethical, economic, public health, operational and political criteria that should be part of such a decision making framework. In November 2012, SAGE endorsed the final version of the “Vaccination in acute humanitarian emergencies: a framework for decision making”.

³ Sphere Project. <http://www.sphereproject.org/>, accessed July 2017.

⁴ Emergency Response Framework. http://apps.who.int/iris/bitstream/10665/89529/1/9789241504973_eng.pdf?ua=1, accessed July 2017.

ABBREVIATIONS AND ACRONYMS



CSO	Civil society organization
DEWS	Disease and Early Warning System
EMRO	WHO Eastern Mediterranean Regional Office
EPI	Expanded Programme on Immunization
ERF	Emergency Response Framework
EWARN	Earl Warning and Response Network
HC	Health Cluster
IDP	Internally-displaced people
ITF	Immunization Task Force
MoH	Ministry of Health
MSF	Médecins Sans Frontières
NGO	Nongovernmental Organization
OCR	Operational Control Room
SAGE	Strategic Advisory Group of Experts on Immunization
VPD	Vaccine-preventable disease
UNDSS	United Nations Department of Safety and Security
WHO	World Health Organization



I. INTRODUCTION



1. Background information

Globally, many countries are facing a broad range of humanitarian emergencies resulting from various hazards which differ in scale, complexity and international consequences. These emergencies have extensive political, economic, social, and public health impacts through disruption of the health systems and basic infrastructure.

Humanitarian emergencies encompass crisis of short duration, long-standing crisis, and conflicts resulting in protracted humanitarian emergencies. The concept of “acute” emergency does not imply that the emergency in itself is short-lived, as even in a protracted crisis, situations can emerge and be considered as “acute”, in particular when the conditions deteriorate, risk factors accrue or the conditions evolve for a particular disease.

Emergencies may lead to major and possibly continuous disruption of vaccination services provided through primary health care with resulting drop in vaccination coverage. This may lead to a decrease in population immunity, increased morbidity and mortality from VPDs with potential risks for outbreaks, which may be of large scale. In addition there may be lower population immunity due to mass population movements.

In emergency situations, people, especially children and women, are vulnerable to communicable disease outbreaks including VPD outbreaks. This is aggravated by co-existing malnutrition, crowded living conditions, and inadequate sewage and sanitation.

Vaccination should be among the high-priority health interventions implemented in order to limit the avoidable morbidity and mortality of the VPDs. Maintaining or re-establishing routine vaccination services should be the primary objective of every national immunization programme. Well-established programmes are likely to be more resilient during an emergency situation.

▶ 1.1 Definition of an acute humanitarian emergency situation

An acute emergency is defined as the occurrence of one or more of the following conditions, due to any reason (natural and/or man-made).

1. **Sudden unplanned displacement** of a large proportion of the population away from the community of habitual residence and into any settlement (e.g. refugee or internally displaced persons' camps, host community, urban areas, or uninhabited areas within the same country or across international borders).
2. Direct exposure of the civilian, non-combatant population to **new or exacerbated and sustained episodes of armed conflict** resulting in risk factors including disrupted access to health care, disrupted water and sanitation, food insecurity, etc.
3. **Impending or already occurred sudden deterioration of nutritional status**, as evidenced by reliable food security and/or nutritional indicators, beyond and above known seasonal fluctuations or situations of chronic poor nutritional status and/or food insecurity.

4. **Natural or industrial disaster** resulting in temporary homelessness, disruption to critical public services (e.g. health care, water and sanitation, food deliveries, etc.), increased risk of injury and/or exposure to adverse weather conditions, famine, drought, environmental degradation for a large proportion of the population.
5. **Sudden breakdown of critical administrative and management functions** within the public and/or private sector, due to any reason, resulting in large-scale disruption of public health and related services (e.g. water and sanitation, housing).

The definition of acute emergency encompasses a large majority of potential scenarios, but there may be cases in which data and available information are imprecise, incomplete or controversial. In such instances, application of the definition should err on the side of caution, i.e. it is preferable to assume that an emergency is taking place.

Additional information on the health impact of emergencies as well as the priority actions and critical steps for health operations across a range of delivery mechanisms and according to specific causes can be found in the Health Cluster (HC) Guide.⁵

► 1.2 Purpose, operational objectives and scope of this guide

This guide is applicable for acute and protracted emergency situations, including at the onset of the emergency situation, in the midst of an emergency, as well as in the pre-emptive or post-emergency/stabilization phases. This document does not provide modular guidelines or standard operating procedures. It is intended to:

- determine the considerations that need to be taken into account when implementing vaccination in the context of a humanitarian emergency;
- support **effective management and delivery of vaccination services**, including timely reporting/data sharing in emergency situations;
- identify the suitable vaccination **delivery strategies in different types of emergencies** to increase access to the most vulnerable populations and maintain equitable access to vaccinations;
- **facilitate early recovery of vaccination service delivery to restore equitable access** to vaccinations; and
- **facilitate sustaining and improving routine vaccination coverage** during a protracted/chronic emergency situation.

TARGET AUDIENCE

This guide is designed to provide **guidance for the Immunization Task Force in charge of planning and managing routine and/or additional vaccination service delivery in a humanitarian emergency context** (see [Chapter 2](#)). This Immunization Task Force, ideally a joint group of stakeholders, may include staff from the national immunization programme, Ministries of Health (MoH) and possibly other ministries, district and local level, local, national and international non-governmental organizations (NGOs) as well as international organizations.

⁵ Health Cluster Guide. http://www.who.int/hac/network/global_health_cluster/health_cluster_guide_6apr2010_en_web.pdf, accessed July 2017.

II. ARCHITECTURE OF THE OPERATIONAL RESPONSE STRUCTURE



2. Establishment of the Immunization Task Force

In humanitarian emergencies, it is important to clearly identify and appoint the team to lead and coordinate immunization activities. This team, referred to as Immunization Task Force (ITF) in this document, although the name may vary in different settings, should be established by the highest level of the health authority or by the humanitarian country team if a functional government does not exist. An ITF may be established in the country based on existing bodies to avoid creating parallel systems, or can be established de novo, according to needs.

An ITF consists of government and/or local authorities and partners such as national and international NGOs, international organizations and civil society organizations (CSOs), and can be a part of the overall Health Task Force or Health Cluster⁶, if a cluster approach is adopted within the country. The host country government and/or local authorities have the primary responsibility for directing and coordinating the operational response of the ITF, with the strong support of other stakeholders whenever possible.

One of the main strengths of the ITF should be the mechanism for evidence-based decision making that all members adopt, advocate and apply.

Ideally, emergency scenarios have been anticipated and prepared for, which would allow for the rapid convening of the ITF when a crisis strikes. In an emergency situation, it is important to take the right action, but even more important to take it at the right time.

**TAKE THE RIGHT ACTION
AT THE RIGHT TIME.**

⁶ The health cluster serves as a mechanism for coordinated assessments, joint analyses, the development of agreed overall priorities, objectives and a health crisis response strategy, and the monitoring and evaluation of the implementation and impact of that strategy.

▶ 2.1 ITF structure: leadership and membership

The first guiding principle stated in the Global Vaccine Action Plan (GVAP)⁷ is that “countries have primary ownership and responsibility for establishing good governance and for providing effective and quality immunization services for all”. In accordance with this, government or local authorities should chair the ITF to secure its legitimacy and authority. If a functional government does not exist and/or systems and staff are not fully operational, WHO, the United Nations Children’s Fund (UNICEF), NGOs or others may chair.

The ITF should ensure representation of all administrative levels (central, sub-national, local) affected by the crisis to be able to directly support planning and implementation activities at the appropriate levels as necessary. To secure credibility, participation of the strong technical national entity (i.e. NITAG) or international technical agency (e.g. WHO, UNICEF) is crucial. To ensure rapid and efficient resource mobilization, it is helpful to have communication and decision-making pathways with the Ministry of Finance.

REPRESENTATION OF ALL ADMINISTRATIVE LEVELS AND PARTICIPATION OF A STRONG NATIONAL TECHNICAL ENTITY OR INTERNATIONAL TECHNICAL AGENCY IN THE IMMUNIZATION TASK FORCE IS CRUCIAL.

There is no pre-set optimal number of members serving on the ITF. In some settings, the ITF may be limited to a small number of partners (e.g. the MoH, WHO, UNICEF) envisaging a rapid process of decision making. In other circumstances, including a larger number of available operational partners may be of greater benefit in order to ensure implementation of the planned activities.

Due consideration should be given to the required technical expertise. NGOs can be members when appropriate. Civil society organizations and professional society’s membership can be of added value.

A smaller group of individuals should serve as secretariat for the ITF. This secretariat should be selected from the organizations participating in the ITF. Major partners could volunteer persons to work as part of the secretariat.

▶ 2.2 ITF functionality

All involved partners should agree to the terms of reference (ToR) required for the ITF. In turn, these ToR should help refine the structure and membership of the ITF. [Table 1](#) provides an example of what these terms of reference can include, but are not limited to.

Strong collaboration and coordination with the HC, Health Task Force and any other bodies that may be responsible for disease surveillance is necessary.

The frequency of the meetings may vary and needs to be determined based on the circumstances. In acute crises, the meetings will likely be on a daily basis to manage the evolving situation. For protracted crises, weekly or biweekly meetings may be appropriate.

⁷ Global Vaccine Action Plan. http://www.who.int/immunization/global_vaccine_action_plan/GVAP_doc_2011_2020/en/, accessed July 2017.

Table 1 Example of ToR for the ITF:

- Plan and oversee the implementation and delivery for one or more vaccines required in the humanitarian emergency context as determined by using the Framework on decision making, with due attention to ethical obligations, community participation and other relevant issues as outlined in the Framework.
- Use the Framework to assess and identify priority/necessary vaccinations (if the assessment has not been conducted before the establishment of the ITF).
- In protracted crisis, reassess the need for necessary vaccination using the Framework.
- Make technical decisions collectively on the appropriate strategies for delivery of selected vaccines.
- Advocate for the vaccination intervention and mobilize resources (financial and human) utilizing the HC platform.
- Lead and ensure coordination of work of related partners, ensuring clarity on the respective responsibilities.
- Establish or ensure that there is an Operational Control Room (OCR) at national and/or sub-national levels.
- Coordinate with neighbouring countries, if the situation requires.
- Oversee and/or assist with the maintenance or re-establishment of routine vaccination, including joint interventions to address comprehensive health needs.
- Oversee the status and functioning of the supply and cold-chain.
- Ensure vaccine supply and availability of related equipment and devices.
- Provide information, guidance, and capacity building to the subnational level when appropriate.
- Monitor and promote community demand for vaccination.
- Develop core monitoring indicators, monitor and evaluate implementation of the plan and revise as necessary.
- Document activities and related data.

2.2.1 ESTABLISHMENT OF THE OPERATIONAL CONTROL ROOM

At the beginning of the acute emergency, the ITF should establish or ensure that there is an Operation Control Room (OCR) at national and/or sub-national levels. The OCR should be part of or integrated with the Public Health Emergency Operations Centre, if one exists. The OCR needs to be permanently staffed and equipped with the required, suitable and effective means of communications. It is preferred that a senior person from the ITF is in charge of the OCR, or at least a senior member of the OCR team. One cannot be prescriptive about the number of staff and specific skill sets, but staff of the national programme, if still available, and staff from the partners can be used. Technical capacities should include mainly staff experienced in the Expanded Programme on Immunization (EPI), in information technologies, as well as in data compilation and analysis. More information can be found within the WHO Framework for a Public Health Emergency Operations Centre.⁸

The main function of the OCR is to ensure coordination of activities, and sustain communications with and ongoing response to needs in the periphery. It can also be used to receive and deal with public inquiries if the ITF assigns this task and the technical capacity exists.

THE OPERATION CONTROL ROOM SHOULD ENSURE COORDINATION OF ACTIVITIES, COMMUNICATIONS, AND ONGOING RESPONSE TO THE NEEDS IN THE PERIPHERY.

⁸ Framework for a Public Health Emergency Operations Centre. http://apps.who.int/iris/bitstream/10665/196135/1/9789241565134_eng.pdf?ua=1, accessed July 2017.

The main responsibilities of the OCR are the following:

- In coordination with the Disease and Early Warning System (DEWS) and/or other relevant structure:
 - a. Collect, collate and analyse regular reports on vaccination activities including the number of doses administered, coverage, adverse events following immunization, unreached groups, and refusal.
 - b. Assess human resources needs, training and monitoring of quality.
 - c. Stay up to date on community and facility-based disease surveillance to help plan ahead for communication campaigns and community engagement, and to manage potential rumours.
- For information sharing and actively responding to needs, ensure regular two-way communication with the peripheral sites and follow up on:
 - a. Vaccine supply and safety.
 - b. Status of cold chain.
 - c. Functionality of health facilities and immunization services.
 - d. Security threats and maintenance of security profile for different affected areas.
- Issue a daily report, shared with the ITF, periphery, and partners.
- Issue summary reports, provided at least on a weekly basis.
- Receive complaints or queries from the public and respond as necessary (if this function is tasked to the OCR, the contact details need to be disseminated).

▶ 2.3 ITF interactions and coordination

2.3.1 INTERACTION AND COORDINATION OF THE ITF WITH THE HEALTH CLUSTER

A large number of various organizations may be present in a humanitarian emergency and coordination is a frequent and ongoing challenge. Where a cluster approach is used, the Health Cluster at the country level⁹ should serve as a mechanism for participating organizations to work together in partnership to harmonize efforts and use available resources efficiently, avoiding gaps and/or duplication of efforts.

The ITF should interact with the HC at the national level to ensure that international responses are appropriately aligned with national structures, and that linkages among national authorities, international organizations, national civil society and other stakeholders are coordinated. If subnational ITF and subnational or “zonal” clusters are established, the subnational level will focus on local planning and implementation issues, while the national-level interaction and coordination will focus on policy issues and strategic planning.⁵

**IMMUNIZATION TASK FORCE AND
HEALTH CLUSTER INTERACTION
ENSURES ALIGNMENT OF
INTERNATIONAL RESPONSES WITH
NATIONAL STRUCTURES.**

By identifying different roles and responsibilities early on, ITF and HC interaction can strengthen the coordination mechanisms between country authorities, partners and organizations delivering different health services. This coordination can ensure rapid identification of risks and challenges through the sharing of experience

⁹ The Health Cluster at the national level should normally include organizations providing or supporting health services in affected areas: UN agencies (WHO, UNICEF, UNFPA), other international organizations (e.g. IOM, IFRC), the national Red Cross/Red Crescent society, international and national NGOs, representatives of key private-sector health service providers, and the main health-sector donors and other important stakeholders.

and information, and can allow for collective decision making. This results in better management of resources such as human, financial, logistical, and/or material, facilitates adoption, advocacy and implementation of service delivery strategies.

The following tasks are important to ensure effective coordination of the ITF with the HC:

- Ensure that the HC is fully engaged and regularly briefed on the planned vaccination activities and results of implementation.
- Convey mapped areas of service delivery and the organization of partners' work to the HC.
- Ensure vaccination services are a part of the HC activities such as joint assessment, monitoring, preparedness and response plans, pre-positioning, humanitarian convoys, service-delivery during pause of conflict, fund-raising, etc.
- Engage the HC at the central and local levels to help with resource mobilization, and as a major coordination mechanism for vaccination service delivery.
- Engage with stakeholders within the HC to avoid redundancies and/or gaps in service.
- Engage the HC to identify possible new partners to assist in vaccination service delivery. Interaction and coordination of the ITF at the national level with the sub-national level

2.3.2 INTERACTION AND COORDINATION OF THE ITF AT THE NATIONAL LEVEL WITH THE SUBNATIONAL LEVEL

In emergency situations, interaction between national and subnational levels may be disrupted. This is why it is important to ensure and/or strengthen technical competence and management capacity at the local level so that vaccination service delivery is sustained.

The following activities may be used to help empower management at the sub-national levels:

- Formulate and activate the ITF at the sub-national level as much as possible.
- Coordinate with the sub-national/zonal HC, if they are established.
- Establish and maintain regular, frequent contact between the central and the peripheral ITF to the extent possible, considering the situation.
- Decentralize and delegate authority to peripheral levels as necessary, keeping the planning, administrative and financial arrangements flexible to accommodate the local situation.
- Through interaction with the community leaders, engage the community in accepting the intervention and sustaining its implementation where possible. Early community engagement may help with identifying possible service delivery staff from that community, and ensure safety and security of staff, beneficiaries and equipment.

