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| IPV Introduction Plan for Djibouti in September 2015 |
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| **MINISTRY OF HEALTH EXPANDED PROGRAMME OF IMMUNIZATION** |

**The Republic of Djibouti**

**Unity - Equality - Peace**

http://upload.wikimedia.org/wikipedia/commons/thumb/3/34/Flag_of_Djibouti.svg/45px-Flag_of_Djibouti.svg.png

[http://www.gavi.org/images/GAVI_ALLIANCE_Footer_Logo.gif](http://www.gavi.org/)[](http://www.google.com/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0CAcQjRw&url=http://www.cyanide-studio.com/forumPCM/viewtopic.php?f=231&t=15964&ei=RQaXVOiDOoraPaDygYgE&bvm=bv.82001339,d.bG)

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**List of some acronyms used in this Plan**

**AD syringe:** Auto-disable syringe

**AEFI:** Adverse Event Following Immunization (injection)

**AFP:** Acute Flaccid Paralysis

**BCG**: Tuberculosis vaccine (Bacillus Calmette-Guérin)

**bOPV:** bivalent Oral Polio Vaccine

**CBO:** Community-Based Organisation

**CC**: Cold chain

**COGES**: Management Committee

**DMPL:** Department of Medicines, Pharmacies and Laboratories

**DTP**: Diphtheria, tetanus and pertussis vaccine

**DVD-MT**: District Vaccine Data Management Tool

**EPI**: Expanded Programme of Immunization

**GAVI**: Global Alliance for Vaccines and Immunization

**GPEI**: Global Polio Eradication Initiative

**HDI:** Human Development Index

**HepB**: Hepatitis B Vaccine

**Hib**: Hemophilus Influenzae vaccine

**HR:** Health Region

**ICC**: Inter-Agency Co-ordination Committee

**IDSR:** Integrated Disease Surveillance and Response

**IMCI:** Integrated Management of Childhood Diseases

**INDS**:National Initiative for Social Development

**IPV:** Inactive Polio Vaccine

**HP:** Health post

**LB:** Live births

**MCV:**Measles Vaccine

**MDVP:** Multi-dose Vial Policy

**NGO:** Non-governmental Organization

**NHDP:** National Health Development Plan

**OPV13:** Pneumococcal vaccine

**OPV:** Oral Polio Vaccine

**Penta:** Pentavalent vaccine (combination of 5 vaccines in a single dose: DTP- HepB- Hib

**Polio:** Poliomyelitis

**Rotarix**: rotavirus vaccine

**SMT:** Strategic Management Tool

**UNICEF:** United Nations Children's Fund

**TT:**Tetanus Toxoid

**SAGE:** Strategic Advisory Group of Experts on Immunization

**SIA**: Supplementary Immunization Activities

**tOPV:**trivalent Oral Polio Vaccine

**TV:** Television

**VVM:** Vaccine Vial Monitor

**WHO:** World Health Organization

IPV Introduction Plan for Djibouti, September, 2015

**Introduction**

This plan for IPV introduction in Djibouti has been developed based on the model plan for introduction of new vaccines. The introduction of IPV is not going to interfere with other new vaccines that may be introduced in the country.

However, from 2015, the country is considering modification of its immunization schedule in order to incorporate IPV into the routine EPI.

In 2016, the tOPV will be gradually replaced by the Type 1 and 3 bOPV, and they will both be definitively withdrawn from the immunization schedule by 2019-2020.

All these changes will be accompanied by effective communication adapted to the questions posed by healthcare personnel and parents regarding the introduction of an injectable vaccine into the immunization schedule. This will make it possible to obtain the support of communities and commitment by healthcare providers.

The general framework for support request and processing of proposals submitted to the GAVI Alliance in 2015 is put forward below, in order to see the time from which the final decision by GAVI will be effective for Djibouti's proposal.

**Executive summary of the introduction plan**

***Brief justification for the introduction of IPV and key complementary considerations that have been taken into account, including comprehensive approaches for disease control.***

In its quality of Member of the World Health Assembly, Djibouti fully adheres to Resolution No. 65 of May 2012, which declares the worldwide eradication of polio to be an "emergency for public health".

To speed up eradication of polio up to its final phase, Djibouti has also undertaken to apply the 2013-2018 Polio Eradication and Endgame Strategic Plan decreed by the World Health Organization.

As a result of the aforementioned, Djibouti has also adopted the Conclusions and Recommendations of the WHO Strategic Advisory Group of Experts on Immunization (SAGE) of November 2013, which invites the countries of the world to gradually introduce injectable polio vaccine (IPV) into routine EPI from 2015, up until the time that it definitively replaces trivalent oral polio vaccine by 2019-2020.

This therefore justifies the option taken by Djibouti today to start its process for IPV introduction into its routine EPI, by writing this proposal.

Furthermore, the polio virus is circulating in the countries adjoining Djibouti; there is thus the threat of WPV being imported into the country.

***Outline of the benefits to the population of introducing IPV and the costs to the programme of its introduction and how the country plans to sustain those costs.***

The gradual introduction of IPV in Djibouti, starting with a dose in 2015 according to the SAGE recommendations, will provide many advantages.

Even if the last case of polio notified in Djibouti goes back to 1999, there is a real risk of importation of the polio virus. This risk is clearly shown by the emergence of polio cases in the subregion in the last two years, the permeability of borders, and population movement back and forth across the borders of neighbouring countries. Faced with this real threat of reintroduction of polio into Djibouti, the government has decided to react and to introduce the inactivated polio vaccine that has been approved by WHO and whose effectiveness has been scientifically proven.

Indeed, by introducing IPV into the routine EPI in 2015 and by replacing, from 2016, the trivalent OPV by Type 1 and 3 bivalent OPV, the country is going to better protect its child population against any risk that occurs from a flare-up of polio, be it post-immunizational or not. With the same process of IPV introduction, the country will avoid any polio epidemic in the event of exposure to Type 2 after its withdrawal, improve the immunological reaction of children age less than 1 year to Type 2 monovalent OPV if this latter is used in the event of a flare-up, reinforce the immunity of Djiboutian children against Types 1 and 3 wild polio virus and reduce the transmission of Type 2 polio virus if it is reintroduced in the country.

As for the costs inherent to this IPV introduction into routine EPI, the Republic of Djibouti intends first of all to benefit from GAVI's support to obtain the vaccines and the means to pay for the operational costs inherent to IPV introduction in 2015-2016 and the following years, as a country eligible for GAVI grants. The country is also counting on the technical and financial support of its Partners to ensure the implementation of the present IPV plan.

In Djibouti's present IPV plan, the country is also presenting an estimate of annual needs in terms of IPV, inoculation equipment and injection safety material from the years 2016 to 2018. This forward-looking plan shows the country's desire to start up IPV introduction and to continue it until polio is eradicated from the planet.

Since 2012, the country has been ensuring, along with GAVI Alliance, the co-financing of new vaccines (pentavalent, pneumococcal, and rotavirus). The same process will be started up for the IPV as soon as GAVI notifies the country that this process must be started after several years of full support, as was the case for the previous new vaccines. The Republic of Djibouti wishes to express its thanks to GAVI in advance.

Furthermore, Djibouti is counting on the co-financing policy that will gradually commit the Ministry of the Budget to increasing its share of funding, so that supply of IPV and all new vaccines are entirely covered by the country. By reinforcing its partnership with GAVI Alliance, the country is making efforts to improve the well-being of its population more and more every day, and it is striving to make headway towards its vaccine independence, which will occur when its own income will enable it to sustain the costs of funding IPV and the other new vaccines already introduced.

***Overview of how the vaccine will be introduced (national or phased introduction) and key milestones and activities, such as when the vaccine will be introduced and when preparatory activities should begin and how these can be used to strengthen RI.***

The most recent of the new vaccines introduced into the country was the rotavirus vaccine, in 2014. It was introduced in the entire country.

In 2015, Djibouti is going to similarly introduce IPV in the entire country simultaneously, and to continue the addition of supplementary doses of IPV each year, up to 2018.

The main key stages of the IPV introduction process are as follows:

1. meetings by the ICC to decide on IPV introduction;
2. development of Djibouti's IPV introduction plan;
3. submittal of the IPV introduction plan to GAVI;
4. information meetings on IPV along with the immunization stakeholders;
5. organisation of a meeting with actors of civil society;
6. development and implementation of a communication plan;
7. development of a training plan on IPV and EPI;
8. activities to revise/adapt the training modules and the EPI management tools;
9. organisation of the IPV trainers workshop in Djibouti City;
10. organisation of cascade training across the country;
11. setting up the committee for AEFI surveillance;
12. reception - distribution of IPV;
13. organizing the launch of IPV immunization throughout the country;
14. monitoring and evaluating activities for IPV immunization at the same time as those for other antigens.