**IMMUNIZATION TASK FORCE
NATIONAL-LEVEL FOCUS: POLICY
ISSUES AND STRATEGIC PLANNING
IMMUNIZATION TASK FORCE
SUBNATIONAL-LEVEL FOCUS: LOCAL
PLANNING AND IMPLEMENTATION**

**IN EMERGENCY SITUATIONS,
IT IS IMPORTANT TO INVOLVE THE
COMMUNITY IN ALL ELEMENTS OF
THE WORK OF THE IMMUNIZATION
PROGRAMME. THE EARLIER THE
COMMUNITY IS INVOLVED, THE MORE
IT WILL ADOPT THE PROGRAMME AND
SUSTAIN ITS IMPLEMENTATION.**

- Identify NGOs and non-traditional EPI partners who may play an important role in service delivery, should the government system be non-operational.
- Assist local management with identifying and interacting with the local authorities/armed groups (see [section 3.1](#)).
- Document and share information and coordinate with neighbouring districts or governorates/provinces to maintain transparency, ensure proper use of available resources and avoid duplication of efforts.
- The sub-national level should follow the central ITF guidance, allowing some flexibility to accommodate for local circumstances.

2.3.3 INTERACTION AND COORDINATION OF THE IMMUNIZATION TASK FORCE WITH THE NATIONAL IMMUNIZATION TECHNICAL ADVISORY GROUP (NITAG)

NITAGs are multidisciplinary groups of experts responsible for providing independent, evidence-based advice to health authorities on policy issues related to vaccination and vaccines for all population groups.

In countries where a functional NITAG existed before the onset of the humanitarian emergency, the ITF should work closely on technical issues with this advisory body. The ITF can benefit from the expertise represented in the NITAG and the knowledge of the local context. Interaction and coordination with the NITAG will reinforce the use of national structures and promote the visibility of NITAG.

In countries where the functioning of the NITAG is disrupted, the ITF may draw on expertise of available previous members. Although it is not a priority in the initial response, the ITF may facilitate re-establishing the NITAG in the recovery phase.

THE IMMUNIZATION TASK FORCE AND NATIONAL IMMUNIZATION TECHNICAL ADVISORY GROUP SHOULD WORK TOGETHER ON TECHNICAL ISSUES.





III. PLANNING AND IMPLEMENTING VACCINATION SERVICES IN A HUMANITARIAN EMERGENCY

3. Decision on use of vaccines in humanitarian emergencies

Senior level government and partner agency officials, within the ITF if established, should use an evidence-based, transparent and rigorous methodology to decide on the vaccine(s) to be used in a given situation. Where the decision on the vaccine(s) to be used has not been taken, the Framework¹ provides such a methodology.

The outcome of this decision-making process is a determination on implementation of the vaccination intervention(s) for each selected vaccine-preventable disease, and represents a vital point of the vaccination contingency¹⁰ and/or response planning. Interaction of the ITF with the HC, if one has been established, is important to obtain the best synergies for these plans between national and international stakeholders. This can be achieved through advocacy meetings and prepared communications, which provide situation analysis, highlight the magnitude of the problem, provide good estimate of risks, and identify areas for coordination and collaboration.

¹⁰ Vaccination contingency plan involves anticipating various scenarios and should be a part of the overall national contingency plan for humanitarian emergencies, if one exists. It should include routine and campaign services as necessary, and address requests for vaccination services outside the crisis affected areas in situations when vaccination intervention is planned to be implemented in crisis affected areas only. Most plans are made for individual countries, but can also be made jointly for a number of countries or for regions where there are cross-border issues to consider.

► 3.1 Situation analysis – National Immunization Programme assessment

As soon as it becomes clear that there is an imminent emergency or crisis, the ITF should undertake an assessment of the national immunization programme as a part of the overall situation analysis. The main purpose of the immunization programme assessment is to document the current structural and functional status of the programme in the affected areas. It helps identify the feasibility of vaccine implementation and the resources needed to enable the development of a realistic plan in the context of social, cultural and access barriers present in the emergency situation.

AS SOON AS POSSIBLE, THE IMMUNIZATION TASK FORCE SHOULD ASSESS THE NATIONAL IMMUNIZATION PROGRAMME TO HELP DETERMINE WHAT EMERGENCY VACCINES TO DEPLOY, THE SPECIFIC TARGET POPULATIONS AND THE RELEVANT GEOGRAPHIC LOCATIONS.

The immunization programme can be assessed as a part of an overall health assessment linked to the HC, or it can be a stand-alone assessment. A field assessment is preferred, but if this is impossible, a desk review¹¹ of available documents and data may be undertaken until conditions allow for a field assessment, if need occurs.

The most recent data available should be obtained from official government sources and other reliable partners. Assessment of gender and equity, vaccine acceptance, social issues and other challenges that may affect vaccination should be included in the situation analysis. Analysis of the information should be organized in an easy to read format and comprehensive to the extent possible. However, comprehensive assessment of all aspects of the immunization programme may not be feasible during an emergency situation. In that case, an assessment of the operational requirements for vaccination delivery should be given priority. In protracted emergencies, this assessment should be systematically repeated every two months. Alternatively, the assessment can be used as a baseline, and specific data, collected by any partner/sector within the HC, can be used to regularly update the assessment. The OCR, if already established, is responsible for collecting, monitoring and analysing data.

WHEN COMPREHENSIVE ASSESSMENT IS NOT FEASIBLE, PRIORITIZE ASSESSMENT OF THE OPERATIONAL REQUIREMENTS.

As a part of the situation analysis, due attention should be given to operational requirements, including logistics. This should serve as a starting point for resource mobilization. If available, recent microplans can be useful sources of data.

The assessment of operational requirements should include the following:

- **Disease characteristics:** recent and ongoing outbreaks of VPDs, seasonality of epidemic prone diseases (e.g. measles, cholera, meningitis, etc.).
- **Target/beneficiary population and service delivery characteristics** (for routine or supplementary vaccinations): age groups, gender, geographic location, population movements, appropriate and equitable delivery strategies (i.e. fixed sites or outreach), baseline immunization coverage in the affected areas considering available data from different sources such as recent microplans.
- **Material resources:** health facility infrastructure and functionality, vaccine and supplies availability, cold-chain inventory and current cold-chain capacity (to include information on possibility to resource equipment from other sources such as military, food industry, etc.), information on power supply

¹¹ The data that can be used for the desk review of the status of the national immunization programme are vaccination coverage data (national and sub-national), national health documents, data on disease incidence, and other (findings of reviews and assessments, improvement plans, etc.)

(electricity, gas, solar, etc.), information on waste management practices (including availability of incinerators from health and non-health sector).

- **Logistics capabilities:** estimate of resources needed for efficient and cost-effective flow of vaccines, materials and personnel to the target/beneficiary population (including transportation and shipping, storage, inventory management, cold-chain logistics, physical security, lodging, personnel security, etc...).
- **Human resources:** mapping and availability of trained health care personnel and volunteers including information on private providers, community based organizations, and international partners.
- **Financial resources:** estimate of funds needed and funds available for the intervention with regard to annual forecast and availability of donor funding.
- **Social context:** information on demand and acceptance of vaccination, identification of possible communication channels that could facilitate access and acceptance (local religious and opinion leaders, traditional healers, others).
- **Local challenges:** local government processes (e.g. customs procedures), partner collaboration processes, physical and personnel security.

▶ 3.2 Integration of vaccination service delivery with other services

Integration of vaccination service delivery with other health and non-health services or interventions should be maximized during crisis and emergency situations.³

Although water, food, and safe shelter are of utmost priority, vaccination against epidemic prone VPDs must be considered among the highest priority interventions. As resources are always in short supply during an emergency, integration of vaccination delivery with other humanitarian interventions is essential to success. In protracted crises, such integration can contribute to sustainability of vaccination service delivery.

Examples of integration can include:

- Adding vaccination to services provided by mobile clinics and all primary health facilities established in refugee camps
- Using UN transportation to distribute vaccine and injection equipment
- Using nutrition clinics to administer vaccinations
- Setting up vaccination posts during food/cash distributions

If vaccines are delivered through campaigns, adding non-vaccine related interventions, such as vitamin A supplementation and deworming medicines, should be carefully planned on a case-by-case basis, as integration of multiple interventions may raise additional logistical challenges for already resource intensive interventions. Campaigns, however, provide an excellent platform for delivery of other interventions, and if there is a demand for them, the integrated approach can in turn positively impact the campaign outcome.

**MAXIMIZE INTEGRATION OF
VACCINATION SERVICE DELIVERY
WITH OTHER SERVICES.**

**INTEGRATION CAN INCLUDE USING
ESTABLISHED CLINICS AND FOOD/
CASH DISTRIBUTION POINTS
FOR VACCINATION OR USING UN
TRANSPORT FOR DISTRIBUTION**

4. Planning for vaccination services in a humanitarian emergency

▶ 4.1 Macroplanning

Vaccination service delivery plan as an operational plan can be developed as part of an overall contingency plan, or as a part of a response plan which occurs after the completed decision-making process on which vaccines to use and following the immunization programme assessment. The ITF is responsible for the development of the operational plan. The plan should be monitored and updated regularly according to the changing situation and available information.

**THE NATIONAL-LEVEL MACROPLAN
OUTLINES THE OPERATIONS AND
BUDGET FOR VACCINATION DELIVERY**

Initially, the ITF develops a macroplan which outlines the operations and budget for vaccination delivery. This high-level plan at the national level consists of:

- Targets/beneficiaries, scope, objectives, timing and strategies based on the Framework decisions and situation analysis
- Description of opportunities for integration of vaccination delivery with other interventions, and/or integration of other interventions with vaccination delivery service
- Outline of potential barriers to vaccination service delivery and methods and resources needed to overcome them
- Plan of action with estimated timeline of activities
- Realistic budget estimate to outline available funds and funding gaps, as a basis for resource mobilization

The budget estimate represents initial calculations of necessary financial requirements needed for the delivery of planned vaccinations. These would consist of a mixture of known actual amounts and estimates and approximations. Where available, data from peripheral levels should be used to develop better estimates. National tax and customs procedures should be considered for possible impact on the budget. As the field condition in an emergency situation can be unpredictable, it is important to include a budget line for contingencies. In case a funding gap exists, measures to reduce it should be identified. These may include possibilities for co-funding by partners, donations, re-allocating funding from non-emergency activities, etc.

The macroplan should also identify the gaps in necessary resources other than funding, which would then enable the ITF to initiate resource mobilization to fill these gaps. Accountability and use of all resources including funds for operations at each level should be tracked and the staff should be aware of these processes and requirements.

RESOURCE MOBILIZATION

Mobilization of resources during a humanitarian emergency is crucial and requires efficient communication and coordination among partners and donors. Ideally, the HC team should integrate resource mobilization for vaccination as a part its overall fundraising effort. This should include holding advocacy meetings and preparing communications which highlight the magnitude of the problem and provide a good estimation of the risk. Proper calculation of the required resources should include, among others, assessment of the

required human resources, logistics, quantity of needed vaccine and injection equipment and operational costs including transportation, training, monitoring and supervision.

► 4.2 Microplanning

Microplanning is a detailed planning process carried out at the lowest implementation level possible, with the objective to develop a comprehensive operational plan, including a final budget with completed resource mobilization activities. In an emergency situation, time constraints may limit the direct participation of all levels usually involved in microplan development. In such situations, microplans from routine programme or recent SIAs (e.g. measles, polio) may serve as guidance.

**OBJECTIVES OF MICROPLANNING:
COMPREHENSIVE OPERATIONAL PLAN
DETAILED BUDGET WITH COMPLETE
REQUIRED RESOURCES**

The microplan should address and budget for the following components:

- Vaccine (may be accounted for at the national level), human resources and logistics requirements (including maps)
- Vaccine logistics movement plan (distribution and human resources)
- Cold chain status and plan
- Training plan
- Social mobilization and communications plan
- Adverse events following immunization management plan
- Waste management plan
- Supervision plan
- Monitoring and evaluation plan (including rapid convenience monitoring and/or coverage surveys, if at all possible)
- Reporting plan

Microplans should be prepared even if the catchment areas are inaccessible, and should envision different scenarios of population accessibility (full, limited or no accessibility). It is important to involve the community in the microplanning process at the community or facility level whenever possible. The community can make important contributions regarding feasibility of the plan or offer resources, e.g. providing a community room or other adequate space for vaccination sessions.

**PREPARE THE MICROPLAN
EVEN IF THE CATCHMENT
AREA IS INACCESSIBLE,
AND ENVISION VARIOUS SCENARIOS
OF ACCESSIBILITY.
WHENEVER POSSIBLE, INVOLVE
THE COMMUNITY IN THE
MICROPLANNING PROCESS.**

Information obtained from the local/facility-level microplanning should be collated sequentially upward to the ITF. The ITF should incorporate these microplans into an overall working microplan. However, it is important to note that revisions may take place at the ITF to address any unforeseen factors and take into account available funding and resources. This final microplan should be validated by the ITF, but could still be fluid, as the situation in the field, funding and resources change.

Steps in microplanning are the following:

1. List and map:

- a. List all populated areas (e.g. villages, town, settlements) with estimated number of target population.
- b. List all major transit points including information on population movement.
- c. Obtain maps of the area and chart distances, population density, population movements, landmarks, borders, seasonal characteristics (e.g. floods).
- d. Identify and chart high-risk and hard-to-reach areas with population groups.
- e. Identify and chart border areas with population groups.

2. Calculate:

- a. Calculate the number of teams (vaccinators and volunteers) required based on location (i.e. urban, rural, nomadic, hard-to-reach) and vaccination strategy applied (i.e. permanent, temporary, mobile posts).
- b. Calculate the number of supervisors required based on location of staff being supervised (i.e. urban, rural).
- c. Calculate requirements for vaccines and supplies, taking into account wastage rate.
- d. Calculate requirements for cold chain and logistics (cold boxes, vaccine carriers, coolant-packs, tally sheets, reporting forms, social mobilization materials, transportation).

3. Plan for vaccination teams and supervisors:

- a. Develop day maps for vaccination teams and supervisors with clear geographical demarcation.
- b. Develop plan for deployment of vaccination teams at major transit points.
- c. Develop plan for mobile vaccination teams assigned for hard-to-reach areas and special population groups.
- d. Develop plan for training of volunteers, vaccinators and supervisors, as necessary.

4. Assign vaccinators and supervisors to teams and allocate the teams according to the plan developed in [Chapter 3](#).

5. Develop logistics plan for distribution of vaccines, supplies and staff, and management of waste.

6. Develop social mobilization and communications plan, and plan for demand-related interventions (materials, staff, schedule and assigned area of responsibility, community engagement).

7. Develop reporting plan (timeline and person responsible).

[Annex 1](#) provides an example of a microplanning template. For more information on microplanning, refer to the resources from the polio programme¹², the Reaching Every District (RED) strategy¹³, and the SIA Field Guide.¹⁴

¹² GPEI Tools, Protocols and Guidelines. <http://polioeradication.org/tools-and-library/resources-for-polio-eradicators/gpei-tools-protocols-and-guidelines/>, accessed July 2017

¹³ RED Strategy. http://www.who.int/immunization/programmes_systems/service_delivery/red/en/, accessed July 2017

¹⁴ Planning and Implementing High-Quality Supplementary Immunization Activities for Injectable Vaccines. <http://www.who.int/immunization/diseases/measles/SIA-Field-Guide.pdf?ua=1>, accessed July 2017

▶ 4.3 Vaccine supply

Timely supply of affordable vaccines of assured quality and safety is fundamental for immunization service delivery. In humanitarian emergencies, close collaboration among partners is essential to ensure uninterrupted availability of vaccines needed to sustain routine immunization or implement campaigns.

The factors to consider regarding access to vaccine supplies in emergencies are the following.

Information on how to timely access a supply of affordable vaccines of assured quality and safety, in particular information about international groups that are able to fund and/or procure vaccines. [Annex 2](#) provides a list of international entities active in supply of vaccines in humanitarian emergencies and their roles, target vaccines, vaccine manufacturers and useful contacts.

- **Funding and price of vaccines.** All countries are able to access vaccines through pooled procurement agents such as UNICEF Supply Division. Most countries eligible for support from Gavi procure vaccines through UNICEF at Gavi-negotiated prices, and during humanitarian emergencies, countries have access to special flexibilities for Gavi support.¹⁵ Countries and territories in the WHO Region of the Americas can use the Revolving Fund of the Pan American Health Organization (PAHO) as a procurement mechanism for vaccines and related supplies. Vaccines can also be accessed through civil society organizations or directly from manufacturers. In times of emergencies, it is sometimes possible to access supply at more favourable prices. For instance, the “Humanitarian Mechanism” was recently launched by WHO, UNICEF, Médecins Sans Frontières, and Save the Children, which enables timely access to affordable supply of vaccines for entities such as CSOs, governments, or UN agencies who are procuring on behalf of populations facing humanitarian emergencies and who otherwise do not have access to affordable vaccines.¹⁶ However, the mechanism currently covers only a few vaccines. Manufacturers are constantly encouraged to provide price offers under the mechanisms and other means for humanitarian emergencies. The international community should support countries in coping with the added demand for vaccination in case of substantial influx of refugees which might add significant cost to the national programme.
- **Choice of vaccine product and procurement method.** In case of multiple partners delivering vaccination services, it is important to standardize the type/presentation and source of the vaccine in order to avoid programme-related errors in the field, as front-line personnel in emergencies may be new and lacking experience. Ideally, priority should be given to the vaccine types/presentations that the country health workers are familiar with, for ease of training and reduction of errors. Pooling procurement will help standardize the vaccine and larger quantities will likely lead to lower prices.
- **Forecasting vaccine needs (quantities and timelines) and lead times required by manufacturers.** Calculation of bundled vaccine and related supply requirements may be challenging due to population movement and difficulty in obtaining accurate target population data. During emergencies, vaccine wastage may increase and needs to be accounted for in forecasts. In the absence

**THE “HUMANITARIAN MECHANISM”
ENABLES TIMELY ACCESS TO AN
AFFORDABLE SUPPLY OF VACCINES.**

**IN THE ABSENCE OF DATA FROM
OFFICIAL SOURCES, USE THE HIGHEST
POPULATION ESTIMATE TO AVOID
POSSIBLE STOCK-OUTS.**

¹⁵ Gavi policy on fragility and immunisation. <http://www.gavi.org/about/governance/programme-policies/gavi-policy-on-fragility-and-immunisation/>, accessed July 2017.