All these meetings and workshops organised on IPV introduction intended for healthcare managers and providers, the setting up for the first time of a National Surveillance Committee on AEFI, and the reinforcement of the vaccine supply chain and of supervision are going to reinforce the routine EPI in Djibouti.

***Overview of the capacity of the immunization programme to introduce IPV, including all aspects of supply chain and logistics, health workforce capacity, etc.***

The Expanded Programme on Immunization started in Djibouti in 1984, with the objective of protecting children age less than 1 by immunization against: tuberculosis, diphtheria, tetanus, pertussis, polio and measles.

Based on the epidemiological profile of children's diseases that are not yet covered by immunization in the country, the Expanded Programme on Immunization gradually introduced the following new vaccines: pentavalent in 2007, pneumococcal vaccine in 2012 and rotavirus vaccine in 2014.

The country thus has experience in introducing new vaccines.

Post-introduction evaluation of pentavalent vaccine was carried out at the national level in 2009 by the WHO team. Post-introduction evaluation of PCV13 is planned for 2015.

As success in introducing a new vaccine depends above all on the management team's ability to implement the introduction plan accurately, Djibouti will do its utmost to take up this new challenge and to do the job without encountering problems, by organising the preparation, launch, implementation and monitoring of the inactive polio vaccine immunization. The country is above all counting on its healthcare personnel to continue to selflessly and skilfully manage all the IPV aspects on behalf of each Djiboutian child.

The storage capacity of the vaccines in the country as a whole was just evaluated in 2014, during the Effective Vaccine Management (EVM) evaluation, with the support of WHO. According to the results of the 2014 EVM, the country has sufficient storage capacity to receive the IPV in 2015 at the national and peripheral levels.

Djibouti's vaccine supply system goes through UNICEF so as to guarantee the quality of the vaccines. The government takes care of vaccine reception, storage and distribution. The same mechanism will be capitalised for IPV introduction.

Before introducing IPV, a workshop to train trainers will be organised in Djibouti City. The national trainers will in turn provide cascade training at the health region level. These IPV training sessions for health personnel will have to cover information on IPV, its presentation, its immunological properties and its harmlessness. The communication aspect, targeting the healthcare providers, parents and families in general, will be included in the training modules.

The system of vaccine transport/distribution currently used in Djibouti (from the National Storage Centre inland) poses no problem for now and will also be used to deliver the IPV to the health posts.

Djibouti has managers trained in EPI logistics who have already carried out similar responsibilities when other new vaccines were introduced.

***Summary of preparatory activities completed or to be undertaken.***

The following activities have already been completed or are to be undertaken:

**Already completed:**

* Meeting of the Inter-agency coordinating committee (ICC) to decide on introducing IPV into routine immunization, 14 November 2013;
* Meeting of the Inter-agency coordinating committee (ICC) to help the Ministry of Health take the appropriate decision regarding introducing IPV in Djibouti, 11 September 2014;
* Meeting for general information and updating information on the IPV, GPEI and SAGE recommendations to introduce at least one IPV dose in each country, 24 December 2014; The work plan for developing Djibouti's IPV Plan by two UNICEF consultants was presented;
* Development of an IPV introduction plan for Djibouti, with the technical support of UNICEF consultants – one international and one national.

**To be undertaken:**

* Validation of the IPV introduction plan in Djibouti at the ICC and CNC (National Certification Committee for Polio), mid-January 2015;
* Participative planning in developing the IPV introduction plan in Djibouti, with all the managers of the health regions and Djibouti's National Certification Committee for Polio, during the validation meeting;
* Reorganisation of the immunization schedule in order to work out a new one that includes IPV. This new immunization schedule proposed by the 2 consultants will be shared with the development partners that support Djibouti in health care (WHO, UNICEF, USAID, etc.), the members of the Polio Certification Committee in Djibouti, and the healthcare managers and providers of the country for application in the routine EPI. The introduction schedule for the 2nd and 3rd IPV doses will be developed when the WHO recommendations on this subject are made available.
* Submittal of the Djibouti IPV introduction plan to GAVI, in order to benefit from support in IPV vaccines, injection materials and injection security, and the grant that shall make it possible to cover the operational costs related to: IPV introduction in the country, purchase of the additional cold chain if necessary, surveillance of AEFI, communication and the various training programmes planned;
* Revision of the immunization management tools in order to include the IPV into it as well, for the purpose of facilitating monthly data collection, reporting and the monitoring-evaluation of IPV and the other vaccines throughout the country;
* Development in a workshop of a Communication Plan that should accompany the implementation of IPV immunization, with specific strategies, activities and messages to respond to the questions of the healthcare managers and providers regarding the addition of a new injectable vaccine into the routine EPI, the fight against rumours, etc. The IPV communication plan will also have to target NGOs, Civil Society Organizations, Community-Based Organisations, women and youth associations, religious and community leaders, communities, and the parents and guardians of children to immunize, in order to obtain their acceptance of the IPV vaccine. The same Plan will also have to describe how to fight possible rumours stemming from IPV introduction and with regard to the other vaccines of the routine EPI;
* Design and development of communication material for the implementation of the Communication Plan;
* Development of a training plan on IPV and EPI; Development/adaptation of teaching material and training modules on IPV, cascade training for the managers of health regions and health posts;
* The setting up of an AEFI National Surveillance Committee in Djibouti's capital, with representatives in the health regions;
* Development of an AEFI monitoring plan to include in the IPV training modules. This plan should include a precise description of the responsibilities, the channel, the means of notification and management of possible AEFI cases following IPV and other vaccines used in the routine EPI;
* Distribution of the IPVs after the vaccines are received in the country (July 2015);
* Official launch of IPV introduction: September 2015, after favourable decision by GAVI, and start of IPV immunization throughout the country;
* IPV Plan Monitoring-Evaluation and immunization data collection to follow (after September 2015).

***Brief description of main risks/challenges associated with the introduction of IPV and outline of the mitigating strategies put into place to address these risks.***

There are 3 types of challenges in Djibouti: financial, planning and communication.

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| --- | --- |
| **RISKS/CHALLENGES** | **STRATEGIES FOR TAKING ON THE RISKS/CHALLENGES** |
| 1. **Financial:** |  |
| Ensure Djibouti's supply in IPV after GAVI support. | For the financial challenges, Djibouti will receive support from GAVI Alliance as a country eligible for IPV introduction funding, up to the time it is notified to start co-financing. This will give the country the occasion to prepare co-financing of the IPV, as it has already done for the other new vaccines. The Ministry of Health will thus involve the Ministry of the Budget as soon as the present Introduction Plan is worked out, so that there is no problem for disbursement of Djibouti's share when the time comes. UNICEF will follow up the co-financing with the Ministry of Health, with the Ministry of the Budget. |
| 1. **Planning:** |  |
| * Personnel's skills in vaccine management at all levels; * Monitoring-evaluation of activities and statistical data * CC management at the peripheral level * Surveillance of EPI target diseases and AEFI | * Training of personnel in effective vaccine management at all levels; * Regular and good-quality supportive supervision; organise advanced activities and improve reporting; * Set up a preventive maintenance system for CC equipment; * Implementation of the community-based surveillance plan to respond to surveillance of the EPI target diseases, especially AFP; the AEFI surveillance in general will come on top of this surveillance; * Updating of training modules in AEFI and data collection tools; * Setting up a committee for AEFI surveillance. |
| 1. **Communication:** |  |
| * Acceptance of IPV by parents and healthcare providers | - Development of a detailed and effective communication plan that also targets service providers and parents;  - Design and development of messages and communication materials adapted to IPV introduction  - Mass and local awareness-raising, by using all the usual channels. |

**This document covers the following areas**

1. Justification for introduction of IPV and national decision-making process

2. Overview of IPV

3. Introduction and implementation considerations

4. Situational analysis of the immunization programme

5. Monitoring/Evaluation

6. Advocacy, communication, and social mobilisation

**1. Justification for introduction of IPV and national decision-making process**

The Republic of Djibouti is located in the Horn of Africa and has an estimated population of 920,845 (estimate based on the census of late 2009; 30% of the population is made up of displaced persons from neighbouring countries. The Republic of Djibouti is made up of six districts, with nearly 70% of the total population of the country living in Djibouti City.

*Map 1: Political and administrative map of Djibouti*



Despite the establishment of an AFP (Acute Flaccid Paralysis) surveillance system in 1999, the Republic of Djibouti is at a high risk in terms of importation of the polio virus. This is because the permeability of its borders, inadequate coverage in the country's health regions and population movements on both sides of the border make Djibouti vulnerable to importation of the virus.

In 2013, the countries of the Horn of Africa experienced an unprecedented epidemiological situation, hosting nearly half the polio cases in the world. Faced with this situation, the countries of the Horn have intensified their efforts to stop the propagation of the polio virus in the region, by setting up response plans and Supplementary Immunization Activities (SIAs) against polio. The countries have also reinforced their system of notifying AFP cases.

Furthermore, during its 65th World Health Assembly in May 2012, WHO declared the eradication of polio to be an emergency, and a 2013-2018 strategic plan was developed to put an end to polio. The WHO advisory group of immunization experts (SAGE) recommended the countries to introduce, before the end of 2015, at least one dose of injectable polio vaccine (IPV) into the routine immunization schedule. Faced with the threat of importation of the polio virus circulating in the countries of the region, Djibouti decided, during the meetings of the Inter-agency coordinating committee (ICC) of 14/11/2013 and 09/11/2014, to introduce IPV into the immunization schedule. This decision was based on the informed advice of immunization experts in the country, including those of the EPI.

The country then indicated to the GAVI Alliance its desire to introduce the IPV and to benefit from GAVI's support for introducing the vaccine. A letter of expression of interest was sent to GAVI by His Excellency the Minister of Health, thereby committing the government to meet GAVI's requirements with regard to its co-financing policy for the support of new vaccines, to have its child population benefit from the advantages linked to IPV, and to pursue the eradication of polio by 2020.

By becoming involved in this long process, Djibouti's short-, medium-, and long-term objectives in introducing the inactive polio vaccine into its routine immunization schedule are as follows: to reduce the risk of polio in the event of exposure to Type 2 polio virus after the withdrawal of the trivalent oral polio vaccine (OPV), improve the immunological reaction of target groups to a Type 2 monovalent OPV if the latter is used in the event of a flare-up, reinforce immunity against Types 1 and 3 wild polio virus from 2016, and reduce transmission of Type 2 polio virus if it is reintroduced into the country.

***Participation of the other main stakeholders in the decision-making process for IPV introduction in Djibouti***

The country's immunization stakeholders are represented in the ICC.

The main immunization orientations are discussed within this Inter-agency coordinating committee, at which the following are represented: all the partner organizations (UNICEF, WHO, USAID, etc.), civil society, high-ranking officials from the Ministry of Health and from other government ministries concerned (Ministry of the Budget). Djibouti's National Immunization Technical Advisory Group (NITAG), whose main role was to make recommendations, needs to be reactivated so that it is operational and can also act as a reference for any decision-making with national impact.

Other stakeholders such as the representatives of organised groups – i.e. religious leaders, village notables and chiefs and private sector players – will be associated in early 2015 in the introduction process, as soon as the ICC will have given its approval of the technical aspects of the IPV introduction plan in Djibouti. This will be done in the form of meetings by sector to validate the Plan. It will also be the occasion to share the timetable of preparatory activities that should be held throughout the country up until the official launch of the IPV. The same stakeholders will be asked to participate when the IPV plan is implemented.

As part of the establishment of the performance-based financing project of the World Bank, a management committee (COGES) made up of representatives of civil society has been made official by a presidential decree. The goal of the COGES is to participate in the improvement of healthcare services by applying a new "results-based financing" approach, especially for the management of priority programmes such as the immunization programme, the fight against malaria, nutrition, reproductive health, etc. The COGES is currently operational in each healthcare facility of three out of the country's six regions; extension to the other regions is planned for 2015.

***Technical and operational feasibility of IPV introduction in Djibouti***

With regard to the technical and operational feasibility of IPV introduction, Djibouti has recent experience with the introduction of new vaccines (pentavalent in August 2007, pneumococcal vaccine in December 2012 and rotavirus vaccine in June 2014). The technical team created at the national level to prepare and implement the introduction of the above-mentioned vaccines is still available to support IPV introduction. Other partners in addition to UNICEF and WHO will also be involved in the implementation of IPV immunization, especially in mass and local communication. This will be the case of chiefs of communities, religious leaders, local administrative authorities and civil society organizations. They will work with the healthcare personnel in implementing the activities, as they already have done for the introduction of other new vaccines.

The Ministry of the Budget will be mobilised again to provide the co-financing of extra doses of IPV after the initial grant from the GAVI Alliance.

The healthcare providers who have taken an active role in introducing the previous new vaccines will be mobilised again throughout the country.

Effective Vaccine Management was just carried out in Djibouti in 2014, with WHO's support. These recommendations are in the process of being implemented (see hereinafter). This has been a great opportunity to evaluate, at the same time, EPI management as a whole before IPV introduction.

The implementation of actions to introduce Pentavalent, PCV13 and the rotavirus vaccine have created nationwide skills and synergies in Djibouti with regard to:

* the planning of the introduction of a new vaccine at several levels, including the evaluation and updating of the cold chain;
* the development/adaptation of standards and tools for recording immunization activities;
* the training/retraining of supervisors and service providers in management of new vaccines, injection safety, waste management and AEFI management;
* use of computer tools (SMT & DVD-MT) at the national level, to include immunization data into it with a new vaccine;
* Advocacy and organising multimedia campaigns to obtain people's support;

Furthermore, the EPI will be able to benefit from GAVI support for health system strengthening (HSS), in order to optimise this introduction with regard to surveillance, monitoring, communication, cold chain, and vaccine management.

With regard to the cold chain (CC), all the health posts of the peripheral level are equipped with refrigerators using solar energy, whereas the community health centres (CHC) and hospitals of the regions are supplied with electricity. This reduces the risk of power failures for the CC.

The cold chain capacity has already been reinforced more recently, in 2012-2013, by the purchase of two new cold rooms – one 25m3 positive and one 15m3 negative. This represents an increase in vaccine storage capacity of 40m3 over the two existing cold rooms: a 12m3 positive one and another 9m3 negative one installed since 2006. Furthermore, 15 electric refrigerators and freezers were distributed in the 5 health regions in 2012. In 2014, equipment including 12 solar refrigerators, 40 batteries, 13 solar panel kits and around 100 vaccine carriers were purchased with UNICEF's support. Finally, 4 newly built health posts have just been provided with cold chain installations that conform to WHO norms. Existing equipment there was renewed or underwent maintenance in November and December 2014. Regular maintenance of solar cold-chain equipment at the rural health region level is carried out each year, with UNICEF's support.

According to the last evaluation on effective vaccine management (EVM), the cold chain capacity is largely sufficient at all the levels of the health system for the storage of new vaccines.

With regard to training, the healthcare personnel has benefited from training/retraining in EPI within the framework of the introduction of pneumococcal and rotavirus vaccines, in addition to training planned within the framework of routine immunization and supplementary immunization activities (polio campaigns or multi-antigen catch-up). Also, during 2014, various series of training sessions were organised with the financial and technical support of partners (WHO-UNICEF) on the epidemiological surveillance of vaccine-preventable illnesses (especially AFP), vaccine management and communication.

Thanks to this experience, introducing IPV in Djibouti's routine immunization schedule will be a good opportunity to strengthen routine immunization in general.

2. Overview of IPV

**2.1 Vaccine preference**

Djibouti's vaccine preferences are shown in the below table, the detailed information of which is provided in the application form (Annex B).

***Table B1. IPV vaccine preferences and estimated date of introduction***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Preferred Date of first shipment** | **Introduction Date (month and year of first immunization)** | **Preferred vaccine presentation** | **Preferred second presentation** | **Preferred third presentation** |
| 25 January 2015 | September 2015 | 5 doses | 10 doses | 1 dose |

Djibouti has chosen a 5-dose IPV type, with the multi-dose vial policy recommended by WHO.

The IPV will be introduced in an overall way, throughout the country. It will be administered to children age less than 1 year, according to the new immunization schedule, via three strategies: fixed location, outreach, and mobile.

**2.2 Country licensure status**

In Djibouti, there is currently no agency to supervise and register vaccines. The traditional vaccines are purchased by UNICEF, and the new vaccines as well as the under-utilized vaccines by GAVI, along with co-financing by the country. Only the vaccines pre-qualified by WHO are purchased by UNICEF and accepted by the country.

The vaccines pre-qualified by WHO are those that Djibouti has always been using in the routine EPI and in the supplementary immunization activities. They are ordered by UNICEF's Supply Division to guarantee their quality. The average time for vaccine delivery to Djibouti is around 1 month.

The administrative formalities to carry out for each vaccine arrival last about two days before the vaccines arrive in the country. Once the vaccines have arrived, they are quickly transported from the airport to the EPI central store.

No special licensure is needed when importing the preferred IPV presentation requested by Djibouti.

The country accepts the use of the IPV multi-dose vial and is going to apply the multi-dose vial policy (MDVP) recommended by WHO, because since November 2014 the multi-dose vials of IPV produced by Sanofi Pasteur and Bilthoven Biologicals are approved for use for up to 28 days after opening, as in the case of other liquid vaccines (OPV, DTP and HepB) that are used in the routine EPI.