¹⁶ Accessing Affordable and Timely Supply of Vaccines for use in Humanitarian Emergencies: the Humanitarian Mechanism. http://www.who.int/immunization/programmes_systems/sustainability/The_Humanitarian_Mechanism_ToRs.pdf?ua=1, accessed July 2017

of data from official sources, data from other health or non-health programmes can be used (e.g. from the Ministry of National Planning). Data from previous vaccination activities (e.g. polio campaigns), geospatial imaging and other data sources can help establish realistic population figures. In countries where different population figures are available, the highest should be used to avoid possible stock-outs. It may also be important to take note of the geographic location where the vaccine will need to be delivered and include this information when communicating the demand.

- **Introduction of new or different vaccines in accordance with the country regulations.** The requirements for vaccine registration or other forms of regulatory approval must be considered in ensuring timely availability of quality-assured vaccines. As the timelines usually required by standard regulatory pathways may not be suitable in emergencies, specific alternative procedures may be considered. These options may include the following.
 - Implementing fast track authorization pathways for timely access to the vaccines in emergency situations:
 - ▶ Reliance on WHO prequalification decision and/or assessment reports through implementation of the collaborative procedure and/or the WHO Emergency Use Assessment and Listing (EUAL) assessment report.
 - ▶ Reliance on decisions and/or assessment reports of other regulatory authorities for national authorization based on pre-established procedures and conditions on the use of the particular vaccine.
 - The options for fast track pathways within the regulatory framework in emergency situations are part of regulatory planning within a contingency/emergency response plan. Regulatory planning should include the following.
 - ▶ Establishment of the regulatory decision options, regulatory requirements, and vaccine dossier required for decision making.
 - ▶ List of the key units and/or qualified persons responsible for establishing emergency regulatory pathways.
 - ▶ List of the roles, responsibilities and authorities of these persons during contingency/emergency planning and during the emergency.
 - ▶ Establishment of a communication path for the regulatory disposition decisions, entity responsible for communication and the recipient(s). These should include all parties involved in vaccine introduction.
- **Customs procedures for import of vaccines and related materials.** Procedures for customs clearance should be documented and a focal point assigned to facilitate the customs procedures and clearance.

▶ 4.4 Cold Chain

Adequate vaccine storage space at peripheral levels is often a challenge when mass supplies of vaccines and syringes arrive at storage centres. The current capacity and functionality of cold chain should be known from regular inventory and maintenance plans. This information, along with information on possibilities to resource equipment from other sources (e.g. military, private sector, industry, etc.) and information on power supply (electricity, gas, solar, etc.) should make a part of the situation analysis and vaccination contingency/emergency plans.

Once the volume of vaccines expected to be received at each subnational level has been determined, the programme managers or cold-chain logisticians will need to calculate the storage volume needed, keeping in mind the space used for the routine programme and that one third of the space in the refrigerator should remain empty to allow for air circulation. The storage volume needed will depend on the manufacturer's specifications and the vial size. It can be calculated using the vaccine volume calculator. This and other WHO tools on cold chain and logistics such as cold-chain inventory and the gap analysis tool are available online at: http://www.who.int/immunization/programmes_systems/supply_chain/resources/tools/en/index4.html. Programme managers or cold-chain logisticians should also prepare for different scenarios of vaccine delivery strategies (e.g. fixed/outreach, mobile, campaigns) and ensure adequate number of vaccine carriers, portable cold boxes, and coolant packs.

THE SITUATION ANALYSIS AND VACCINATION CONTINGENCY/ EMERGENCY PLANS SHOULD INCLUDE THE CURRENT STATUS OF COLD CHAIN, AND INFORMATION ON RESOURCE EQUIPMENT FROM OTHER SOURCES AND POWER SUPPLY.

Real-time tracking of temperature is essential. In case of equipment breakdown and/or electricity failure or fuel shortage, plans for alternative storage arrangements should be in place as a part of an emergency plan for the district and/or health facility.

The emergency plan for the district and/or health facility level should ensure the following:

- Readily available contact information of persons responsible for cold chain and logistics.
- Readily available information on location and functionality status of the nearby cold storage and/or alternative storage spaces.
- Adequate quantity of cold boxes and other passive containers (e.g. vaccine carriers) that can serve as temporary cold storage.
- Readily available information on transportation means for transfer of vaccines.
- Adequately trained staff for safe handling and transfer of vaccines to alternative locations.
- Regular check of availability of identified alternatives and awareness of the responsible persons.

In some contexts, it may be useful to keep a low-profile of the immunization cold-chain and vaccine carriers to ensure their integrity and safety.

► 4.5 Logistics

Logistics planning should ensure the availability of adequate quantities of vaccines and related ancillary items at all storage and service points in a timely and efficient manner. This represents a part of the microplanning process. In the context of humanitarian emergencies and cluster response, logistics activities can include shared leadership, communication, procurement, transportation and shipping, storage and warehousing, supply chain, inventory management, cold-chain logistics, reverse logistics, physical security and lodging, and personnel security. Most of these activities will likely be carried out as a part of the overall logistics cluster. The ITF should have the logistician as a member to coordinate logistical needs of vaccination interventions. Logistics management

EFFICIENT LOGISTICS ENSURES AVAILABILITY OF VACCINES AND EQUIPMENT WHERE AND WHEN NEEDED.

can be complex because of political and time constraints, dealing with national and international partners, gaps in human resources, lack of or poor-quality infrastructure, and security conditions.

Along with the distribution of vaccines and related items, distribution of funds is an integral part of the response. Disbursements of funds from the central level should be as quick and efficient as possible. When normal channels such as banks and institutions are not available or not functioning, solutions with partners and donors must be found while ensuring accountability for use of all resources at each level.

Processes and requirements to ensure this accountability must be established and all staff made should be made aware of them.

Real-time tracking of stock and active distribution plans are critical. To account for variability of demand and movement of people, it is important to optimize the stock kept in the central store/warehouse and at subnational levels. Pre-positioning supplies can serve to enable local actors to implement vaccinations at short notice once the situation allows.

Transportation of vaccines, related supplies and human resources should be well planned and should include in-country distribution timelines. The transport requirements may vary widely depending on the situation, therefore, flexibility in transport options and routes should be considered.

The plan should be budgeted, and although there is no simple formula for calculating the transport requirements, the following are suggested steps:

1. Identify transportation needs (vaccines and related supplies/materials, vaccination teams and other personnel such as supervisors) and consider various means of transportation (vehicles, boats, aircrafts, rafts, animals).
2. Conduct an inventory of available transportation resources at all levels.
3. Identify additional sources of transportation. Whenever possible and/or necessary, transportation of vaccines and staff should be integrated with that of other supplies, e.g. transporting vaccines via convoys and integrated with delivery of other medical or lifesaving supplies.
4. Estimate fuel needs based on average consumption per vehicle and estimated mileage per day.
5. Estimate costs of fuel and/or car rental if applicable. Calculations of the fuel should take into account possible variations in fuel prices within a country or field conditions. Analysing the historical meteorological records of the country or region helps determine the impact that severe weather might have on the cost and capacity of the transport system at different times of the year.

Additionally, the ITF should review safe waste disposal options¹⁷ during the planning phase. This should include an assessment of existing local practices (e.g. incineration, burying) and decision on a safe, locally-adapted, and feasible solution. Operational plans are further developed at sub-national levels and included in the overall logistics plan.

DISTRIBUTION OF FUNDS IS AN INTEGRAL PART OF THE RESPONSE AND SHOULD BE QUICK AND EFFICIENT.

PRE-POSITION SUPPLIES TO HELP IMPLEMENT VACCINATION AT SHORT NOTICE.

¹⁷ Management of wastes from immunisation campaign activities. http://apps.who.int/iris/bitstream/10665/204415/1/WHO_SDE_WSH_04.11_eng.pdf?ua=1, accessed July 2017.

► 4.6 Demand-related and community-based interventions

Interventions intended to generate demand and optimize uptake of vaccination among the affected population require a community and emergency-context specific approach and coordination among the various partners. Historical data on population acceptance and demand for vaccines is important for identifying potential barriers and facilitating factors, and for designing (and where possible, monitoring) the appropriate interventions. This assessment should be a part of the situation analysis within the vaccination contingency and/or response plan. Any additional rapid assessments may also be considered, to take into account any changing information channels, as well as any new or evolving social and cultural factors that may influence uptake of vaccination services. Community participation is crucial and involvement of influential leaders, such as religious and community leaders, will add to the success of the planning and implementation of the social mobilization strategy.

**INVOLVING COMMUNITY LEADERS
INCREASES THE SUCCESS OF THE
SOCIAL MOBILIZATION STRATEGY.**

The ITF may consider establishing a Community Reference Group to assist specifically conceptualizing and implementing the demand creation activities, and to help build trust within the beneficiary population. Assessing risk, insecurity level or emergency situation, along with identifying barriers to immunization and other priorities for the communities provides the basis for planning. Different advocacy strategies should also be considered at different levels to pave the way for successful implementation of the needed community engagement strategy.^{18,19}

**ENGAGE COMMUNITY AND
COORDINATE WITH PARTNERS TO
CREATE DEMAND AND OPTIMIZE
VACCINE UPTAKE.**

Existing global frameworks to ascertain demand-related needs and design appropriate interventions developed by UNICEF or other agencies should be used to guide the response.²⁰ In many countries routine vaccination programmes have traditionally focused on women of child-bearing age and children under five or even only on infants. In emergencies, vaccines may be given to older children and adult men and women. Depending on the target population, communication strategies may need to be altered as well as implementation strategies.

¹⁸ Communication for development. <https://www.unicef.org/cbsc/>, accessed July 2017.

¹⁹ WHO dealing with vaccine hesitancy. http://www.who.int/immunization/programmes_systems/vaccine_hesitancy/en/, accessed July 2017.

²⁰ Partnering with communities. http://apps.who.int/iris/bitstream/10665/70184/2/WHO_IVB_08.02_eng.pdf, accessed July 2017.

5. Implementing vaccination services in a humanitarian emergency

▶ 5.1 Securing access

In most emergency situations, access to vaccination service delivery can be hindered by lack of physical access to communities due to natural disasters or due to insecurity or ongoing conflict. Therefore, all strategies which facilitate service delivery and increase the uptake of vaccine (see [section 5.2](#)) should be considered according to the prevailing local situation.

Three key issues that significantly influence the type of strategies to be adopted are:

1. Prevailing security situation in the proposed areas of delivery.
2. Local community profile (acceptance and trust).
3. Level of support from national or local governments.

The following elements should be considered to help successful delivery of vaccination services.

- Detailed and thorough security analysis of the proposed areas of operation from a wide range of sources such as UN, WHO field security officers, local law enforcement officials, local or international NGOs, community-based organisations and local authorities with influence.
- Levels of insecurity or threat will determine the scope of activities to be conducted and the periods of access to communities.
- Thorough analysis of the local communities, their leadership, influential people, and political analysis is essential to engage with affected communities, and secure their trust and acceptance of the proposed health services.
- Securing community acceptance is the foundation for access.
- Local Access Negotiations (LAN) can be initiated after securing a better understanding of the local community, their influencers, and their critical needs.
- Integration of transport of vaccines and related supplies with that of other necessary products delivered in humanitarian emergencies.
- Combining different service delivery strategies according to the security situation, accessibility and stage of the emergency. Opportunistic vaccination in insecure areas with sporadic access with possible delivery strategies such as quick in-and-out operations, reaching target population through transit points, health camps, self or community-based vaccination, mobile clinics, and community protected campaigns in high-threat areas (see [section 5.2](#)).
- Community protection strategies or use of military escort in high-threat areas.
- Considering a range of activities over a period of time, rather than a one-off activity.

**COMMUNITY ACCEPTANCE IS
THE FOUNDATION FOR ALL
ACCESS APPROACHES.**

- “Remote management” of training or implementation of vaccination activities using local health-workers and community members in high-risk areas that are inaccessible to the UN and/or national staff, or where their movement is reduced or restricted.
- Mapping of settlements, communities, and internally-displaced people (IDPs) using all available means, such as technology, local information, and government and UN sources.
- Regular reviews and revisions of the microplans based on the evolving situation.
- Access to residents in informal settlements or irregular residents.
- Training of community health workers and non-traditional vaccinators (depending on agreement with national health authorities).
- Conducting and sustaining advocacy efforts with national and local government leadership to ensure that access for delivery of health interventions, including vaccinations, is highly prioritized, and any windows of opportunity are quickly used for delivery of health services.

5.1.1 NEGOTIATED ACCESS

Local negotiations can be effective only after community trust and acceptance is secured. In order to obtain community trust and acceptance, it is critical to engage local religious and traditional leaders, tribal or clan elders, and local authorities with influence. Where the humanitarian situation dictates, negotiation conducted in independent, neutral and impartial manner is essential. This may provide the opportunity to access more areas while sustaining credibility of the immunization programme. Only staff familiar with local culture and community should be engaged in these negotiations.

In some instances, a neutral third party may lead negotiations for access and safe passage. This can help to maintain an arm's length approach and avoid the engagement of UN or government officials with non-state armed groups. However, the local situation should be well understood and third party action carefully considered as some communities may not trust the third-party agents.

**ENGAGE INFLUENTIAL LOCAL
AUTHORITIES AND LEADERS TO
OBTAIN COMMUNITY TRUST.**

5.1.2 LOCAL COMMUNITY APPROACHES

In areas of active conflict, local community-based approaches can provide solutions for challenges due to political barriers or acute fighting. In long-standing conflicts, there is more clarity on leadership, as conflicting parties become generally better defined and more open to negotiations for the delivery of health services (including vaccinations) to areas under their control.

In refugee camps and informal settlements, it may be easier to identify key stakeholders for negotiation. Dialogues with community elders and leaders are essential prior to the delivery of services to ensure full support from the community in IDP camps and settlements.

5.1.3 INTERACTION WITH PARTNERS

ITF should actively cooperate with HC partners, as they often have more information on access to security-compromised areas. All available health care providers should be engaged in order to implement the planned activities in the shortest possible time and achieve the highest possible coverage, especially when implementing campaigns. Local NGOs, local

**CLOSE COORDINATION WITH
UNITED NATIONS DEPARTMENT
OF SAFETY AND SECURITY IS
CRITICAL TO IDENTIFY THE
TIME FOR OPPORTUNISTIC
VACCINATION EFFORTS.**

community groups, and faith-based groups are often very helpful in providing access to security-compromised areas and can help engage local health-care workers. Their contacts with local religious, tribal, and/or influential leaders can be helpful in religious/tribal advocacy for programme operations.

For insecure areas with sporadic access, close coordination with the United Nations Department of Safety and Security (UNDSS) or other security officials, and community contacts are critical to identify periods of access for opportunistic vaccination efforts. These may include pre-positioning vaccines and operational funds to quickly implement vaccination activities once a window of opportunity opens for quick in-and-out operations (in some locations referred to as “hit and run”).

5.1.4 REMOTE MANAGEMENT AND HUMAN RESOURCES MOBILIZATION

In case of disruption of the health system when the health-care facilities are destroyed, local health workers, staff and partners may still be available. When possible, planning, training of local staff, and management of operations can be conducted outside the high-risk zone using remote management approaches. This can be achieved through local organisations, or through communication technology solutions (like Skype, cell phone, WhatsApp). Further, in some contexts it may be an option to involve the local private sector, use military-provided health services or other (e.g. NGO) health facilities as well as mobile health clinics. In case of disruption of the central and/or subnational authorities, the aim should be to provide services directly with approval of community.

► 5.2 Strategies for vaccination service delivery

The decision on strategies for vaccination service delivery depends on the situation and the context of humanitarian emergency. Whenever possible, vaccination service delivery should occur through the routine immunization programme channels, following the established methods of service delivery.