**2.3 Target population and vaccine supply**

The estimate of the IPV target population is shown in the table below, along with forecasts of IPV needs from 2015 to 2018.

**Estimate of the target population and yearly estimates of IPV needs for Djibouti:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year** | **Target pop.** | **IPV doses (\*)** | **tOPV doses**  **(1,2,3)** | **bOPV doses**  **(1 and 3)** |
| 2015 | 28311 | 1 | 4 | 0 |
| 2016 | 29111 | 1 | 0 | 4 |
| 2017 | 29926 | 2 | 0 | 3 |
| 2018 | 30763 | 3 | 0 | 0 |

The OPV column includes 4 doses to administer, taking into account dose zero given at birth.

This table also provides an estimate of the target population based on cMYP data for all the IPV doses to introduce in the country from 2015 to 2018. Taking into account the GAVI directive to the effect that the number of children to immunize with the initial dose of IPV be adjusted according to the month of introduction (September 2015 for Djibouti), for 2015 the estimate will cover the period from September to December, but for 2016 the estimate covers the entire year, i.e. 12 months.

Therefore, the first IPV dose will be administered at the 14th week, along with Penta3, pneumo3 and OPV3. In 2016, Djibouti will switch from tOPV to Type 1 & 3 bOPV, all the while reinforcing immunity via a dose of IPV during Pentavalent 3 administration.

Hence, the new immunization schedule for the country, from 2015 to 2018, is going to include IPV to administer to children age less than 1.

From 2017 and 2018, the country is going to introduce 2 and 3 doses of IPV respectively into its immunization schedule, according to the WHO recommendations that will be given at that time, because the bOPV will be totally withdrawn from routine immunization.

Djibouti obtains its vaccine supply through UNICEF. It therefore has no other system for purchasing EPI vaccines by itself.

*(\*) GAVI will determine the requirements for vaccines and auto-disable syringes according to the size of the target population and vaccine preferences, taking into consideration wastage and the regulated inventory of vaccines (25% the first year). In order to ensure sufficient funding for all countries applying for IPV support, GAVI will adjust initial allocation using UN population data and WHO/UNICEF estimates of DTP3 coverage, consistent with the calculation underlying the IPV budget approved by the GAVI Board in November 2013. In their IPV application, countries must provide their own estimates of target population (as per the template). This will be used to inform forecasting of potential additional needs.*

**3. Introduction and implementation considerations**

**3.1 Policy development**

The Republic of Djibouti has adopted the resolution of the WHO World Health Assembly of May 2012 and the recommendations of the WHO Strategic Advisory Group of Experts on immunization (SAGE) to the effect that all the countries introduce at least one dose of inactivated polio vaccine (IPC) into their routine immunization schedule before the end of 2015. Introduction of IPV into the current routine immunization schedule is not going to require modification of the national immunization policy. The change to be made will be in adjusting the immunization schedule so that it includes the IPV, and to administer it at the same time as the OPV3, Pentavalent3 and Pneumo3 at the 14th week. An administrative circular letter from the Ministry of Health will be written and distributed to all the managers of the health regions and health posts to notify them of the change in the immunization schedule, so that they can apply it as soon as they receive the IPV with the other antigens.

Current immunization schedule in Djibouti:

|  |  |
| --- | --- |
| Age at immunization | Vaccine |
| At birth | BCG+ Polio 0+Hep B |
| 6 weeks | Penta 1+ Polio 1 + Pneumo 1 and Rota 1 |
| 10 weeks | Penta 2+ Polio 2 + Pneumo 2 and Rota 2 |
| 14 weeks | Penta 3+ Polio 3 + Pneumo 3 |
| 9 months | Measles |
| 15 months | DTP, polio, measles booster |

New immunization schedule including the IPV in 2015:

|  |  |
| --- | --- |
| Age at immunization | Vaccine |
| At birth | BCG+ Polio 0+Hep B |
| 6 weeks | Penta 1+ Polio 1 + Pneumo 1 and Rota 1 |
| 10 weeks | Penta 2+ Polio 2 + Pneumo 2 and Rota 2 |
| **14 weeks** | **Penta 3+ Polio 3 + Pneumo 3+IPV** |
| 9 months | Measles |
| 15 months | DTP, polio, measles booster |

The immunization practice in Djibouti will be done as follows with the introduction of IPV:

At the 14th week, children age less than 1 will thus receive three (3) intramuscular injections,

simultaneously:

- Penta3 on the outer surface of the left thigh,

- Pneumo3 on the outer surface of the right thigh,

- IPV on the outer surface of the right thigh, 2.5 cm from the Pneumo3.

**Health services included with the immunization:**

The child shall receive an integrated health package when arriving at the health post, according to the Integrated Management of Childhood Illnesses (IMCI) strategy. Sick children shall be taken care of according to the IMCI strategy, and healthy children shall be weighed and measured; the mother shall receive nutritional advice for her child.

Furthermore, during these visits, the children shall receive micronutrients, including Vitamin A.

The estimation of IPV storage capacities and needs from 2015 to 2018 is shown in the table below.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Period of the year | Target population | IPV needs | | AD syringe needs | | CC needs | |
| September-December 2015 | - | Number of doses | Cost in $ | Number of units | Cost in $ | National level storage capacity (in litres) | Cost in $ |
| 28311 | 50.606 | 40.484 | 55667 | 2784 | 353 | 0 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Period of the year | Target population | IPV needs | | AD syringe needs | | CC needs | |
| January-December 2016 | - | Number of doses | Cost in $ | Number of units | Cost in $ | National level storage capacity (in litres) | Cost in $ |
| 29111 | 52037 | 41628.95 | 57241 | 2862.05 | 365 | 0 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Period of the year | Target population | IPV needs | | AD syringe needs | | CC needs | |
| January-December 2016 | - | Number of doses | Cost in $ | Number of units | Cost in $ | National level storage capacity (in litres) | Cost in $ |
| 29111 | 52037 | 41,628.95 | 57241 | 2862.05 | 365 | 0 |
| 2017 | 29926 | 106955 | 85.564 | 117651 | 5882.53 | 747 | 0 |
| 2018 | 30763 | 109078 | 87.982 | 119985 | 5999.29 | 764 | 0 |
| 2019 | 31626 | 113063 | 90,450.07 | 124370 | 6218.5 | 792 | 0 |
| TOTAL |  |  |  |  |  |  |  |

N.B: The estimate of the costs of cold chain needs has not been calculated, given that the cold chain capacity is sufficient at all levels.

**3.2 National coordination mechanism to facilitate introduction of the vaccine**

The activities linked to IPV introduction are managed by the Inter-agency coordinating committee (ICC).

These activities include:

* Advocacy for IPV introduction into the national immunization programme, targeting the country's policy makers;
* Preparation of the IPV introduction plan for submittal to the GAVI Alliance;
* Monitoring of the implementation of the introduction plan and issuance of recommendations on the administrative coverage data;
* Monitoring of the implementation of the IPV communication plan.

The schedule of activities linked to IPV introduction (Annex C) is summed up below:

**1 Design**

- Draft implementation plan for introducing IPV at the time of Penta 3 immunization contact

- Communication of information to key players in the IPV introduction process

1. meetings by the ICC to decide on IPV introduction
2. development of Djibouti's IPV introduction plan
3. submittal of the IPV introduction plan to GAVI
4. information meetings on IPV along with the immunization stakeholders
5. organisation of a meeting with actors of civil society

**2 Funding**

- Funding guaranteed by GAVI and other partners to support Djibouti in its IPV introduction

**3 Planning**

- Establishment of procedures required for implementation

- Setting up a committee for AEFI surveillance

- Confirmation of the space in the national-level cold room and refrigerators at the regional level and health posts

- Reception of IPV vaccine stocks and distribution throughout the country

**4 Budgeting**

- Finalisation of the overall IPV introduction budget

- Resources mobilised at the country level to facilitate IPV introduction and received at the national level

- Financial resources received from GAVI at national level

- Pre-arranged budget transferred from national to regional level and health posts

**5 Training and communication**

- Development and implementation of a communication plan with all its strategies, monitoring of the design/adaptation and production of communication materials. This communication plan for IPV introduction will target the healthcare providers and educate the communities in accepting IPV.

- Development of a training plan on IPV, EPI and AEFI surveillance:

a) activities to revise/adapt the training modules and the EPI management tools, and revision and adaptation of training guides on AEFI surveillance; re-examination and revision of the immunization forms and the immunization schedule to include the IPV; making copies for distribution in the HRs;

b) Organisation of workshops for trainers in IPV in Djibouti City (training on IPV introduction at the time of Penta2 immunization contact; injection site);

c) Organisation of cascade training across the country.

**6 IPV introduction**

- Reception - Distribution of IPVs, Transport of vaccines to the towns/cities (logistical plan)

- Organisation of IPV immunization launch throughout the country: administering the IPV to the target population;

- Monitoring and evaluation of IPV immunization activities at the same time as those of the other vaccines- Monitoring and management of possible Adverse Effects Following Immunization (AEFI) after administration of IPV and other vaccines.

**7 Supervision**

- Support supervision visit by the national level to the health regions and health posts

- Supervisory visit by the health regions and health posts

**8 Analysis & Reporting**

- Monthly reporting on IPV doses delivered

- Analysis of data on IPV reported in the SMT and DVD-MT

- Submittal of financial reports to GAVI

- Submittal of progress reports to GAVI

- Post-IPV introduction assessment after September 2016.

**The supervisory bodies for IPV introduction at the national and regional levels are:**

* The steering committee for introduction of new vaccines
* The pool of EPI supervisors, National Office
* The pool of supervisors of the health regions

The grant for introduction will be used for the following activities:

* Making copies of the immunization management tools that have been modified and adapted to the new routine immunization schedule that includes the IPV;
* The design, pre-test and reproduction of messages and other communication materials;
* The training of health practitioners on IPV and their retraining on surveillance of AEFI as well as how to respond to these appropriately and in time;
* Reinforcement of the cold chain in isolated areas;
* Making copies of immunization data collection materials;
* Monitoring and supervision of immunization service providers;
* Improving the waste management system: purchase of an incinerator.

Furthermore, the EPI will be able to benefit from GAVI support for health system strengthening (HSS), in order to optimise this introduction with regard to surveillance, monitoring, communication, cold chain, and vaccine management.

**3.3 Affordability and financial sustainability**

The expenditure amounts linked to the introduction of the vaccine will be based on the costs generated by the proposal and will be re-evaluated each year.

**3.4 Overview of cold chain capacity at district level and at the regional and national levels**

Following the vaccine management evaluation in May 2006, the cold chain was reinforced in 2007, 2012 and 2014, on the occasion of the introduction of new vaccines. At the national level, the cold chain includes:

* One 12m3 positive cold room and one 9m3 negative cold room, one 40m3 cold room (25m3 positive and 15m3 negative).
* 10 freezers: 4 MF114; 3 MF314; 1 TFW800; 1 MF214; 1 HF506
* 7 refrigerators: MK304

All 36 district-level health posts and the 5 health regions inland were re-equipped in 2014 with 13 solar-powered refrigerator/freezers, in addition to the ones that were already there. The capital's community health centres and the medical-hospital centres also had their electric cold chain reinforced. According to the last evaluation of the cold chain carried out with WHO support in 2014, the storage capacities are sufficient at all levels to cover the needs for both existing vaccines and for the introduction of other vaccines.

The Expanded Programme on Immunization regularly carries out, with the support of UNICEF, maintenance on the cold chain every six months. Maintenance and upkeep is being carried out in 5 of Djibouti's inland regions at the time of the writing of this proposal.

Training/retraining sessions on monitoring the temperature twice a day and on continuous recording of temperature by the electronic system will be organised before IPV introduction, in compliance with the recommendations made during the EVM evaluation.

**3.5 Stock and Distribution Management**

Management of stocks and vaccines at the national and regional level is based on computerised management tools (SMT) developed by WHO; it is also done on paper in regions and health posts (stock sheets). The national and regional level also use the computerised instrument "District vaccine Data Management Tool" (DVD-MT) to monitor vaccines and immunizations. Measures have already been made to expand this system to all the health regions.

Monitoring of the use of vaccines, which is conducted at all levels, makes it possible to calculate the wastage rates for each vaccine. The other EPI inoculation materials are managed thanks to paper stock sheets and other stock management tools (shipping order and receipt voucher). The IPV will be included and managed in the same system.

The quantities of injectable polio vaccines and the injection equipment have been calculated based on the target population, the number of doses, the wastage rate and the buffer stock. The ordering of vaccines is done jointly with WHO and UNICEF. The vaccines are stored at the national store level, with monthly distribution for the health centres in the capital, and quarterly distribution in the country's 5 health regions. The health posts are supplied monthly by the main cities of the health regions. This routine vaccine distribution system will not change when IPV is introduced (so there will be no increase in the frequency of vaccine delivery, including for IPV). Nor will there any longer be a need to recruit new drivers other than the one in charge of the vehicle purchased via the GAVI HSS funding.

Regular follow-up is carried out once a week by the national team in the capital, and quarterly supportive supervision is planned for the country's 5 inland regions.

Per diems will be planned for all the supervision missions; these will be funded by the government or, if need be, paid by the EPI partners.

**3.6 Waste management and injection safety**

Since 2001, the Ministry of Health has established a "national policy on injection safety". Auto-disable syringes and safety boxes are used in all the immunization facilities. Destruction of septic wastes is done by burning in the traditional incinerators in the health regions. In the community health centres of Djibouti City, the wastes are collected by a team of the National Institute of Public Health of Djibouti (INSPD) and destroyed in incinerators. Other methods, such as burying, are not used.

Supply in injectable polio vaccine will be done via UNICEF, as in the case of other vaccines. The polio vaccine will be administered with AD syringes, and the safety boxes will be made available to ensure maximum immunization security. All the immunization workers will be trained/retrained in the techniques of immunization safety and the injection site.

**3.7 Health worker training and supervision**

All the training materials (modules, guides, leaflets, posters, etc.) will be updated at the national level and will include the IPV. All the workers will be trained on the injectable polio vaccines.

The training sessions on the new vaccine will deal with:

* information on justifications for introducing IPV in Djibouti (including the AEFI and injection security, etc.);
* the new immunization schedule including IPV;
* effective vaccine management, to minimise wastage;
* the new collection tools (filling in and reporting);
* the monitoring indicators (coverage, dropout rate, wastage rate);
* epidemiological surveillance of the EPI-targeted diseases.

**Training methodology**

* Brief descriptions in PowerPoint, followed by discussions
* Group work for practical exercises
* Plenary sessions to validate the group work
* Training evaluation

The plans intended to reinforce the supervisory activities are shown below.

Before:

* Train the supervisors of the national level, who will be part of the IPV pool of trainers
* Provide the supervisors with supervision tools
* Plan what resources are needed for supervision according to the level (subsistence costs, vehicle, motorbike, etc.)

During:

* Periodicity of the supervision: supervision will be planned every month in the cities and every two months in the health regions, in order to reinforce the messages diffused during the training of the managers and healthcare providers.
* Supervision content: the supervisory visit will include an examination of the monitoring data, injection practices, AEFI management, social mobilisation, logistics, stock management, and practices in handling the vaccines at the health posts.

After IPV introduction

* One supervisory visit will be organised in the 2 months following introduction, to make sure that IPV introduction is effective in the routine EPI throughout the country, and that it is accepted by the population.

The same supervisory content "during" will be provided after introduction, and monthly reporting of immunization data will be systematically performed.

**3.8 Risks and challenges**

The main risks and challenges associated with IPV introduction are:

* Financial challenges:
* Ensuring Djibouti's supply in IPV after GAVI support.
* Planning challenges:
* Personnel's skills in vaccine management at all levels;
* Monitoring-evaluation of activities and statistical data
* CC management at the peripheral level
* Surveillance of EPI target diseases and AEFI
* **Challenges related to mobilising healthcare providers and communities:**
* Acceptance of IPV by parents and healthcare providers
* The communication challenges regarding IPV introduction are to make the IPV be accepted, respond to the questions of the healthcare personnel and parents concerning administration of the three injections during a single visit instead of two injections (Pentavalent and Pneumo), which is the practice prior to IPV introduction.

**Strategies for reducing risks or taking up challenges:**

1. Financial challenges/risks:

For the financial challenges, Djibouti will receive support from GAVI Alliance as a country eligible for IPV introduction funding, up to the time it is notified to start co-financing. This will give the country the occasion to prepare co-financement of the IPV, as it has already done for the other new vaccines. The Ministry of Health will thus involve the Ministry of the Budget as soon as the present Introduction Plan is worked out, so that there is no problem for disbursement of Djibouti's share when the time comes. UNICEF will be in contact with the Ministry of the Budget for the follow up of co-financing with the Ministry of Health.

1. Planning/risks:

* Training of personnel in effective vaccine management at all levels;
* Regular and good-quality supportive supervision; organise advanced activities and improve reporting;
* Setting up a preventive maintenance system for CC equipment;
* Implementing the community-based surveillance plan to respond to surveillance of the EPI target diseases, especially AFP;
* Updating of training modules in AEFI and data collection tools;
* Setting up the committee for AEFI surveillance.