When routine vaccination services are disrupted, the choice of vaccination strategy should consider accessibility, security situation, vaccination programme criticality, and the local community context. The selected strategy should be convenient and acceptable to local community. This may include third party negotiation or local access negotiation. Such negotiated access may determine or limit the options for service delivery as some parties may only agree on a specific type of delivery.

**CHOOSE THE VACCINATION STRATEGY
CONSIDERING ACCESSIBILITY,
SECURITY SITUATION, VACCINATION
PROGRAMME CRITICALITY AND LOCAL
COMMUNITY CONTEXT.**

Provision of vaccination should be impartial, and service delivery to residents, refugees, or population considered as non-state armed groups needs to be planned and ensured, as some of these groups may be unwilling or unable to access the governmental structures. The selected strategies for delivering routine vaccination depend on the condition and functioning of existing facilities. In case of damaged infrastructure, the possibility and overall benefit of establishing new vaccination posts in case of damaged infrastructure can be considered.

Vaccination service delivery can occur through:

- Fixed sites and/or outreach (i.e. permanent and temporary fixed sites).
- Mobile teams from fixed facilities.
- Mass campaigns, including “multiple vaccines” campaigns.

Fixed permanent sites, if available, and planned outreach on a regular basis are preferred options where there is satisfactory access. In situations of decreased accessibility, mobile teams or special “multiple vaccine”

campaigns may be the only options for vaccination service delivery. In sparsely populated areas with limited infrastructure, a mobile strategy may be the best option, but safe passage for health workers is paramount.

If there is a high risk of imminent disease outbreak, conducting a mass campaign in order to protect a large target population quickly is often the best option. The drawbacks to this strategy are its high cost and non-sustainability. Furthermore, ensuring procurement, shipment and reception of vaccines and supplies in a short period of time is a challenge. Therefore, (re)establishing and/or strengthening routine immunization activities in parallel with or after the campaign are important. In general, flexibility in approach to service delivery is often needed (e.g. combination of routine vaccination and campaigns, and possibly considering a staggered approach to the campaign).

**STRENGTHEN ROUTINE
VACCINATION IN PARALLEL WITH
THE CAMPAIGN.**

Should the context require, innovation and variation of strategies may be considered and used. Some examples include:

- Periodic intensification of routine immunization (PIRI).²¹
- Initiatives with community involvement as well as compensation to the community when the community organizes vaccination sessions. This can include strategies which encompass the recruitment (and training) of local and/or female volunteers to deliver vaccinations. This may further include the selection of a generally accepted location, for example the community guest room of village elder as a neutral venue for vaccination.
- Quick in-and-out operations, using windows of opportunity, such as temporary cease fires, to access the targeted area and conduct vaccination within a short timeline.
- Vaccination at transit points with frontline workers placed at the borders to vaccinate those exiting or entering hard-to-access and security compromised areas.
- Staggered approach.
- Cross-border team strategies.
- Partnering with private for-profit health service providers to increase access to vaccination and basic package of health care services.
- Collaboration with CSOs working in the area.

With the caveat that each context is different and may warrant a specific vaccination delivery strategy based on the local situation assessment, [Table 2](#) provides some suggested strategies according to different emergency situations.

²¹ Periodic Intensification of Routine Immunization. http://www.who.int/immunization/programmes_systems/policies_strategies/piri_020909.pdf, accessed July 2017.

Table 2: Suggested strategies for service delivery for specific contexts during different emergency situations

CONTEXT	OPERATIONAL STRATEGIES
Area of active conflict	<ul style="list-style-type: none"> • Outreach • Fixed sites for routine vaccination • Quick in-and-out operations • Vaccinations at transit points • Periodic intensification • Community-based involvement
Long-standing conflicts	<ul style="list-style-type: none"> • Outreach • Fixed sites • Periodic intensification • Mobile teams • Quick in-and-out operations • Vaccinations at transit points • Vaccination campaigns • Vaccination before moving populations out of newly accessed places • Under certain circumstances, partnership with medical services of the military
Natural disasters	<ul style="list-style-type: none"> • Fixed sites • Outreach • Mobile teams • Vaccination campaigns
IDP/Refugees	<ul style="list-style-type: none"> • Fixed sites • Outreach • Cross-border teams • Entry vaccination • Holding areas for observation before entry into camp • Vaccination campaigns
Disruption of the health system	<ul style="list-style-type: none"> • Periodic intensification • Partnerships with private for-profit health service providers • Vaccination campaigns • Re-establishment of basic health functions, including essential long-term medication programs like ARVs-HIV, DOTS-TB, etc.
Disruption of the central authority/subnational authorities	<ul style="list-style-type: none"> • Periodic intensification • Partnerships with private for-profit health service providers • Vaccination campaigns

Vaccination activities have at times been subject to serious attacks results in deaths. Some parties may perceive vaccination delivery as hostile or as a cover for a military purpose. In such a context, vaccinators should use a low profile approach while in the field and may choose small vaccine carriers to avoid attracting too much attention.

Obtaining valid consent from individuals prior to offering medical intervention is an obligation guided by ethical principles discussed in the Framework.¹ The nature of the consent processes during a humanitarian emergency will often differ from those appropriate in a routine, non-emergency health setting. Given the range of challenging conditions during such emergencies, verbal informed consent, without the use of signed consent documents, may be warranted. Informed consent processes should not preclude or delay the implementation of interventions.

In exceptional situations, there may be legitimate reasons to override an individual's refusal of vaccination. Where there is an imminent threat of infectious disease that poses a significant risk of substantial harm to a large number of persons, individual liberties may be justifiably curtailed, and “compulsory vaccination” may be indicated.

**RESPECT INTERNATIONAL
HUMAN RIGHTS AGREEMENTS
AND INTERNATIONAL
HUMANITARIAN LAWS.**

Any such vaccination programme curtailing personal liberties must balance competing ethical principles. Countries which impose such actions must respect their obligations under international human rights agreements and international humanitarian laws.

In any case, it is critically important to document the employed informed consent strategies.

DOCUMENT EMPLOYED INFORMED CONSENT STRATEGIES.

► 5.3 Vaccination schedule

Vaccinations should be administered according to the host country schedule and efforts should be made to maintain the same schedule throughout the country, including IDP camps, refugees hosted in the community, and areas which are not under government control. If this is not possible, the emphasis should be on preventing diseases outbreaks and providing the antigens as decided within the ITF. The decision-making process on the antigens to be included in the vaccination activities/immunization schedule during humanitarian emergency situation is guided by the Framework.

USE THE HOST COUNTRY VACCINATION SCHEDULE THROUGHOUT THE COUNTRY.

Recent reports from countries hosting refugees highlighted the difficulty in deciding on the appropriate immunization schedule for refugee populations/refugee camps. Questions that may be encountered are whether to continue the immunization schedule of the country of origin of the refugees or use the immunization schedule of the host country. Continuation of the immunization schedule of the country of origin may, should for example more antigens be covered by this schedule, raise animosities within the host population towards the refugee population and the perceived better health care coverage. All attempts should be made to provide vaccines to refugee populations using the vaccination schedule of the host country given that, while many refugees plan to return home, prolonged durations in host countries is more common than return to their home country.

“VACCINATION IN ACUTE HUMANITARIAN EMERGENCIES: A FRAMEWORK FOR DECISION MAKING” PROVIDES GUIDANCE ON DECIDING WHICH VACCINES TO INCLUDE.

► 5.4 Monitoring, evaluation and supportive supervision²²

Reporting of vaccination activities should be maintained in humanitarian emergency situations and can follow the regular reporting system of the EPI. If the national programme is interrupted, the ITF should ensure continuation of reporting. The chosen method and flow of data should ideally be the same as before the emergency, or simplified, if keeping the pre-emergency method is not feasible. Additionally, periodicity of reporting may be altered as well.

As a general principle, attempting to collect good quality basic data is preferable over attempting to collect complex exhaustive data which may be incomplete and/or of poor quality. If there are ongoing routine vaccination activities, weekly or monthly reporting may suffice. In case of a special campaign, vaccination delivery data should be submitted as

THE METHOD USED TO REPORT ON VACCINATION ACTIVITIES AND DATA FLOW SHOULD BE THE SAME AS BEFORE THE EMERGENCY, OR SIMPLIFIED.

²² Service delivery. http://www.who.int/immunization/programmes_systems/service_delivery/en/, accessed July 2017.

recommended by the ITF. Daily reporting is preferred in order to monitor and provide necessary support and/or modification in a timely manner.

ITF should develop simple but specific core monitoring indicators so that health workers and concerned partners understand goals and the evaluation process. Suitable monitoring indicators that include only a few core input, process and output indicators are recommended, with strong emphasis on avoiding overburdening the fragile system with unnecessary data collection and processing. This should be done with agreement of all involved partners and standardized for use by all involved.

**SIMPLE BUT SPECIFIC CORE
MONITORING INDICATORS
ARE RECOMMENDED.**

Monitoring can be part of the overall health care monitoring and results discussed in the HC meetings to ensure engagement of partners. Health care workers assigned monitoring and supervision should be trained in order to avoid difficulties in completing their appointed tasks. If travel for monitoring and supervision by concerned staff at the central or provincial levels to the periphery is not possible, and in case of disputed areas, training of local staff should be conducted so that they can take over this responsibility. Locally acting NGOs can help with this.

Independent monitoring during campaigns¹⁴ should not be omitted, even under the difficult or highly challenging situations. Locally active stakeholders, especially local NGOs, can take this responsibility. International technical partners, especially WHO, can take the responsibility of developing the related tools and training of local health workers on doing so.

Data sharing should be liberal and open. Collecting the information, production and sharing the indicators is the responsibility of the OCR under overall guidance of the ITF.

Field monitoring and supervision should be transparent and participatory and done in a systematic way using specifically designed checklists.^{23,24} Supervisors should have clear standard operating practices. In recent events, using modern technology for monitoring and supervision, such as WhatsApp and Skype where internet connection is available, proved to be highly effective for sharing data and indicators, and for follow up and discussion.²⁵ Trained volunteers could play an important role.

Independent monitoring, remote monitoring approaches, intra-programme monitoring to address barriers and bottlenecks which can guide programme adjustments and increase uptake should be considered.

It is important that every team is supervised, particularly early-on to ensure safety and that they are following the campaign as planned.

5.4.1 INFORMATION SHARING AND DISSEMINATION

Regardless of situation in the field, a well-defined data flow, established by the ITF, should ensure that data are rapidly and efficiently communicated to the correct persons, from the community and facility level up to district or national level decision makers (Figure 1).

The OCR plays an important role as data-collector and data-compiler and designated members of the ITF may analyse the data and oversee its collection. It is useful to report to the HC for support in obtaining needed resources. The HC is also an efficient mechanism to disseminate data on a regular basis and in a standard

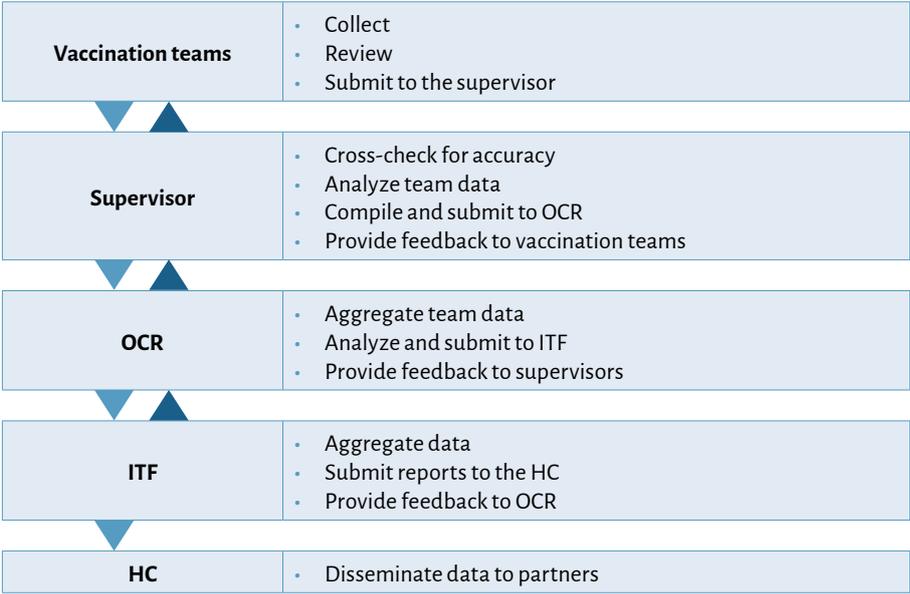
²³ Supportive supervision. http://www.who.int/immunization/documents/MLM_module4.pdf, accessed July 2017.

²⁴ Supervisory checklist on monitoring during a visit to a health unit. http://www.who.int/immunization/monitoring_surveillance/routine/indicators/monitoring_supervisory_checklist.pdf?ua=1, accessed July 2017.

²⁵ Real-Time Monitoring of Vaccination Campaign Performance Using Mobile Phones — Nepal, 2016. <https://www.cdc.gov/mmwr/volumes/65/wr/mm6539a5.htm>, accessed July 2017.

format to a large group of partners. The OCR can also be used to disseminate information from the ITF or other decision making body to the sub-national levels.

Figure 1 Proposed flow of data in the emergency hierarchy.



5.4.2 INDICATORS AT DIFFERENT LEVELS

Although the indicators may vary based on the context, an example of suggested indicators based on the different emergency situations is given in [Table 3](#) below.

Data required for calculating some of the indicators can be collected as part of the EPI assessment and updated periodically (e.g. some of the input indicators). Data for some other indicators can be collected as part of the regular reporting system (e.g. vaccination coverage by antigen).

Table 3 Suggested indicators for different emergency situations.

Types of indicators	Area of active conflict	Long-standing conflicts	Natural disasters	IDP/refugees
Input	<ol style="list-style-type: none"> 1. Number of individuals available (HR) 2. Number of trained local health workers able to provide immunizations 3. Cold chain availability and capacity 4. Number of supplied doses (by antigen). 5. Number and proportion of fixed sites functioning 	<ol style="list-style-type: none"> 1. Number of individuals available (HR) 2. Number of trained local health workers able to provide immunizations 3. Cold chain availability, capacity and functional status 4. Contribution of partners at provincial/ governmental level 5. Number of supplied doses (by antigen) 6. Number and proportion of fixed sites functioning 	<ol style="list-style-type: none"> 1. Number of individuals available (HR) 2. Number of trained local health workers able to provide immunizations 3. Cold chain availability, capacity, and functional status 4. Contribution of partners at provincial/ governmental level 5. Number of supplied doses (by antigen) 	<ol style="list-style-type: none"> 1. Number of individuals available (HR) 2. Number of trained local health workers able to provide immunizations 3. Cold chain availability, capacity and functional status 4. Contribution of partners at provincial/ governmental level 5. Number of supplied doses (by antigen)
Process	<ol style="list-style-type: none"> 1. Number of sessions/ activities per day/ week 2. Link with the Early Warning and Response Network (EWARN) for fever and rash/acute flaccid paralysis cases 	<ol style="list-style-type: none"> 1. Number of sessions/ activities per day/week 2. Number of vaccine vials utilized per (antigen) 3. Link with the VPD surveillance system or EWARN 4. Vaccine wastage 5. Waste disposal 	<ol style="list-style-type: none"> 1. Number of sessions/ activities per day/week 2. Number of vaccine vials used per antigen 3. Vaccine wastage 	<ol style="list-style-type: none"> 1. Number of sessions/ activities 2. Number of vaccine vials used per antigen 3. Link with the VPD surveillance system or EWARN 4. Vaccine wastage
Output	<ol style="list-style-type: none"> 1. Number of target population vaccinated per antigen per age group 2. Number of doses used 	<ol style="list-style-type: none"> 1. Vaccination coverage estimate² per antigen dose per age group 	<ol style="list-style-type: none"> 1. Number of target population vaccinated per antigen dose per age group 2. Vaccination coverage per antigen per age group 	<ol style="list-style-type: none"> 1. Vaccination coverage per antigen dose per age group

6. Exit strategy and early recovery of routine vaccination services

The exit strategy in this context is considered to be a transition from implementation of vaccination under humanitarian emergency to implementation of regular routine immunization. This should be planned early on and be part of the overall contingency/response plans. This approach may facilitate accountability and avoid donor fatigue. It needs to be highlighted that provision of routine vaccination should always be assured, not only at the stage of the exit strategy.

Shifting from crisis mode to rehabilitation of vaccination services and infrastructure should be considered only when the situation improves and a return to routine service delivery is possible.

The general aim is to optimize the use of the resources which were made available during the emergency. The interventions conducted, experience gained or innovations applied during the emergency should be sustained and strengthened. The partnership and coordination which have been built during the crisis should be sustained and the integrated health service delivery should be expanded and strengthened. Retaining staff who have been trained during the crisis and the additional infrastructure added during the emergency may aid in providing/sustaining high vaccination coverage.