1. Communication challenges:

* Djibouti has an EPI communication plan for 2013-2015 and a Communication Strategy for Development with an EPI component.
* Djibouti is going to develop an effective communication plan adapted to the problems that arise from IPV introduction, such as the 3rd injection; it will target healthcare providers and communities. Scientific discussions will be organised between the managers and the healthcare providers. Community debates will also be organised at the local level on all the issues regarding IPV introduction, in order to persuade and convince people to subscribe to the advantages of IPV.
* For IPV introduction, good-quality communication materials (posters, leaflets, spots, pamphlets, a guide, etc.) will be designed and reproduced for various target groups. The materials will be pre-tested before the distribution in the communities.
* Awareness-raising via mass media and via interpersonal & local communication methods.

**4. Situational analysis of the immunization programme**

**4.1 Overall background** *(source: FMA report)*

The Republic of Djibouti is located in the Horn of Africa, at the southern end of the Red Sea. It borders Somalia to the South, Ethiopia to the Southwest and Eritrea to the North. Djibouti occupies a strategic position in the region; its natural resources are affected by its desert climate and its volcanic soil. Djibouti covers a limited surface area (23,000 km²), and geographical accessibility to some areas remains difficult. The 2014 population estimate was 920,845 inhabitants (2011-2015 cMYP). The percentage of urban population was 70.6%, with nearly 60% in the capital Djibouti City. According to the 2013 ranking of the human development index established by the UNDP, the country is ranked (*to be corrected with the 2013 index)* [sic] out of 186 countries.

The 1992 constitution provides for a presidential-type regime, with a president and a national assembly elected by universal suffrage, with terms of office of six and five years respectively. This constitution establishes separation and balance of powers. The process of decentralisation underway, initiated by the decentralisation law of July 2002, created six regions: Tadjourah, Ali-Sabieh, Obock, Dikhil, Arta and Djibouti City, which has a special status. The decentralised regions are administered freely through Regional Assemblies elected by universal suffrage. At the end of the last decade, the economy was affected by external shocks, especially the drought in the Horn of Africa and the sharp rises in raw materials prices in 2008 and 2011. The structural reforms made less progress than planned, harming the effectiveness of the budgetary policy and improvements to the economy's competitiveness.

Djibouti is highly dependent on external aid, especially for the financing of development projects. This pattern can be found in the financing of the public health sector, where the loans and donations of TFPs represented approximately 43% of the Ministry of Health's budget in 2012.[[1]](#footnote-1).

**The health system (source: 2013-2017 NHDP)**

Djibouti's health system is based on the district health system approach, and the primary healthcare strategy. At the administrative level, the national level is made up mainly of the ministry's staff, the secretariat general and the national offices. Administratively, the regional level is synonymous with the district (peripheral) level. Because of this, the management teams of the districts directed by district head doctors are the foremost health officials of the administrative regions, which correspond to the health districts (5 inland (rural) districts and two urban districts in Djibouti City).

However, Law No. 48/AN/99/4ème L regarding guidelines for Health Policy stipulates that the basic administrative unit is the health sector.

Healthcare facilities are organised in pyramid form, with three levels. It is governed by the health map, which must be revised every five years according to the national health policy. There are three sub-sectors of healthcare services within this pyramid: public, parapublic and private.

In the public sub-sector, the first level is made up of the health posts in rural areas and the community health centres in Djibouti City. These healthcare facilities provide the first contact of the health system with the local populations. The second level is made up of five Medico-Hospital Centres, which perform the dual role of district hospital and of regional hospital in most of the regions.

However, the Ministry of Health has changed outlook by gradually establishing a second reference level in the regions: the regional hospitals. The third (tertiary) level of healthcare includes a general hospital, a national maternity hospital and two specialized medical centres. Currently, only the Peltier General Hospital enjoys self-management and legal personality, within the framework of a pilot project with plans for its extension to all the facilities of the tertiary level, in accordance with the health policy. The para-public and private sectors work only in Djibouti City.

The six para-public structures are composed of four Armed Forces health facilities, as well as two health facilities of the Social Security system.

The private services offer is structured around three polyclinics, five private pharmacies and 10 medical offices.

From 2000, the country has made considerable progress in improving its health system. The main areas of care developed are

- the setting up of community pharmacies,

- the reorganisation of districts into health regions,

- financial contribution by users,

- development of human resources,

- self-management for the main public facilities,

- the reinforcement of priority health programmes, including the EPI.

Decentralisation of the health system is one of the priorities of Djibouti's health policy, which stipulates that the health sector is the basic territorial, administrative, technical and financial unit of the health map. The healthcare sectors are grouped together by health district, the geographical limits of which are those of the administrative district (or the administrative region). In accordance with the strategy of primary health care, the health system has introduced generic versions of essential medicines since 2003. The medicine circuit in the public sector is structured around a procurement centre located in Djibouti City. The Essential Medicines and Materials Procurement Agency (CAMME) was created by "Decree No. 2004-0059/PR/MS of 13 April 2004 setting forth the statutes of the Essential Medicines and Materials Procurement Agency (CAMME)". Its mission is essentially to ensure the supply, distribution and sale of essential medicines in the public sector.

**Health priorities**

**The National Health Development Plan (2013-2017 NHDP)** has three major priorities:

1. improving the availability and accessibility of medicines;

2. reinforcing basic health care, especially mother and child health (risk-free maternity, family planning, integrated management of childhood illnesses (IMCI)), and revitalising and setting up the IEC (Information, Education and Communication) aspect; and

2. developing and implementing the strategies for control and prevention of endemo-epidemic diseases (HIV/AIDS, tuberculosis, malaria).

Within the framework of the NHDP, several programmes directly targeting children have been implemented:

1. the Integrated Management of Childhood Illnesses (IMCI) programme;

2. the Expanded Programme on Immunization (EPI);

3. the reproductive health programme (PSR);

4. the national protocol for managing malnourished children.

**Organisational structure of the national immunization programme (source: 2011 GAVI Proposal)**

Established since 1984, the Expanded Programme on Immunization (EPI) has gone through several stages.

Between 1984 and 1994, the EPI improved its performance over the years, reaching a higher immunization coverage (87%) of the reference vaccine, DTP3.

From 1991 to 1994, following the civil war, nearly 2/3 of the country was totally deprived of essential health care, including immunization. The period of calm experienced from 1995 enabled the EPI to take up immunization again, through immunization campaigns. These latter provided inputs that enabled the EPI to serve the child population again and to reach a low level of immunization coverage.

This rebirth of routine EPI has since then enabled significant progress to be made, such as that measured by the following successive surveys:

1. the PAPFAM survey conducted in 2002: DTP3 53% and Polio3 39% for children less than 1 year and MCV 65% for children age 9 to 23 months;

2. the EDIM report made in 2006 provided the following results: DTCP3 56.8% and MCV 65%. With the goal of accelerating reduction in the mortality and burden of vaccine-preventable diseases among children age less than 1 year, the EPI introduced routine immunization in 2007, with the Pentavalent vaccine containing 5 antigens: DTP+Hib+HepB.

3. the survey on immunization coverage conducted in June 2008: DTCP3 83% and MCV 73%.

The motivation for this decision was based on the epidemiological profile of the country as analysed in Djibouti by Johns Hopkins University in September 2009, along with GAVI support. This study concluded that invasive pneumococcal-related illnesses are responsible for 2178 cases of pneumonia and meningitis and other invasive illnesses each year. As the mortality rates are 15% for pneumonia and 66% for meningitis, the study concluded that, with 90% coverage and 85% efficacy of PCV13, 76% of deaths due to these illnesses could be prevented every year.

In 2011, Djibouti decided to introduce two new vaccines in order to reduce the burden and mortality due to the two main and most frequent illnesses among children: diarrhoea and pneumonia. Actual introduction of these two vaccines was made at different dates.

Still in 2011, the EPI updated, with the help of UNICEF, its Comprehensive multi-year plan for immunization (cMYP), extending it from 2011 to 2015, the deadline for the Millennium Development Goals (MDGs). After five years of exclusive support from GAVI in supplying it with pentavalent vaccines, inoculation materials and safety boxes, Djibouti began providing its share of co-financing and also introduced the pneumoccocal vaccine (PCV13). The introduction of PCV13 thus contributed to reaching the MDG 4.

In its annual EPI report of 2013, the administrative coverage of pentavalent was 82% and that of MCV 80%.

4. the preliminary results of Djibouti's immunization coverage survey conducted in November 2014 show 82% coverage for DTP3+Hep3+HIb3 [sic] and XXX% [sic] coverage for MCV.

Djibouti also introduced the rotavirus vaccine the same year (2014).

Administration of the rotavirus vaccine to the target group, combined with prevention measures (elementary hygiene and rehydration therapy) also contribute to significantly reducing mortality and burden due to diarrhoea-related illnesses in Djibouti.

One year is remaining in Djibouti's current cMYP; it will be updated for the next 5-year term in 2015. At this time, the current IPV introduction plan will be incorporated into Djibouti's multi-year plan.