Development or updating of a comprehensive multi-year plan may be useful for immunization programme recovery.

In protracted emergency situations, and even in active conflicts, all attempts should be made to (re)establish routine vaccination services utilizing available and rehabilitated health facilities and the activities of all health care providing partners who can deliver vaccination on the ground. The proportion of vaccinations provided through each of the fixed, outreach and mobile delivery strategies will depend on available and rehabilitated infrastructures as well as feasibility of implementation.



ANNEX 1: TEMPLATE OF A MICRO PLAN (PRELIMINARY VERSION TO BE TESTED IN THE FIELD)



1. The sample template may be used to generate a detailed budget for the campaign. The sample template may be retrieved from: http://www.who.int/immunization/Microplan_vaccination_humanitarian_emergencies.xlsx
2. The template may be modified to accommodate local needs. If modified by adding rows or columns, the formulas for calculating amounts/costs may need to be changed to include the modification.
3. Generally, inputs are made in white (non-shaded) cells. Specific instructions on each spreadsheet may indicate variations to this.
4. If using this spreadsheet, cells populated with numbers (NOT formulas) will need to be cleared and amounts/costs replaced with those specific to the current campaign.
5. Each sheet has instructions for the table within that sheet. These instructions are highlighted in purple just below the respective table.
6. The displayed example sheets provided below contain fictive numbers, amounts, costs, etc. indicated in each sheet.

Target and Required Supplies Bundles

No	Governorate	District	Health Facility	Total Population	Live births (3%)	Surviving infants (2.85%)	<5 Yr (15%)	Children 12-48 Months (9%)	Pregnant women (3%)	No of students in Class 1	No of Students in Class 6	Target coverage	Vaccine Variables:
		Sub Total		71,650.00	2,149,50	2,042,03	10,747,50	6,448,50	2,149,50	7,003,00	6,721,00		
B		a	i	25,048	751	714	3,757	2,254	751	2,652	2,130		
B		a	ii	34,590	1,038	986	5,189	3,113	1,038	4,370	4,202		
B		b	i	25,280	758	720	3,792	2,275	758	3,126	2,991		
B		b	ii	18,568	557	529	2,785	1,671	557	1,993	1,851		
B		b	iii	19,562	587	558	2,934	1,761	587	2,180	1,973		
		Sub Total		123,048,00	3,691,44	3,506,87	18,457,20	11,074,32	3,691,44	14,321,00	13,147,00		
		TOTAL		194,698,00	5,840,94	5,548,89	29,204,70	17,522,82	5,840,94	21,324,00	19,868,00		
Total Vials needed per Vaccine:													

Target Populations: Enter the number of target population for each Health Facility in columns. Change the column heading if necessary. In Target coverage C, normally 100%.



VACCINES														
No of Students in Class 6	Target coverage	Target Population 1			Target Population 2			Target Population 2			Target Population 2			
		BCC	Hep b	OPV (bi valent)	IPV	OPV (bi valent)	IPV	Penta	MMR	Number of Doses required	Total doses required with wastage	Total vaccine cost (Currency)	Number of Doses required	Total doses required with wastage
6,721,00		2,149	2,149	8,164	2,041	2,041	6,126	2,041	2,041	6,434	9,007,60	2,041	2,919	3,528,00
2,130		751	751	2,856	714	714	2,142	714	714	2,249	3,148,60	714	1,021	1,236,00
4,202		1,038	1,038	3,944	986	986	2,957	986	986	3,105	4,347,00	986	1,410	1,692,00
2,991		758	758	2,880	720	720	2,161	720	720	2,269	3,176,60	720	1,030	1,236,00
1,851		557	557	2,216	529	529	1,588	529	529	1,667	2,333,80	529	756	912,00
1,973		587	587	2,232	558	558	1,673	558	558	1,757	2,459,80	558	798	960,00
13,147,00		3,691	3,691	14,028	3,507	3,507	10,521	3,507	3,507	11,047	15,465,80	3,507	5,015	6,036,00
19,868,00		5,840	5,840	22,192	5,548	5,548	16,647	5,548	5,548	17,481	24,473,40	5,548	7,934	9,564,00
Total Vials needed per Vaccine:				6,133			24,411			6,103	17,481			797

In columns for Vaccines:

Enter the appropriate amount/cost for each Variable in the color coded cell.

Please note, 'Cost' is per vial.

The vaccine for that specific target population can be entered. Vaccines given above are the most common and given as example.

In the 'Total vaccine cost' column for each vaccine, please indicate the currency being used. The same currency should be used throughout the spreadsheet.

If you add columns for an additional vaccine/target population, you must adjust the formulas for the appropriate syringe needed and in the 'Total Bundle Cost' at the far right of the spreadsheet.

VACCINES																													
Target Population 6 and 7				Target Population 5				Target Population 2				Injections materials																	
Td for School students				Td for women				VitA				No. of AD syringes for BCG		Total cost of AD syringes for BCG		No. of other AD syringes		Total cost of other AD syringes (Currency)		No of 5 ml syringes for reconstitution (10 and 20 dose vials)		Total cost of 5 ml syringes (Currency)		No. of Safety Boxes		Total cost of safety boxes (Currency)		Total Bundle Cost of vaccines, injection materials and VitA (Currency)	
Number of Doses required	Total doses required with wastage	Total vaccine cost (Currency)		Number of Doses required	Total doses required with wastage	Total vaccine cost (Currency)		Number of Doses required	Total doses required with wastage	Total VitA capsules cost (Currency)		No. of AD syringes for BCG	Total cost of AD syringes for BCG	No. of other AD syringes	Total cost of other AD syringes (Currency)	No of 5 ml syringes for reconstitution (10 and 20 dose vials)	Total cost of 5 ml syringes (Currency)	No. of Safety Boxes	Total cost of safety boxes (Currency)	Total Bundle Cost of vaccines, injection materials and VitA (Currency)									
1			2				4											Box size:											
		10				10				500								100,00											
	1,10			1,10		1,50		1,10	1,10	10,40		0,15	0,15	1,10	0,15	0,25	0,25		1,50										
3,250	3,575	537,00	948	1,043	1,981	157,50	1,801	1,801	1,981	41,60	41,60	522	78,30	7,616	1,142,40	76,00	19,00	83	124,50	7,032									
3,248	3,573	537,00	964	1,060	2,015	159,00	1,832	1,832	2,015	52,00	52,00	531	79,65	7,683	1,152,45	77,00	19,25	83	124,50	7,140									
4,601	5,061	760,50	1,523	1,675	3,182	252,00	2,893	2,893	3,182	72,80	72,80	838	125,70	11,552	1,732,80	122,00	30,50	126	189,00	11,078									
2,625	2,888	433,50	864	950	1,806	142,50	1,642	1,642	1,806	41,60	41,60	476	71,40	6,570	985,50	69,00	17,25	72	108,00	6,291									
13,724	15,097	2,268,00	4,299	4,728	8,984	711,00	8,168	8,168	8,984	208,00	208,00	2,367	355,05	33,421	5,013,15	344,00	86,00	364	546,00	31,541,30									
4,782	5,260	789,00	1,503	1,653	3,141	249,00	2,855	2,855	3,141	72,80	72,80	827	124,05	11,667	1,750,05	120,00	30,00	127	190,50	11,023									
8,572	9,429	1,414,50	2,075	2,283	4,337	343,50	3,943	3,943	4,337	93,60	93,60	1,142	171,30	18,276	2,741,40	166,00	41,50	196	294,00	15,880									
6,117	6,729	1,009,50	1,517	1,669	3,170	250,50	2,882	2,882	3,170	72,80	72,80	834	125,10	13,193	1,978,95	121,00	30,25	142	213,00	11,554									
3,844	4,228	634,50	1,114	1,225	2,329	184,50	2,117	2,117	2,329	52,00	52,00	613	91,95	8,978	1,346,70	89,00	22,25	97	145,50	8,267									
4,153	4,568	685,50	1,174	1,291	2,453	195,00	2,230	2,230	2,453	52,00	52,00	646	96,90	9,574	1,436,10	94,00	23,50	104	156,00	8,748									
27,468	30,214	4,533,00	7,383	8,121	15,430	1,222,50	14,027	14,027	15,430	343,20	343,20	4,062	609,30	61,688	9,253,20	590,00	147,50	666	999,00	55,471,30									
41,192	45,311	6,801,00	11,682	12,849	24,414	1,933,50	22,195	22,195	24,414	551,20	551,20	6,429	964,35	95,109	14,266,35	934,00	233,50	1,030	1,545,00	87,012,60									
		4,534				1,289				53																			

87,013

Injections Materials:

Enter the wastage factor and enter the cost of each item.

For safety boxes, enter the box size in cell AV8, taking into account any 'safety margin' per box (eg. 100 syringe box filled to 80% = box size of 80)

NOTE: If you add additional columns for more vaccines in the vaccine area, you must adjust the formulas for syringes and safety boxes to include the additional amounts.

Required Human Resources

Gov.	District	H.F	Nurses				Supervisors				Administrators				Other Personnel				Total Salaries (Currency)		
			No. of Nurses	No. of months	Salary per month	Total Salaries	No. of super- visors	No. of months	Salary per month	Total Salaries	No. of Admini- strators	No. of months	Salary per month	Total Salaries/ Yr (US\$ 300/m/ admin in charge)	Type of Staff	No. of Staff	No. of months	Salary per month		Total Salaries	
A	a	i	1	12	200	2,400	-	-	-	-	-	-	-	-	-	-	-	-	2,400		
A	a	ii	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A	b	i	2	12	200	4,800	-	-	-	-	-	-	-	-	-	-	-	-	4,800		
A	b	ii	1	12	200	2,400	-	-	-	-	-	-	-	-	-	-	-	-	2,400		
A	District Office A						1	1	400	400	400	1	12	300	3,600	-	-	-	4,000		
A	District Office B						1	1	400	400	400	1	12	300	3,600	-	-	-	4,000		
Main Office							1	12	500	6,000	6,000	-	-	-	-	Assistants	3	12	250	9,000	15,000
	Sub Total		4			9,600	3		6,800	6,800	2				7,200		3		9,000	32,600	
B	a	i	1	12	200	2,400	-	-	-	-	-	-	-	-	-	-	-	-	2,400		
B	a	ii	2	12	200	4,800	-	-	-	-	-	-	-	-	-	-	-	-	4,800		
B	b	i	1	12	200	2,400	-	-	-	-	-	-	-	-	-	-	-	-	2,400		
B	b	ii	4	12	200	9,600	-	-	-	-	-	-	-	-	-	-	-	-	9,600		
B	b	iii	2	12	200	4,800	-	-	-	-	-	-	-	-	-	-	-	-	4,800		
B	District Office A						1	1	400	400	400	1	12	300	3,600	-	-	-	4,000		
B	District Office B						1	1	400	400	400	1	12	300	3,600	-	-	-	4,000		
Main Office							1	12	500	6,000	6,000	-	-	-	-	Assistants	3	12	250	9,000	15,000
	Sub Total		10			24,000	3		6,800	6,800	2				7,200		3		9,000	47,000	
	TOTAL		14			33,600	6		13,600	13,600	4				14,400		6		18,000	79,600	
																					30

Human Resources:

For each level, Health Facility (HF), District, Governate/State, fill in the Number of Staff, number of months to be paid, and the salary per month.

For 'Other Personnel', there is a column to identify the Type of staff needed such as Assistant, driver, supply clerk, etc.,

Training

No	Gov	District	H.F	Trainees					Facilitators					Misc. Costs		
				No. of Trainees	No. of training Days	Per diem of Trainees (Currency)	Total Cost of Transportation of Trainees (Currency)	Total Cost per H.F. for Trainees	No. of Facilitators	No. of Facilitator Days	No. of sessions (Max 25 trainees)	Per diem of Facilitators (Currency)	Total Cost of Transportation of Facilitators (Currency)	Total Cost for Facilitators	Misc. Expense per day per person (Stationary/ refreshment/ etc.)	Total Misc. Cost
1	A	a	i	11	2	20	30	470						15	330	800
2	A	a	ii	12	2	20	30	510						15	360	870
3	A	b	i	6	2	20	30	270						15	180	450
4	A	b	ii	10	2	20	30	430						15	300	730
5	A													15	270	910
		Sub Total (at Governorate level)		39				1,680	3	3	2				640	3,760
6	B	a	i	10	2	20	30	430						15	300	730
7	B	a	ii	5	2	20	30	230						15	150	380
8	B	b	i	12	2	20	30	510						15	360	870
9	B	b	ii	16	2	20	30	670						15	480	1,150
10	B	b	iii	8	2	20	30	350						15	240	590
	B								3	3	2	100		15	270	910
11		Sub Total (at Governorate level)		51				2,190	3	3	2	640			1,800	4,630
12		TOTAL		90				3,870	6	6	4	1,280			3,240	8,390
																8,390

Training:

For each location scheduled for training, fill in the total number to be trained, the number of days, the per diem (if necessary) per each location and the total cost of transportation for the location.

Fill in the information on Facilitators needed to carry out the training in each Governorate/State as per the column headings.

Travel of supervisors

No.	Gov	District	No. of supervisors	No. of overnight stays per month	Perdiem per overnight stay (Currency)	Total per diem cost for overnight stays (Currency)	No. of travel days per month	Transport cost per day	Total transport cost (Currency)	Total Travel Cost per Month (Currency)	Number of months in campaign	Total Travel Cost (Currency)
	A	Aa	2	2	50	200	15	20	600	800	12	9,600
	A	Ab	3	3	50	450	15	20	900	1,350	12	16,200
	A		2	6	50	600	15	20	600	1,200	12	14,400
		Sub Total (at Governorate level)				1,250			2,100	3,350	12	40,200
	B	Ba	2	2	50	200	15	20	600	800	12	9,600
	B	Bb	2	2	50	200	15	20	600	800	12	9,600
	B		3	6	50	900	15	20	900	1,800	12	21,600
		Sub Total (at Governorate level)				1,300			2,100	3,400	12	40,800
		TOTAL				2,550			4,200	6,750	12	81,000

For supervisor travel, fill in the appropriate number/amount for each district/Governorate/State for each column in the cells as necessary.

Operating Costs

Gov	District	Health Facility	Cost of fuel for generators per month (Currency)	Cost of fuel for heating per month (Currency)	Cost of transport per month (Currency)	Misc. cost per month (Currency)	Total Operating Cost per Month (Currency)	No. of months in campaign	Total Cost for Campaign (Currency)
A	a	i	-	100	-	50	150	12	1,800
A	a	ii	-	100	-	50	150	12	1,800
A	b	i	-	100	-	50	150	12	1,800
A	b	ii	-	100	-	50	150	12	1,800
A	Aa		200	150	-	100	450	12	5,400
A	Ab		200	150	-	100	450	12	5,400
A			350	200	250	150	950	12	11,400
Sub Total			750	900	250	550	2,450		29,400
B	a	i	-	100	-	50	150	12	1,800
B	a	ii	-	100	-	50	150	12	1,800
B	b	i	-	100	-	50	150	12	1,800
B	b	ii	-	100	-	50	150	12	1,800
B	b	iii	-	100	-	50	150	12	1,800
B	Ba		200	150	-	100	450	12	5,400
B	Bb		200	150	-	100	450	12	5,400
B			350	200	250	150	950	12	11,400
Sub Total			750	1,000	250	600	2,600		31,200
	TOTAL		1,500	1,900	500	1,150	5,050		60,600

Operating Costs: fill in the necessary cells in columns for each HF, District, and Governate as necessary.

Cold Chain Equipment

Gov.	District	H.F	Refrigerators			Freezers			Cold Boxes			Vaccine Carriers			Temperature Recorders			Freeze Watch			Generators			Batteries			Total cost of Cold Chain (Currency)
			No.	Price (Currency)	Total cost (Currency)	No.	Price (Currency)	Total cost (Currency)	No.	Price (Currency)	Total cost (Currency)	No.	Price (Currency)	Total cost (Currency)	No.	Price (Currency)	Total cost (Currency)	No.	Price (Currency)	Total cost (Currency)	No.	Price (Currency)	Total cost (Currency)	No.	Price (Currency)	Total cost (Currency)	
A	a	i	2	500	1,000	1	700	700	8	80	640	12	50	600	40	1	40	40	2	80	1	800	800	2	100	200	4,060
A	a	ii	-	500	-	1	700	700	3	80	240	10	50	500	8	1	8	10	2	20	1	800	800	2	100	200	2,468
A	b	i	5	500	2,500	1	700	700	4	80	320	11	50	550	12	1	12	10	2	20	1	800	800	2	100	200	5,102
A	b	ii	1	500	500	1	700	700	-	-	-	9	50	450	20	1	20	11	2	22	1	800	800	2	100	200	2,692
A	Aa		4	500	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,000	
A	Ab		4	500	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,000	
A			4	500	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,000	
	Sub Total		20		10,000	4		2,800	15		1,200	42		2,100	80		80	71		142	4		3,200	8		800	20,322
B	a	i	2	500	1,000	1	700	700	5	80	400	10	50	500	30	1	30	35	2	70	1	800	800	2	100	200	3,700
B	a	ii	-	500	-	2	700	1,400	2	80	160	7	50	350	23	1	23	12	2	24	1	800	800	2	100	200	2,957
B	b	i	4	500	2,000	4	700	2,800	2	80	160	6	50	300	19	1	19	16	2	32	1	800	800	2	100	200	6,311
B	b	ii	2	500	1,000	-	-	-	1	80	80	5	50	250	40	1	40	12	2	24	1	800	800	2	100	200	2,394
B	b	iii	3	500	1,500	1	700	700	6	80	480	4	50	200	34	1	34	13	2	26	1	800	800	2	100	200	3,940
B	Ba		4	500	2,000	2	700	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,400	
B	Bb		4	500	2,000	2	700	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,400	
B			4	500	2,000	2	700	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,400	
	Sub Total		23		11,500	14		9,800	16		1,280	32		1,600	146		146	88		176	5		4,000	10		1,000	29,502
	TOTAL		43		21,500	18		12,600	31		2,480	74		3,700	226		226	159		318	9		7,200	18		1,800	49,824

Cold Chain Equipment: For each administrative level, in the cells fill in the appropriate number and price for each piece of equipment needed.

Summary Cost of Campaign Budget

No.	Gov.	District	H.F.	Vaccine Cost	Human Resources	Training	Travel	Operating Cost	Cold chain	Grand Total (Currency)
	A	a	i	7,032	2,400	800		1,800	4,060	16,092
	A	a	ii	7,140	-	870		1,800	2,468	12,278
	A	b	i	11,078	4,800	450		1,800	5,102	23,230
	A	b	ii	6,291	2,400	730		1,800	2,692	13,913
	A	Aa			4,000		9,600	5,400	2,000	21,000
		Ab			4,000		16,200	5,400	2,000	27,600
	A				15,000	910	14,400	11,400	2,000	43,710
		Sub Total		31,541	32,600	3,760	40,200	29,400	20,322	157,823
	B	a	i	11,023	2,400	730		1,800	3,700	19,653
	B	a	ii	15,880	4,800	380		1,800	2,957	25,817
	B	b	i	11,554	2,400	870		1,800	6,311	22,935
	B	b	ii	8,267	9,600	1,150		1,800	2,394	23,211
	B	b	iii	8,748	4,800	590		1,800	3,940	19,878
	B	Ba			4,000		9,600	5,400	3,400	22,400
	B	Bb			4,000		9,600	5,400	3,400	22,400
	B				15,000	910	21,600	11,400	3,400	52,310
		Sub Total		55,471	47,000	4,630	40,800	31,200	29,502	208,603
		TOTAL		87,013	79,600	8,390	81,000	60,600	49,824	366,427
				87,013	79,600	8,390	81,000	60,600	49,824	366,427

NOTE: Amounts in this summary table flow from the respective detailed sheet.

PLEASE DO NOT ADJUST AMOUNTS HERE. Make any adjustments in the individual sheets

Sample Calculation

Total Population	Live births	surviving infant	< 5 Yr	Pregwomen
	3%	2,80%	15%	3%
10,000	300	280	1,500	300
20,000	600	560	3,000	600
30,000	900	840	4,500	900
40,000	1,200	1,120	6,000	1,200



ANNEX 2: MAPPING OF INTERNATIONAL ENTITIES ACTIVE IN SUPPLY OF VACCINES IN HUMANITARIAN EMERGENCIES

Purpose

People affected by emergencies, epidemics and other humanitarian crises face unique challenges to access recommended vaccinations. Among these, countries and humanitarian organizations have highlighted the lack of clarity on how to access vaccine supply with support from international agencies.

This document aims to provide information on the main international entities involved in supporting supply of vaccines in humanitarian emergencies and on how to access this support.

The document is intended for stakeholders in charge of planning and managing immunization service delivery in a given humanitarian emergency context i.e. staff from the national immunization programme, from ministries of health (MoHs) and possibly other ministries, from the district and local level, from local, national and international non-governmental organizations (NGOs) as well as from international organizations.

Methodology

A web search was undertaken to identify entities active in supply of vaccines in humanitarian emergencies for each of the 48 Health Cluster partners.²⁶ Wherever the web search identified an active role in the areas of vaccine funding, supply and/or procurement as defined below, further investigation was conducted through questionnaires and direct contact with relevant entities.

²⁶ <http://www.who.int/health-cluster/partners/current-partners/en/> (last accessed 05.12.2016)

Conclusions were drawn on the main actors supporting countries to access urgent vaccine supply. For each of these entities, relevant information on organizational role, type of support provided, vaccine and country eligibility, links to useful information, and information on how to access support were provided.

In addition, all manufacturers with WHO prequalified products have been listed with their contact information. Finally, Gavi, the Vaccine Alliance, Cerf, and bilateral donors were also added to the list given their key role in vaccine funding, including in emergencies.

The following definitions were applied to investigate organizational roles:

- **Funding:** provision of financial support for vaccine purchase including for use in humanitarian emergencies.
- **Vaccine supply and management:** vaccine production and management of vaccine stockpiles.
- **Vaccine procurement:** purchasing and arranging delivery of vaccines to countries.²⁷

It should be noted that mention of an organization within this document is not an implicit endorsement of the quality of its operations. Also, no mention of entities does not preclude their engagement in supply of vaccines in humanitarian emergencies.

This annex will be updated periodically to reflect any major change in landscape.

Key international entities supplying vaccines in humanitarian emergencies

Following a review of all health cluster organizations and their current involvement in vaccine supply for humanitarian emergencies, **it is concluded that there are currently ten entities active in core supply functions.** In addition to providing funding, vaccine supply, and/or vaccine procurement, some of these entities also provide:

- International and/or local **coordination and communication** between different partners and local actors.
- **In-country vaccine delivery** through in country vaccine distribution, vaccination campaigns and outreach, and/or implementation of vaccination services.
- **Technical support** such as education & training on vaccination, vaccination logistic support, monitoring and assessment.

An overview of each entity role is provided in [Table I](#) below. A more detailed description of support provided and how to access it is provided in [Table II](#).

In addition, vaccine manufacturers endeavour to ensure a reliable supply of safe and effective vaccines to communities worldwide. In certain cases they might provide adapted product pricing for emergency situations, in-kind donations to meet pressing needs, and funding to support emergency operations. Policies are specific to each manufacturer and programs to deal with humanitarian emergencies vary from a manufacturer to another. There are currently 145 vaccines and 239 vaccine presentations prequalified for quality, safety and efficacy by the WHO prequalification programme.²⁸ Their manufacturer and related contact information for direct access is provided in [Table III](#).

²⁷ Of note, only organizations with a clear role in funding, supply & management, and procurement of **vaccines** were included. Entities only involved in these functions for **vaccine-related equipment** were excluded from the final list of active entities.

²⁸ http://www.who.int/immunization_standards/vaccine_quality/PQ_vaccine_list_en/en/ (last accessed 05.12.2016)

Finally, several bilateral donors are active in the context of humanitarian emergencies. Countries wishing to receive financial support for immunization can directly discuss potential options with donors present in the country. Given specificity of support to each donor and to each country circumstance, no further information for these entities is provided in this document.

Table I Overview of key entities

Organization	Role					
	Coordination	Vaccine supply	Funding	Vaccine procurement to country	In-country vaccine delivery	Technical support
1. UNICEF		√	√	√	√	√
2. ICG		√				
3. CDC			√			√
4. MSF				√	√	√
5. IFRC	√			√		√
6. Gavi			√			
7. Global Fund			√			
8. CERF			√			
9. Bilateral Donors			√			
10. Vaccine manufacturers		√				

Table II Organization specifics

1. UNICEF

	Description	Useful Links
Role	Vaccine supply & equipment coordination, management, funding, vaccine procurement to country, in-country vaccine distribution, technical support	http://www.unicef.org/emergencies/
Role description	<p>UNICEF provides rapid supply responses in emergency situations. UNICEF serves the following functions:</p> <ul style="list-style-type: none"> • Works with Governments and/or non-government entities (eg. partners with MSF or International movement (IFRC/ICRC) in conflict affected areas with limited access). • Participates in health sector coordination and other coordination forums. • Supplies vaccines, vaccine related devices such as safety boxes, syringes, and yellow cards in addition to cold chain equipment procurement and logistics. • Provides technical support for forecasting, planning and monitoring vaccination campaigns as well as support in logistics and capacity building. • Offers operational support for routine immunization, vaccination campaigns, outbreak response, training and social mobilization. • Ensures rapid provision of a context-appropriate package of services, typically includes measles vaccination & distribution of vitamin A. 	http://www.unicef.org/supply/
Policy/ framework	<p>UNICEF acts in humanitarian emergencies under the guidance of:</p> <ul style="list-style-type: none"> • Core commitment for children in Humanitarian Action • WHO guidelines for epidemic preparedness and response to measles outbreaks • Resources for polio eradicators 	<p>http://www.unicef.org/emergencies/index_68710.html</p> <p>http://www.who.int/csr/resources/publications/measles/WHO_CDS_CSR_ISR_99_1/en/</p> <p>http://www.polioeradication.org/ResourceLibrary/Resourcesforpolioeradicators.aspx</p>
Vaccine covered	All vaccines as per national schedules (in emergency settings, mainly measles, polio, OCV).	
Eligibility	<p>All countries, all children and women of child bearing age.</p> <p>Prior to shipment, recipient country must demonstrate that there is enough cold chain capacity and that custom clearance and regulatory approvals have been granted</p>	
How to access support	On request from country government, based on the agreed response plan endorsed by WHO / UNICEF, usually through UNICEF country and regional offices.	

2. International Coordination Group for Vaccine Provision (ICG)

	Description	Useful Links
Role	Mechanism to manage and coordinate the provision of emergency vaccine supplies and antibiotics to countries during major outbreaks.	http://www.who.int/csr/disease/icg/en/
Role description	<p>The ICG is an emergency vaccine stockpile managed by 4 partners: UNICEF, MSF, IFRC and WHO. In the context of humanitarian emergencies, it provides the following functions:</p> <ol style="list-style-type: none"> 1. Receives request for vaccine from countries. 2. ICG secretariat at WHO circulates the request for stockpile use to the 4 partners to review and assess. 3. If request is granted, UNICEF procures the vaccines and injection materials needed and organizes delivery to the country, ideally within 7 days. 	
Policy/framework	N/A	
Vaccine covered	The ICG stockpile currently covers 3 vaccines: meningitis, yellow fever and cholera.	
Eligibility to support	Any country facing an epidemic, as long as it fulfils ICG's criteria for release of vaccine stocks.	
How to access support	<p>Procedure to access the vaccine stocks managed by ICG:</p> <ul style="list-style-type: none"> • Request to ICG secretariat at WHO headquarters through one of the 4 ICG member agencies. • Decision to release vaccine stocks is grounded in evidence-based criteria that includes: epidemiological evidence of an outbreak, lab confirmation of pathogen, cold chain storage capacity, the country's demonstrated capacity to conduct a vaccination campaign and an accompanying plan of action for mass vaccination. 	<p>Yellow Fever: http://www.who.int/csr/disease/meningococcal/icg/en/</p> <p>Cholera: http://www.who.int/entity/csr/disease/icg/ICG_OCV_Request_Form_Cholera.doc?ua=1</p> <p>Meningitis: http://www.who.int/csr/disease/meningococcal/icg/en/</p>

3. US Centers for Disease Control and Prevention (CDC)

	Description	Useful Links
Role	Technical support in countries affected by a disaster, funding in some specific cases.	
Role description	<p>At the request of governments or partners, CDC can provide technical assistance in affected countries.</p> <p>Technical support may include assessments, surveys, planning of immunization campaigns, guidance on target population to be vaccinated, assessment of cold chain capacity following a disaster, etc.</p> <p>Funding could also be done in specific cases to purchase vaccines or to support program implementation.</p>	
Policy/ Framework	N/A	
Vaccine covered	N/A	
Eligibility	All countries affected by a natural or man-made disaster can apply for technical support. Funding may be restricted to specific areas or events.	
How to access support	On request	
Notes	The Office of Foreign Disaster Assistance (OFDA) part of the United States Agency for International Development (USAID) is in charge of humanitarian response and coordinates US government partners (USG) response.	https://www.usaid.gov/who-we-are/organization/bureaus/bureau-democracy-conflict-and-humanitarian-assistance/office-us

4. Médecins Sans Frontières (MSF)

	Description	Useful Links
Role	Vaccine procurement to country, in-country distribution of vaccines, technical support	
Role description	<p>Médecins Sans Frontières is an organization that delivers emergency aid to people affected by humanitarian emergencies.</p> <p>In the context of humanitarian emergencies, MSF provides the following vaccine supply functions:</p> <ul style="list-style-type: none"> • Routine vaccination • Wide-scale outbreak response and vaccination campaigns • Preventive vaccination campaigns (during or outside of humanitarian crisis situations) • Vaccine campaign logistics, sensitization activities linked to campaigns • Disease case management & surveillance • Vaccine procurement and distribution within the country to areas where MSF implements vaccination activities 	
Policy/ Framework	MSF acts in humanitarian emergencies under the guidelines of the <i>Emergency Response Framework</i> .	http://www.who.int/hac/about/erf_.pdf
Vaccine covered	<ul style="list-style-type: none"> • In outbreak response and prevention of outbreak: according to the disease (if preventive according to epidemic prone disease(s) most at risk) • In preventive vaccination in humanitarian emergencies: priority given according to highest public health threat and burden; mostly measles, DPT-Hib-HepB, OPV, PCV, OCV1, (YF, Typhoid, Meningitis A, Jap. Encephalitis are also considered) 	
Eligibility	MSF support is available to any population	
How to access support	Support from MSF is accessible based on discussions between the organization and authorities	

5. International Federation of Red Cross and Red Crescent Societies (IFRC)

	Description	Useful Links
Role	Vaccine procurement to country, technical support, direct service delivery in selected settings, funding to its national societies.	
Role Description	<p>The International Federation of Red Cross and Red Crescent Societies acts before, during and after disasters and health emergencies to meet the needs and improve the lives of vulnerable people.</p> <p>In the context of humanitarian emergencies, IFRC seeks to serve the following vaccine supply functions:</p> <ul style="list-style-type: none"> • Funds national societies of the federation to carry out social mobilization activities for vaccination campaigns including measles and rubella, polio, meningitis, yellow fever and cholera. • Access to specific items through IFRC: purchase vaccines and equipment through IFRC emergency catalogue. • Supports polio immunization efforts • Procures in some contexts • Works on demand creation, social mobilisation & campaign logistics 	<p>IFRC Emergency catalogue</p> <p>http://procurement.ifrc.org/catalogue/</p>
Policy/ Framework	IFRC is developing guidelines for distribution to the national societies on best practices for immunization in diverse settings.	
Vaccine covered	The IFRC support covers the following vaccines: measles, rubella and polio.	
Eligibility	IFRC support is available in regions affected by man-made or natural disasters.	
How to access support	<p>IFRC uses a variety of methods to support immunization activities, including using disaster relief emergency funds (DREF), emergency appeals, and project cooperation agreements with diverse partners.</p> <p>IFRC works with partner national societies who are the implementing partners for most activities.</p>	

6. Gavi, The Vaccine Alliance (Gavi)

	Description	Useful Links
Role	Funding	
Role Description	<p>Gavi, the Vaccine Alliance is public private partnership that aims to create equal access to new and underused vaccines for children living in the world's poorest countries.</p> <p>In the context of humanitarian emergency, Gavi serves the following vaccine supply function:</p> <ul style="list-style-type: none"> • New Vaccine Support (NVS) <ul style="list-style-type: none"> – Countries with NVS can request Gavi to re-route vaccines if applicable and revise the delivery plan. – Countries can request for Gavi procurement of replacement vaccines in case vaccines have been destroyed or cannot be accessed. • In humanitarian emergencies Gavi will apply its Health Systems Strengthening Support (HSS), operational support, co-financing & performance based funding with flexibilities. Support may be implemented through Civil Society Organisations (CSOs) in situations where the government and Alliance partners cannot reach certain areas, in full disclosure to the government. • The policy includes provisions for situations of displaced people and refugees, including that countries can request additional vaccines to cater for an influx of refugees. 	http://www.gavi.org/about/governance/programme-policies/gavi-policy-on-fragility-and-immunisation/
Policy	In the context of humanitarian emergencies, Gavi follows its policy Gavi and fragile states: a country by country approach. This policy is being revised in 2016/2017.	http://www.gavi.org/about/governance/programme-policies/gavi-policy-on-fragility-and-immunisation/
Vaccine covered	Gavi's support includes the following vaccines: HPV, polio, Japanese encephalitis, measles, measles-rubella, meningitis A, OCV, pentavalent, PCV, rotavirus, yellow fever.	
Eligibility	<p>Gavi's support applies to Gavi-eligible countries with GNI per capita of US\$ 1,580 on average over the past three years (according to World Bank data published every year on 1 July).</p> <p>Flexibilities under this policy can be extended to Gavi supported countries in the following types of situations:</p> <ol style="list-style-type: none"> 1. Countries with fragility 2. Short term emergency situations 3. Situations involving displaced people <p>Flexibilities can be extended also to countries that are transitioning out of Gavi support.</p>	http://www.gavi.org/about/governance/programme-policies/gavi-policy-on-fragility-and-immunisation/
How to access support	<p>Request made by country government or Gavi in-country partners (WHO/UNICEF)</p> <p>Endorsed by country mechanisms for immunisation coordination (interagency Coordination Committee); mechanism coordinating emergency responses</p>	

7. Global Fund

	Description	Useful Links
Role	Funding	
Role Description	<p>The Global Fund to fight AIDS, Tuberculosis and Malaria is a partnership organization designed to accelerate the end of AIDs, TB and Malaria.</p> <p>In humanitarian emergencies, the Global Fund may provide funding for TB vaccines. It provides support through the following ways:</p> <ul style="list-style-type: none"> • Support to preventive measures for tuberculosis. • Procurement and distribution of health products. • Grant can be used for security arrangements for transport, storage and distribution of drugs. Services may be covered by the grant depending on local context. Implementers will be chosen by the Global Fund Secretariat. <p>Emergency funds can be in the form of an additional incremental funding topping up an existing grant or a new grant.</p>	
Policy/ Framework	The Global Fund follows the Guidelines On The Emergency Fund Special Initiative	http://www.theglobalfund.org/documents/core/guidelines/Core_GuidelinesOnEmergencyFund_Guideline_en/
Vaccine Covered	Tuberculosis	
Eligibility	<p>Global Fund emergency funding is available to populations under the following situations:</p> <ul style="list-style-type: none"> • Countries facing level 2/3 emergency (IASC); or WHO classified grade 2/3 emergency • Targeted populations in the country where they originally resided are eligible to receive Global Fund financing (e.g. Syrian refugees in ineligible countries like Lebanon, Jordan and turkey) 	
How to access support	On request. Request should be the outcome of a dialogue between the country team and in-country partners involved in the emergency response.	