**4.2 Geographical, economic, policy, cultural, gender and social barriers to immunization**

The immunization coverage data gathered over the last two years (2012 and 2013) are shown in the graph below. The data are not broken down by gender, as they were not reported that way.

*Graph 1: National coverage tendencies (percentages) for 2012 and 2013 in Djibouti.*

*Translations: VPC=PCV; Rougeole=measles; DTC=DTP; VPO=OPV*

N.B: In order to recover the gaps in routine immunization coverage of OPV3, which is (example of 82% at the national level in 2013 (JRF-APR)), at least two rounds of the National Immunization Days (NID) for polio have been organized every year since 2000.

**Health sector performances (source 2013-2017 NHDP)**

The evolution of the main health indicators since 2008 are based on the 2008 PAPFAM survey, which constitutes the baseline of the entire 2008-2012 NHDP. The data of this same type of survey have unfortunately not all been published. Consequently, it is difficult to make indicator comparisons by level at the end of Djibouti's 1st Health Development Plan. Nevertheless, the routine data of the National Health Information System (NHIS) – even though they are often put to debate – as well as data from the vertical programmes of parallel collection, provide us with complementary information that we can use for decision-making.

Evolution of some NHDP indicators from 2008 to 2012

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Base year**  **2008 NHDP** | **mid-term**  **2010 NHDP** | **End of**  **2012 NHDP** | **NHDP objective**  **2012** |
| Maternal mortality rate for  100,000 LB | 546 | 546 |  |  |
| Infant mortality rate in % | 67 |  |  | 55 |
| Child mortality rate in % | 94 |  |  |  |
| Childbirth aided by qualified personnel in % | 58.25 |  | 44.2 | 93 |
| PNC 4 in % | 7 |  |  | 35 |
| DTP3 in % | 71 | 71 |  | 85 |
| Contraceptive prevalence rate in % | 17 | 11.76 | 12 | 25 |
| TB: Rate of drop-out in % | 16 | 15.8 | 15 | 5 |
| Underweight rate of children age -5 in % | 28.6 |  |  | 15 |
| Coverage in  ITN in % | 49.3 | 49.3 | 49.3 | 80 |
| HIV prevalence in % | 2.9 | 2.9 | 2.7 | 2 |

*Source: 2008 PAPFAM / 2008-2012 NHIS / WB / PAPSS / health programmes*

**Equity analysis and action plan**

Problems of equity and disparities do exist in Djibouti. Analysis of the problem was made during the development of the National Initiative for Social Development (2008-2012 INDS) and during a study on poverty in the fields of health, education and child protection. Here we report on the results dealing with the health, raising and education of children.

**The obstacles to IPV introduction** in Djibouti, as well as the means to overcome them, are shown below.

|  |  |  |
| --- | --- | --- |
| **Obstacles** | **Content of obstacle** | **Measures taken to tackle them** |
| Geographical | Difficulties of access to immunization for people far from immunization posts (more than 10km)  In the mountainous regions, the road infrastructure is very poor and families have very limited resources. The rural population lives in remote areas that are difficult to access, so they cannot take advantage of the health services offered by public health entities. Despite the fact that health services are free of charge, all of the MNCH coverage rates in this population are low and constitute a major challenge for Djibouti's health system. | Targeting specific populations (rural, nomadic, immigrant) to offer them more accessible and more regular immunization and health services.  To this end, we propose a mobile strategy that is customized to the country's context, in order to cover the 20% of Djibouti's population that lives in rural and remote areas; we propose giving each local health team a motorcycle in working order, to travel around the health center according to a monthly schedule that covers all school, all population groups and the water sources used by nomads. The areas that are not yet accessible by the local teams will be covered by district teams in cars.  This mobile strategy requires technical reorientation of mobile personnel, their training on the subject and an operating budget to use the new vehicles purchased with GAVI HSS funds. |
| Economic | The recurrent droughts in the rural zones are impoverishing people more, due to the high mortality of livestock.  Rural areas are poorer than urban ones, and people there hence are less likely to use health services. | Immunization of the IPV target groups is free, meaning that there is no financial obstacle in access to this new vaccine once it is introduced into the country.  Health system strengthening via GAVI funding will make it possible to bring the health services closer to vulnerable and remote populations. |
| Political | The existence of militarised zones along the Eritrean border makes access to health services difficult. | Work with the security services to facilitate access to health services for this population. |
| Cultural | In remote areas, the population lacks knowledge about health in general and immunization specifically. This is a major obstacle to the use of services. | Implementation of effective communication strategies for behavioural change will be carried out with the support of UNICEF's C4D; the presence of community liaisons trained in communication techniques will be capitalised upon. The members of health committees at each immunization post as well.  Identify the innovative means of communication adapted to the people of the areas concerned. |
| Gender-specific | There is no gender-based disparity in terms of supply and use of health care services in Djibouti. | The EPI is a federative programme that makes no discrimination based on gender in vaccine administration. The IPV will thus be administered as much to girls as boys. |
| Social | Existence of disparities among regions of the country | Social-support projects exist and do their best to remove these barriers in society. The EPI is not influenced by these social aspects of the inhabitants: everyone has the right to it. |

**Natural disaster management and IPV introduction in Djibouti**

Djibouti is located along a tectonic fissure or fault line and runs the risk of earthquakes and volcanic eruption. Sporadic flooding also occurs. Droughts are recurrent in the country.

Djibouti is reinforcing risk management for disasters: Thanks to the Global Facility for Disaster Reduction and Recovery (GFDRR), which is administered by the World Bank, [Djibouti](http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/MENAEXT/DJIBOUTIEXTN/0,,contentMDK:22556794~menuPK:312817~pagePK:141132~piPK:141107~theSitePK:312807,00.html) is striving to meet the need to reinforce its evaluation and information capacities with regard to the risks of and vulnerabilities to natural disasters. This approach seeks to reinforce the capacities of national organizations involved in disaster prevention, evaluation and preparation, thereby reducing the impact of unforeseen natural events and climate change on Djibouti's population and economy.

The University of Djibouti has also created courses for training in risk management for disasters and in adaptation to climate change, which have been incorporated into university studies.

At the government level, there is an executive secretariat within the Ministry of the Interior for risk and disaster management. It coordinates the response to disasters that could occur in the country.

In the event of natural disaster in Djibouti, the Ministry of Health, the EPI and the humanitarian actors coordinated by OCHA (United Nations Office for the Coordination of Humanitarian Affairs) will make a mapping of the locations of displaced persons (camps) to provide them humanitarian assistance and emergency health care, including immunization by fixed, outreach or mobile teams. The targets of the routine EPI will thus be able to benefit from IPV in addition to the other vaccines, without interruption.

**4.3 Findings from recent programme reviews**

The **key EPI elements that will help facilitate IPV** introduction, including recent changes to address any weaknesses previously identified, are shown below. (source: 2011 Pneumo Rota introduction plan)

1. The ordering of vaccines takes place according to joint 3-way EPI-WHO-UNICEF planning. Djibouti's supply in vaccines is carried out through UNICEF's Supply Division in Copenhagen, Denmark, in order to guarantee quality, lowest cost (using the grouped purchase strategy), the shortest delivery time of the vaccines and the best monitoring from order to delivery.

2. The vaccines received in the country are then stocked at the EPI's national store; the capital's health centres and maternity hospitals are supplied monthly, and the health regions' hospitals are supplied quarterly. The health regions distribute the vaccines directly to the health posts, once a month.

3. Management of vaccine stocks at the national level is carried out once a week by the national team; at the region level monitoring is carried out every 2 months in the form of supportive supervision.

4. UNICEF carries out half-yearly support for EPI cold chain maintenance (functioning of solar refrigerators) in inland regions, in addition to the purchase, for the country, of all the traditional vaccines.

6. The immunization workers and EPI personnel are regularly trained on vaccine management, micro-planning of immunization activities, the use of collection tools, AEFI (adverse events following immunization) and on maintenance of the solar cold chain thanks to funding from the UNICEF and WHO partners, according to a continued training program (see annex).

6. The installation of a new 40m3 cold room in 2013 at the national level, thanks to funding from the World Bank, has reinforced the vaccine storage capacity in Djibouti. The health regions were been provided with 9 refrigerators and 6 electric freezers in 2011, by the World Bank. This has enabled decentralisation and reinforcement of vaccine management at the health region level, and significantly contributed to reducing the risk linked to repeated supply in vaccines as well as breakdowns in the cold chain.

7. To reinforce vaccine management and distribution, 50 motorbikes financed with UNICEF support have been made available to the health regions and the health posts.

8. The high costs of new vaccines forces the Immunization Programme to continue to multiply its efforts to limit the rate of avoidable waste of vaccines, by closely monitoring the use of the vaccines.