8. CERF

	Description	Useful Links
Role	Funding	http://www.unocha.org/cerf/
Role description	<p>The Central Emergency Response Fund (CERF) is a humanitarian fund established by the United Nations General Assembly in 2006 and is a fast funding mechanism to support humanitarian response for people affected by natural disasters and armed conflicts. It provides rapid initial funding for life-saving assistance at the onset of humanitarian crises, as well as critical support for poorly funded humanitarian response operations.</p> <p>The fund is managed by OCHA.</p> <p>CERF pools contributions from donors – mainly governments, but also, foundations, companies, charities and individuals – into a single fund with a \$450 million annual target. CERF hopes to reach an annual budget of \$1 billion by 2018. .</p>	
Policy/framework	CERF is guided in action by its related United Nations General Assembly Resolutions	http://www.unocha.org/cerf/about-us/who-we-are/general-assembly-resolutions-o
Vaccine covered	Typically measles, yellow fever, polio and other outbreak-prone diseases in emergencies	
Eligibility	CERF funds are channelled through UN agencies. To be eligible for support, requests must meet CERF's life-saving criteria i.e. the needs are urgent and the proposed activities will save lives. Reactive mass vaccination campaigns are typically eligible.	https://docs.unocha.org/sites/dms/CERF/FINAL_Life-Saving_Criteria_26_Jan_2010__E.pdf
How to access support	UN agencies are eligible to apply for grants and loans, based on priorities established under the leadership of the Humanitarian/ Resident Coordinator (RC/HC) in the field, who drives the process. Sub-grants can be made to governments or NGO implementing partners. UN agencies can apply jointly or bilaterally by submitting proposals to the field RC/HC who will submit an application package to the CERF Secretariat.	http://www.unocha.org/cerf/resources/apply-cerf-funds

Table III Vaccine Manufacturers

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
Bharat Biotech International Limited	Mr. Sai D. Prasad prasadsd@bharatbiotech.com	Polio Vaccine - Oral (OPV) Bivalent Types 1 and 3	Liquid: ready to use	Vial	20
Bharat Biotech International Limited		Polio Vaccine - Oral (OPV) Trivalent	Liquid: ready to use	Vial	20
Bharat Biotech International Limited		Polio Vaccine - Oral (OPV) Trivalent	Liquid: ready to use	Vial	10
Bilthoven Biologicals		Polio Vaccine - Inactivated (IPV)	Liquid: ready to use	Vial	1
Bilthoven Biologicals		Polio Vaccine - Inactivated (IPV)	Liquid: ready to use	Vial	5
Biological E. Limited	Mr. Lakshminarayana Neti, Chief Operating Officer – Vaccines Phone: +91 40 6738 8226 Lakshminarayana.neti@biologicale.co.in	Diphtheria-Tetanus-Pertussis (whole cell)- Hepatitis B-Haemophilus influenzae type b	Lyophilised active component to be reconstituted with liquid active component before use	Two vial set (active + active)	1
Biological E. Limited		Diphtheria-Tetanus-Pertussis (whole cell)- Hepatitis B-Haemophilus influenzae type b	Lyophilised active component to be reconstituted with liquid active component before use	Two vial set (active + active)	10
Biological E. Limited		Tetanus Toxoid	Liquid: ready to use	Vial	1
Biological E. Limited		Tetanus Toxoid	Liquid: ready to use	Vial	10
Biological E. Limited		Japanese Encephalitis Vaccine (Inactivated)	Liquid: ready to use	Vial	1
Biological E. Limited		Japanese Encephalitis Vaccine (Inactivated)	Liquid: ready to use	Vial	1
Biological E. Limited		Diphtheria-Tetanus (reduced antigen content)	Liquid: ready to use	Vial	1
Biological E. Limited		Diphtheria-Tetanus (reduced antigen content)	Liquid: ready to use	Vial	10
Biological E. Limited		Diphtheria-Tetanus-Pertussis (whole cell)- Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	1
Biological E. Limited		Diphtheria-Tetanus-Pertussis (whole cell)- Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	10
Biological E. Limited		Tetanus Toxoid	Liquid: ready to use	Vial	20

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
Biological E. Limited		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	5
Biological E. Limited		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	2
Biological E. Limited		Diphtheria-Tetanus-Pertussis (whole cell)	Liquid: ready to use	Vial	1
Biological E. Limited		Diphtheria-Tetanus-Pertussis (whole cell)	Liquid: ready to use	Vial	10
Bio-Manguinhos/Fiocruz	Artur Roberto Couto Artur@bio.fiocruz.br Tel.: (21) 3882 9305 Fax: (21) 2564 2344	Yellow Fever	Lyophilised active component to be reconstituted with excipient diluent before use	Vial + Ampoule	10
Bio-Manguinhos/Fiocruz		Yellow Fever	Lyophilised active component to be reconstituted with excipient diluent before use	Vial + Ampoule	5
Bio-Manguinhos/Fiocruz		Yellow Fever	Lyophilised active component to be reconstituted with excipient diluent before use	Two vial set (active + excipient)	50
Centro de Ingeniería Genética y Biotecnología	Miladys Limonta Fernández, Ph.D. miladys.limonta@cigb.edu.cu	Hepatitis B	Liquid: ready to use	Vial	1
Centro de Ingeniería Genética y Biotecnología	Dr. Eulogio Pimentel, eulogio.pimentel@cigb.edu.cu Dra. Marta Ayala, marta.ayala@cigb.edu.cu	Hepatitis B	Liquid: ready to use	Vial	10
Centro de Ingeniería Genética y Biotecnología		Haemophilus influenzae type b	Liquid: ready to use	Vial	1

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
Chengdu Institute of Biological Products Co.,Ltd	Ms. Meng Li, limeng3@sinopharm.com Mr. Jinfeng Su, sujinfeng@sinopharm.com	Japanese Encephalitis Vaccine (live, attenuated)	Lyophilised active component to be reconstituted with excipient diluent before use	Two vial set (active + excipient)	1
Chengdu Institute of Biological Products Co.,Ltd		Japanese Encephalitis Vaccine (live, attenuated)	Lyophilised active component to be reconstituted with excipient diluent before use	Two vial set (active + excipient)	5
Chiron Behring Vaccines Private Ltd.		Rabies	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	1
CSL Limited		Influenza, pandemic H1N1	Liquid: ready to use	Vial	10
Eubiologics Co., Ltd.	Rachel Park rachel.park@eubiologics.com Phone: (82) 10 4262 8187	cholera: inactivated oral	Liquid: ready to use	Vial	1
Federal State Unitary Enterprise of Chumakov Institute of Poliomyelitis and Viral Encephalitides of Russian Acad. Med. Sci.		Yellow Fever	Lyophilised active component to be reconstituted with excipient diluent before use	Ampoule	2
Federal State Unitary Enterprise of Chumakov Institute of Poliomyelitis and Viral Encephalitides of Russian Acad. Med. Sci.		Yellow Fever	Lyophilised active component to be reconstituted with excipient diluent before use	Ampoule	5
Federal State Unitary Enterprise of Chumakov Institute of Poliomyelitis and Viral Encephalitides of Russian Acad. Med. Sci.		Yellow Fever	Lyophilised active component to be reconstituted with excipient diluent before use	Ampoule	10

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
GlaxoSmithKline Biologicals SA		Hepatitis B	Liquid: ready to use	Vial	1
GlaxoSmithKline Biologicals SA		Hepatitis B	Liquid: ready to use	Vial	10
GlaxoSmithKline Biologicals SA		Hepatitis B	Liquid: ready to use	Vial	20
GlaxoSmithKline Biologicals SA		Polio Vaccine - Inactivated (IPV)	Liquid: ready to use	Vial	1
GlaxoSmithKline Biologicals SA		Polio Vaccine - Inactivated (IPV)	Liquid: ready to use	Vial	2
GlaxoSmithKline Biologicals SA		Polio Vaccine - Oral (OPV) Monovalent Type 3	Liquid: ready to use	Vial	10
GlaxoSmithKline Biologicals SA		Polio Vaccine - Oral (OPV) Monovalent Type 3	Liquid: ready to use	Vial	20
GlaxoSmithKline Biologicals SA		HPV	Liquid: ready to use	Vial	1
GlaxoSmithKline Biologicals SA		HPV	Liquid: ready to use	Vial	2
GlaxoSmithKline Biologicals SA		Measles, Mumps and Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	1
GlaxoSmithKline Biologicals SA		Diphtheria-Tetanus-Pertussis (acellular)	Liquid: ready to use	Vial	1
GlaxoSmithKline Biologicals SA		Polio Vaccine - Oral (OPV) Monovalent Type 2	Liquid: ready to use	Vial	20
GlaxoSmithKline Biologicals SA		Polio Vaccine - Oral (OPV) Monovalent Type 2	Liquid: ready to use	Vial	10
GlaxoSmithKline Biologicals SA		Rotavirus	Liquid: ready to use	Plastic Tube	1
GlaxoSmithKline Biologicals SA		Rotavirus	Liquid: ready to use	Applicator	1
GlaxoSmithKline Biologicals SA		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Lyophilised active component to be reconstituted with excipient diluent before use	Two vial set (active + active)	1
GlaxoSmithKline Biologicals SA		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Lyophilised active component to be reconstituted with liquid active component before use	Two vial set (active + active)	2
GlaxoSmithKline Biologicals SA		Pneumococcal (conjugate)	Liquid: ready to use	Vial	2

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
GlaxoSmithKline Biologicals SA		Hepatitis A (inactivated)	Liquid: ready to use	Vial	1
GlaxoSmithKline Biologicals SA		Hepatitis A (inactivated)	Liquid: ready to use	Vial	1
GlaxoSmithKline Biologicals SA		Influenza, seasonal	Liquid: ready to use	Vial	10
GlaxoSmithKline Biologicals SA		Measles, Mumps and Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	2
GlaxoSmithKline Biologicals SA		Polio Vaccine - Oral (OPV) Trivalent	Liquid: ready to use	Vial	10
GlaxoSmithKline Biologicals SA		Polio Vaccine - Oral (OPV) Trivalent	Liquid: ready to use	Vial	20
GlaxoSmithKline Biologicals SA		Polio Vaccine - Oral (OPV) Bivalent Types 1 and 3	Liquid: ready to use	Vial	10
GlaxoSmithKline Biologicals SA		Polio Vaccine - Oral (OPV) Bivalent Types 1 and 3	Liquid: ready to use	Vial	20
GlaxoSmithKline Biologicals SA		Polio Vaccine - Oral (OPV) Monovalent Type 1	Liquid: ready to use	Vial	10
GlaxoSmithKline Biologicals SA		Polio Vaccine - Oral (OPV) Monovalent Type 1	Liquid: ready to use	Vial	20
GlaxoSmithKline Biologicals SA		Pneumococcal (conjugate)	Liquid: ready to use	Vial	1
GPO-MBP Co., Ltd.		Japanese Encephalitis Vaccine (live, attenuated)	Lyophilised active component to be reconstituted with excipient diluent before use	Two vial set (active + excipient)	4
Green Cross Corporation	Ahram Song Phone: +82-31-260-1973 ahramjui@greencross.com	Influenza, seasonal	Liquid: ready to use	Vial	10
Green Cross Corporation	overseas@greencross.com	Influenza, pandemic H1N1	Liquid: ready to use	Vial	1
Green Cross Corporation	Haiyan Nan Phone: +82-31-260-9106; hynan@greencross.com	Influenza, seasonal	Liquid: ready to use	Vial	1

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
GreenSignal Bio Pharma Limited	Dr P. Murali md@gsbpl.com / murali@gsbpl.com Phone +91 9444411253	BCG	Lyophilised active component to be reconstituted with excipient diluent before use	Vial + Ampoule	20
Haffkine Bio Pharmaceutical Corporation Ltd	Mr. Shomu Pal Manager Marketing	Polio Vaccine - Oral (OPV) Trivalent	Liquid: ready to use	Vial	20
Haffkine Bio Pharmaceutical Corporation Ltd	HBPCL, Parel, Mumbai 12 Phone: +9124146419 mkt@vaccinehaffkine.com	Polio Vaccine - Oral (OPV) Monovalent Type 1	Liquid: ready to use	Vial	20
Haffkine Bio Pharmaceutical Corporation Ltd		Polio Vaccine - Oral (OPV) Bivalent Types 1 and 3	Liquid: ready to use	Vial	20
Hualan Biological Bacterin Co., Ltd		Influenza, seasonal	Liquid: ready to use	Vial	1
Institut Pasteur de Dakar		Yellow Fever	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	5
Institut Pasteur de Dakar		Yellow Fever	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	20
Institut Pasteur de Dakar		Yellow Fever	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	10
Janssen Vaccines Corp.	Olga Popova OPopova@its.jnj.com	Hepatitis B	Liquid: ready to use	Vial	1
Janssen Vaccines Corp.		Hepatitis B	Liquid: ready to use	Vial	10
Janssen Vaccines Corp.		Diphtheria-Tetanus-Pertussis (whole cell)- Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	1
Janssen Vaccines Corp.		Hepatitis B	Liquid: ready to use	Vial	1
Japan BCG Laboratory		BCG	Lyophilised active component to be reconstituted with excipient diluent before use	Ampoule	20
LG Life Sciences		Diphtheria-Tetanus-Pertussis (whole cell)- Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	1

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
LG Life Sciences		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	10
LG Life Sciences		Hepatitis B	Liquid: ready to use	Vial	1
LG Life Sciences		Hepatitis B	Liquid: ready to use	Vial	2
LG Life Sciences		Hepatitis B	Liquid: ready to use	Vial	6
LG Life Sciences		Hepatitis B	Liquid: ready to use	Vial	10
LG Life Sciences		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Lyophilised active component to be reconstituted with liquid active component before use	Two vial set (active + active)	1
LG Life Sciences		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Lyophilised active component to be reconstituted with liquid active component before use	Two vial set (active + active)	2
MedImmune	Matthew Downham downham@medimmune.com	Influenza, pandemic H1N1	Liquid: ready to use	Sprayer	1
Merck Vaccines	Jules Millogo jules.millogo@merck.com	Measles, Mumps and Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	1
Merck Vaccines		Rotavirus	Liquid: ready to use	Plastic Tube	1
Merck Vaccines		Haemophilus influenzae type b	Liquid: ready to use	Vial	1
Merck Vaccines		HPV	Liquid: ready to use	Vial	1
National Center of Infectious and Parasitic Diseases		BCC	Lyophilised active component to be reconstituted with excipient diluent before use	Ampoule	10
National Center of Infectious and Parasitic Diseases		BCC	Lyophilised active component to be reconstituted with excipient diluent before use	Ampoule	20
National Center of Infectious and Parasitic Diseases		Diphtheria-Tetanus	Liquid: ready to use	Vial	10

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
National Center of Infectious and Parasitic Diseases		Diphtheria-Tetanus	Liquid: ready to use	Vial	20
National Center of Infectious and Parasitic Diseases		Diphtheria-Tetanus (reduced antigen content)	Liquid: ready to use	Vial	10
National Center of Infectious and Parasitic Diseases		Diphtheria-Tetanus (reduced antigen content)	Liquid: ready to use	Vial	20
National Center of Infectious and Parasitic Diseases		Tetanus Toxoid	Liquid: ready to use	Vial	10
National Center of Infectious and Parasitic Diseases		Tetanus Toxoid	Liquid: ready to use	Vial	20
Novartis Vaccines & Diagnostics Ltd	Sharon McHale - Sharon.McHale@seqirus.com	Influenza, pandemic H1N1	Liquid: ready to use	Vial	10
Novartis Vaccines & Diagnostics Ltd		Influenza, seasonal	Liquid: ready to use	Vial	10
Novartis Vaccines and Diagnostics		Influenza, pandemic H1N1	Liquid: ready to use	Vial	17
Novartis Vaccines and Diagnostics GmbH		Rabies	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	1
Novartis Vaccines and Diagnostics S.r.l.		Diphtheria-Tetanus-Pertussis (whole cell)-Haemophilus influenzae type b	Liquid: ready to use	Vial	1
Novartis Vaccines and Diagnostics S.r.l.		Diphtheria-Tetanus-Pertussis (whole cell)-Haemophilus influenzae type b	Liquid: ready to use	Vial	10
Novartis Vaccines and Diagnostics S.r.l.		Influenza, pandemic H1N1	Liquid: ready to use	Vial	10
Novartis Vaccines and Diagnostics S.r.l.		Haemophilus influenzae type b	Liquid: ready to use	Vial	1
Novartis Vaccines and Diagnostics S.r.l.		Meningococcal ACYW-135 (conjugate vaccine)	Lyophilised active component to be reconstituted with liquid active component before use	Two vial set (active + active)	1

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
Panacea Biotec Ltd.	Ms Navita Khanna navitakhanna@panaceabiotec.com	Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	10
Panacea Biotec Ltd.		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	1
Pfizer	John Roberts John.Roberts@pfizer.com	Pneumococcal (conjugate)	Liquid: ready to use	Vial	4
Pfizer		Pneumococcal (conjugate)	Liquid: ready to use	Vial	1
Pfizer		Meningococcal ACYW-135 (conjugate vaccine)	Lyophilised active component to be reconstituted with excipient diluent before use	Vial + Ampoule	1
PT Bio Farma (Persero)	Mr. Mahendra Suhardono mahendra@biofarma.co.id	Polio Vaccine - Oral (OPV) Monovalent Type 1	Liquid: ready to use	Vial	20
PT Bio Farma (Persero)		Measles	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	20
PT Bio Farma (Persero)		Polio Vaccine - Oral (OPV) Bivalent Types 1 and 3	Liquid: ready to use	Vial	10
PT Bio Farma (Persero)		Diphtheria-Tetanus-Pertussis (whole cell)	Liquid: ready to use	Vial	10
PT Bio Farma (Persero)		Diphtheria-Tetanus (reduced antigen content)	Liquid: ready to use	Vial	10
PT Bio Farma (Persero)		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B	Liquid: ready to use	Vial	10
PT Bio Farma (Persero)		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B	Liquid: ready to use	Vial	5
PT Bio Farma (Persero)		Measles	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	10
PT Bio Farma (Persero)		Polio Vaccine - Oral (OPV) Trivalent	Liquid: ready to use	Vial	10
PT Bio Farma (Persero)		Polio Vaccine - Oral (OPV) Trivalent	Liquid: ready to use	Vial	20
PT Bio Farma (Persero)		Diphtheria-Tetanus	Liquid: ready to use	Vial	10
PT Bio Farma (Persero)		Tetanus Toxoid	Liquid: ready to use	Vial	10

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
PT Bio Farma (Persero)		Tetanus Toxoid	Liquid: ready to use	Vial	20
PT Bio Farma (Persero)		Hepatitis B	Liquid: ready to use	Uniject	1
PT Bio Farma (Persero)		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	5
PT Bio Farma (Persero)		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	10
PT Bio Farma (Persero)		Polio Vaccine - Oral (OPV) Bivalent Types 1 and 3	Liquid: ready to use	Vial	20
PT Bio Farma (Persero)		Tetanus Toxoid	Liquid: ready to use	Uniject	1
Sanofi Pasteur SA	Francoise Griguer francoisegriguer@sanofipasteur.com	Yellow Fever	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	10
Sanofi Pasteur SA		Haemophilus influenzae type b	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	1
Sanofi Pasteur SA		Haemophilus influenzae type b	Lyophilised active component to be reconstituted with excipient diluent before use	Two vial set (active + excipient)	10
Sanofi Pasteur SA		Typhoid (Polysaccharide)	Liquid: ready to use	Vial	20
Sanofi Pasteur SA		Polio Vaccine - Oral (OPV) Bivalent Types 1 and 3	Liquid: ready to use	Vial	20
Sanofi Pasteur SA		Diphtheria-Tetanus-Pertussis (whole cell)	Liquid: ready to use	Ampoule	1
Sanofi Pasteur SA		Diphtheria-Tetanus-Pertussis (whole cell)	Liquid: ready to use	Vial	10
Sanofi Pasteur SA		Diphtheria-Tetanus-Pertussis (whole cell)-Haemophilus influenzae type b	Lyophilised active component to be reconstituted with liquid active component before use	Two vial set (active + active)	10
Sanofi Pasteur SA		Diphtheria-Tetanus-Pertussis (whole cell)-Haemophilus influenzae type b	Lyophilised active component to be reconstituted with liquid active component before use	Vial + Ampoule	1
Sanofi Pasteur SA		Polio Vaccine - Oral (OPV) Monovalent Type 1	Liquid: ready to use	Vial	20

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
Sanofi Pasteur SA		Measles	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	10
Sanofi Pasteur SA		Polio Vaccine - Inactivated (IPV)	Liquid: ready to use	Vial	10
Sanofi Pasteur SA		Polio Vaccine - Oral (OPV) Monovalent Type 2	Liquid: ready to use	Vial	20
Sanofi Pasteur SA		Polio Vaccine - Oral (OPV) Trivalent	Liquid: ready to use	Vial	10
Sanofi Pasteur SA		Polio Vaccine - Oral (OPV) Trivalent	Liquid: ready to use	Vial	10
Sanofi Pasteur SA		Polio Vaccine - Oral (OPV) Trivalent	Liquid: ready to use	Vial	20
Sanofi Pasteur SA		Measles, Mumps and Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	1
Sanofi Pasteur SA		Measles, Mumps and Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	10
Sanofi Pasteur SA		Diphtheria-Tetanus-Pertussis (acellular)-Hepatitis B-Haemophilus influenzae type b-Polio (Inactivated)	Liquid: ready to use	Vial	1
Sanofi Pasteur SA		Influenza, pandemic H1N1	Liquid: ready to use	Vial	10
Sanofi Pasteur SA		Rabies	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	1
Sanofi Pasteur SA		Diphtheria-Tetanus	Liquid: ready to use	Vial	10
Sanofi Pasteur SA		Diphtheria-Tetanus	Liquid: ready to use	Vial	20
Sanofi Pasteur SA		Diphtheria-Tetanus (reduced antigen content)	Liquid: ready to use	Vial	10

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
Sanofi Pasteur SA		Meningococcal A+C	Lyophilised active component to be reconstituted with excipient diluent before use	Two vial set (active + excipient)	10
Sanofi Pasteur SA		Tetanus Toxoid	Liquid: ready to use	Vial	10
Sanofi Pasteur SA		Tetanus Toxoid	Liquid: ready to use	Vial	20
Sanofi Pasteur SA		Polio Vaccine - Oral (OPV) Monovalent Type 3	Liquid: ready to use	Vial	20
Sanofi Pasteur SA		Influenza, seasonal	Liquid: ready to use	Vial	10
Sanofi Pasteur-USA		Influenza, seasonal	Liquid: ready to use	Vial	1
Sanofi Pasteur-USA		Influenza, seasonal	Liquid: ready to use	Vial	10
Sanofi Pasteur-USA		Influenza, seasonal	Liquid: ready to use	Vial	1
Sanofi Pasteur-USA		Influenza, seasonal	Liquid: ready to use	Vial	10
Sanofi Pasteur-USA		Meningococcal ACYW-135 (conjugate vaccine)	Liquid: ready to use	Vial	1
Sanofi Pasteur-USA		Meningococcal ACYW-135 (polysaccharide)	Lyophilised active component to be reconstituted with excipient diluent before use	Two vial set (active + excipient)	10
Sanofi Pasteur-USA		Influenza, pandemic H1N1	Liquid: ready to use	Vial	1
Sanofi Pasteur-USA		Influenza, pandemic H1N1	Liquid: ready to use	Vial	10
Serum Institute of India Pvt. Ltd.	Mr. Parag Deshmukh, Phone +91 20 26602401, parag.deshmukh@seruminstitute.com	Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	1
Serum Institute of India Pvt. Ltd.		Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	2
Serum Institute of India Pvt. Ltd.		Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	5
Serum Institute of India Pvt. Ltd.		Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	10

Manufacturer	Type	Pharmaceutical Form	Presentation	No. of Doses
Serum Institute of India Pvt. Ltd.	Polio Vaccine - Oral (OPV) Trivalent	Liquid: ready to use	Vial	20
Serum Institute of India Pvt. Ltd.	Polio Vaccine - Oral (OPV) Bivalent Types 1 and 3	Liquid: ready to use	Vial	20
Serum Institute of India Pvt. Ltd.	Diphtheria-Tetanus	Liquid: ready to use	Ampoule	1
Serum Institute of India Pvt. Ltd.	Diphtheria-Tetanus	Liquid: ready to use	Vial	10
Serum Institute of India Pvt. Ltd.	Diphtheria-Tetanus	Liquid: ready to use	Vial	20
Serum Institute of India Pvt. Ltd.	Diphtheria-Tetanus (reduced antigen content)	Liquid: ready to use	Ampoule	1
Serum Institute of India Pvt. Ltd.	Diphtheria-Tetanus (reduced antigen content)	Liquid: ready to use	Vial	10
Serum Institute of India Pvt. Ltd.	Diphtheria-Tetanus (reduced antigen content)	Liquid: ready to use	Vial	20
Serum Institute of India Pvt. Ltd.	Diphtheria-Tetanus-Pertussis (whole cell)	Liquid: ready to use	Ampoule	1
Serum Institute of India Pvt. Ltd.	Diphtheria-Tetanus-Pertussis (whole cell)	Liquid: ready to use	Vial	10
Serum Institute of India Pvt. Ltd.	Diphtheria-Tetanus-Pertussis (whole cell)	Liquid: ready to use	Vial	20
Serum Institute of India Pvt. Ltd.	Tetanus Toxoid	Liquid: ready to use	Ampoule	1
Serum Institute of India Pvt. Ltd.	Tetanus Toxoid	Liquid: ready to use	Vial	10
Serum Institute of India Pvt. Ltd.	Tetanus Toxoid	Liquid: ready to use	Vial	20
Serum Institute of India Pvt. Ltd.	Measles, Mumps and Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	1
Serum Institute of India Pvt. Ltd.	Measles, Mumps and Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	2
Serum Institute of India Pvt. Ltd.	Measles, Mumps and Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	5
Serum Institute of India Pvt. Ltd.	Measles, Mumps and Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	10
Serum Institute of India Pvt. Ltd.	Hepatitis B	Liquid: ready to use	Vial	10

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
Serum Institute of India Pvt. Ltd.		Hepatitis B	Liquid: ready to use	Ampoule or Vial	1
Serum Institute of India Pvt. Ltd.		Hepatitis B	Liquid: ready to use	Vial	10
Serum Institute of India Pvt. Ltd.		Hepatitis B	Liquid: ready to use	Ampoule or Vial	1
Serum Institute of India Pvt. Ltd.		Measles	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	1
Serum Institute of India Pvt. Ltd.		Measles	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	2
Serum Institute of India Pvt. Ltd.		Measles	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	5
Serum Institute of India Pvt. Ltd.		Measles	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	10
Serum Institute of India Pvt. Ltd.		Haemophilus influenzae type b	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	1
Serum Institute of India Pvt. Ltd.		Measles and Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	1
Serum Institute of India Pvt. Ltd.		Measles and Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	2
Serum Institute of India Pvt. Ltd.		Measles and Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	5
Serum Institute of India Pvt. Ltd.		Measles and Rubella	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	10
Serum Institute of India Pvt. Ltd.		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B	Liquid: ready to use	Ampoule	1

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
Serum Institute of India Pvt. Ltd.		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B	Liquid: ready to use	Vial	10
Serum Institute of India Pvt. Ltd.		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B	Liquid: ready to use	Vial	20
Serum Institute of India Pvt. Ltd.		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	1
Serum Institute of India Pvt. Ltd.		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	2
Serum Institute of India Pvt. Ltd.		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	10
Serum Institute of India Pvt. Ltd.		Polio Vaccine - Oral (OPV) Bivalent Types 1 and 3	Liquid: ready to use	Vial	10
Serum Institute of India Pvt. Ltd.		Polio Vaccine - Oral (OPV) Trivalent	Liquid: ready to use	Vial	10
Serum Institute of India Pvt. Ltd.		Diphtheria-Tetanus-Pertussis (whole cell)-Haemophilus influenzae type b	Lyophilised active component to be reconstituted with liquid active component before use	Vial + Ampoule	1
Serum Institute of India Pvt. Ltd.		Meningococcal A Conjugate	Lyophilised active component to be reconstituted with excipient diluent before use	Vial + Ampoule	10
Serum Institute of India Pvt. Ltd.		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Lyophilised active component to be reconstituted with liquid active component before use	Vial + Ampoule	1
Serum Institute of India Pvt. Ltd.		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Lyophilised active component to be reconstituted with liquid active component before use	Vial + Ampoule	2
Serum Institute of India Pvt. Ltd.		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Lyophilised active component to be reconstituted with liquid active component before use	Vial + Ampoule	10

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
Serum Institute of India Pvt. Ltd.		Influenza, pandemic H1N1	Lyophilised active component to be reconstituted with excipient diluent before use	Vial + Ampoule	1
Serum Institute of India Pvt. Ltd.		Influenza, pandemic H1N1	Lyophilised active component to be reconstituted with excipient diluent before use	Vial + Ampoule	5
Serum Institute of India Pvt. Ltd.		Polio Vaccine - Inactivated (IPV)	Liquid: ready to use	Vial	5
Serum Institute of India Pvt. Ltd.		Polio Vaccine - Inactivated (IPV)	Liquid: ready to use	Vial	2
Serum Institute of India Pvt. Ltd.		Polio Vaccine - Inactivated (IPV)	Liquid: ready to use	Vial	1
Serum Institute of India Pvt. Ltd.		BCG	Lyophilised active component to be reconstituted with excipient diluent before use	Vial	20
Serum Institute of India Pvt. Ltd.		Influenza, seasonal	Lyophilised active component to be reconstituted with excipient diluent before use	Vial + Ampoule	1
Serum Institute of India Pvt. Ltd.		Meningococcal A Conjugate (paediatric)	Lyophilised active component to be reconstituted with excipient diluent before use	Vial + Ampoule	10

Manufacturer		Type	Pharmaceutical Form	Presentation	No. of Doses
Shantha Biotechnics Limited		Hepatitis B	Liquid: ready to use	Vial	6
Shantha Biotechnics Limited		Hepatitis B	Liquid: ready to use	Vial	1
Shantha Biotechnics Limited		Hepatitis B	Liquid: ready to use	Vial	2
Shantha Biotechnics Limited		Hepatitis B	Liquid: ready to use	Vial	10
Shantha Biotechnics Limited		Hepatitis B	Liquid: ready to use	Vial	20
Shantha Biotechnics Limited		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	1
Shantha Biotechnics Limited		Diphtheria-Tetanus-Pertussis (whole cell)-Hepatitis B-Haemophilus influenzae type b	Liquid: ready to use	Vial	10
Shantha Biotechnics Limited		cholera: inactivated oral	Liquid: ready to use	Vial	1
Shantha Biotechnics Limited		Tetanus Toxoid	Liquid: ready to use	Vial	10
Shantha Biotechnics Limited		Tetanus Toxoid	Liquid: ready to use	Vial	20
Statens Serum Institut		BCC	Lyophilised active component to be reconstituted with excipient diluent before use	Two vial set (active + excipient)	10
Statens Serum Institut		Polio Vaccine - Inactivated (IPV)	Liquid: ready to use	Vial	1
Valneva Sweden AB		cholera: inactivated oral	Liquid: ready to use	Vial + Buffer Sachet	1