An **assessment of the EPI supply chain took place on 17–31 August 2014.**

This assessment showed the strengths and weaknesses of the EPI in the effective management of vaccines. The main findings concern the capacity of the healthcare personnel to correctly manage the vaccines at all levels and to report on the routine immunization data. The irregularity and weak quality of supervision should be improved. Even if the capacity of the cold chain is sufficient, regular preventive maintenance should be established.

The other detailed recommendations are in the EVM report appended to this proposal.

An EVM Improvement Plan in Djibouti was worked out after this assessment, along with a timeline. The implementation of the recommendations of this assessment will help improve the management of routine EPI at all levels. This will be of aid to the IPV introduction.

However, some recommendations cannot be implemented due to budgetary constraints. This is the case of the renovation of the EPI buildings and of the vehicles that are lacking (off-roads, motorbikes).

As for the measures taken to deal with this, the Ministry of Health is carrying out advocacy targeting its EPI partners, in order to obtain aid for the purchase of all the equipment and vehicles, not to mention the building renovation. Integrated supervision with other health programmes could ever so slightly resolve the problem of paying for the national-level supervisors during their missions in inland regions and improve the quality of the supervision.

**Previous experience in introducing new vaccines in Djibouti and the lessons learned**

Djibouti's Expanded Programme of Immunization has quite a bit of experience in the introduction of new vaccines. In accordance with its epidemiological profile, the country introduced the pentavalent vaccine PCV13 and the rotavirus vaccine, in 2012 and 2014 respectively. The healthcare providers who have taken an active role in introducing the previous new vaccines will be mobilised again throughout the country.

The steering committee for the introduction of the above-mentioned vaccines, the ICC, is still active and available for supporting IPV introduction. The Ministry of the Finance will be mobilised again to provide co-financing after the initial grant from the GAVI Alliance. Other partners will also be involved in implementing IPV introduction – i.e. heads of communities, religious leaders, local administrative authorities and civil society organizations, above all in communication to encourage IPV acceptance.

The implementation of actions to introduce Pentavalent, PCV13 and the rotavirus vaccine have created dynamics and nationwide skills with regard to:

* the planning of the introduction of a new vaccine at several levels, including the estimation of vaccine needs and quality control of the cold chain;
* the development/adaptation of standards and tools for recording immunization activities, so as to include the new vaccine in it;
* the training of supervisors and service providers, using suitable modules;
* the adaptation of computerized tools to include data on immunization with a new vaccine;
* advocacy and organising multimedia campaigns to obtain popular support;

All these skills and acquisitions will be capitalised upon for the IPV introduction.

The lessons learned from having introduced new vaccines previously, and which will be capitalised upon by Djibouti are as follows:

1. The simultaneous introduction of two new vaccines makes it possible to preserve financial resources and to improve the effectiveness of the immunization's planning and operations.

2. Parent/guardian comprehension of the impact of vaccines on diseases has mitigated their worries about the contemporaneous administration of vaccines and has even increased demand (the case of the pneumoccocal vaccine).

3. The introduction of a new vaccine protects children more against a greater number of diseases.

4. Simultaneous introductions of new vaccines represent a burden for the CC, but Djibouti enjoys having had a recent evaluation (2014) of its supply chain and vaccine storage (EVM), at all levels. This is an undeniable advantage.

5. The availability of the cold chain and the communication that will be carried out during the IPV introduction will reinforce the routine EPI and have a positive influence on immunization coverage.

**5. Monitoring/Evaluation**

**5.1 Updating of monitoring tools**

In its routine EPI, Djibouti possesses the formats of recording and reporting, including immunization registers, tally sheets, immunization summary sheets, the immunization schedule, immunization cards and wall charts of immunization data tendencies. They will be adapted during ad-hoc workshops to incorporate the IPV and report on the immunization with this antigen. They will then be shared with the regional managers and at the health-post level during the workshops for updating EPI knowledge and the IPV introduction. These adapted tools will thus be used by the health facilities at all levels.

As Djibouti's current comprehensive multi-year plan (2011-2015) will end soon, the present IPV introduction plan will be incorporated into the next EPI comprehensive multi-year plan when it is developed. This way, the IPV will be included with the other vaccines present in the cMYP after launch.

GAVI's concern with "gender" and its desire to see the immunization data broken down by gender will be discussed during the adaptation workshops for the EPI management tools. Indeed, before reporting on the data broken down by gender, it is first necessary to collect the data separately; this means that several EPI data collection tools (immunization registers, tally sheets, summary sheets, etc.) will have to be changed. As this will have a cost, the Ministry of Health will make an assessment at the time of tool revision as to whether this separation is worthwhile.

**5.2 Adverse Event Following Immunization (AEFI) monitoring and reporting**

The system of adverse event following immunization surveillance is not very effective, due to insufficient monitoring and supervision. This weakness will be dealt with during the workshops for trainers and supervisors before IPV introduction.

A National Committee for AEFI research, evaluation and monitoring will be created at the national level to coordinate the notification and management of cases (this is a necessity). This will make it possible to effectively fight the possible rumours and allegations related to introduction of the IPV and other new vaccines.

The EPI national level will also design a specific communication strategy to react immediately to rumours that accompany the AEFI, so that the programme is ready to respond in the event of a problem.

Djibouti does not have a national committee of experts in charge of AEFI. It will be set up along with IPV introduction, with representatives by health region. The profile of its members may include physicians who are specialists in epidemiology, immunology, infectious diseases; pharmacists from the University of Djibouti; and clinicians that may include internists and paediatricians.

The methods to use for AEFI surveillance by this committee are described below in the process of detection, notification and management of AEFI cases.

The successive stages of the AEFI notification process and the procedures of their monitoring following IPV introduction at the health post level and at other immunization sites at the local, regional and national levels are as follows:

1. detection of cases by direct observation at the time of immunization or by targeted anamnesis on the immunization received by the child;
2. notification of the case on the sheet of the immunized child, with precisions on the day, date and hour, and place where the AEFI occurred (specified whether at health post or at home);
3. Investigation after the start of the management by an experienced team appointed or made responsible by the AEFI surveillance committee. The investigation may, depending on the case, include blood specimens to send to the specialised laboratory in Djibouti named for analysis.

**The processes and procedures for monitoring adverse events following IPV introduction**

Detection of AEFI cases will be made either by the personnel in charge of the immunization, or by the healthcare personnel (doctor, nurse) during any other care activity.

Simple AEFI, which are often the most numerous, will be managed by the on-site healthcare personnel, without referrals.

Serious AEFI due to IPV are extremely rare. The occurrence of any serious AEFI must be taken care of immediately and correctly so that it does not seriously harm the immunization activities. How can they be recognised?

The major signs by which serious AEFI are detected are as follows:

1. Local reactions where injection was performed
2. Anaphylactic shock or toxic syndrome
3. Presence of an abscess where injection was performed
4. Signs of septicaemia
5. Lymphadenitis on the side of the limb where injection was performed

In the event of a serious case of AEFI (i.e., any unfortunate event that, at any dose, leads to death; requires hospitalisation or extension of hospitalisation; leads to temporary, permanent or significant incapacity; or is potentially fatal), the health personnel who notes the AEFI must immediately contact, by mobile phone, the competent authority for emergency management and/or referral of the case.

A national committee in charge of AEFI surveillance will be formed at the national level, with representatives in each health region. When alerted of a serious AEFI, this committee will have to meet immediately to discuss the management and monitoring of the case, and to instigate the investigation process. The results and conclusions of the investigation will have to be shared with the healthcare personnel who will have given notification of the AEFI.

This AEFI National Surveillance Committee may rely on the community-based surveillance project as it is currently operating.

In epidemiological surveillance matters, a community-based action plan is in fact currently being implemented in Djibouti, along with financial and technical help from WHO. These are people who live in the villages of the health sector of a Health Post and who have close relations with the population of a village. They are capable of gathering information on any health event that occurs in their circle, and on population movements in and out of their village. They may be village chiefs, married women, shopkeepers or school teachers. They are chosen by the Health Post team.

The implementation of these measures will be significant advantages for the success of IPV introduction and the reinforcement of the EPI in general.

**6. Advocacy, communication, and social mobilisation**

The strategies to sensitize and involve political and opinion leaders at the national/regional scale and at the municipal level on IPV introduction, benefits to the population, and contribution to the polio Endgame Strategy are as follows:

1. Advocacy: Djibouti is going to organise an "Advocacy Week" in the form of meetings organized in the capital, to inform decision-makers at all levels and see to it that they undertake to support and facilitate the introduction and setting up of IPV at the national/regional level and at the health post level. Advocacy for mobilisation of additional resources will also be organised during the same formal meetings, whose theme will be "IPV introduction in Djibouti: give your support".
2. Social mobilisation: to involve the partners, stakeholders and social mobilisers, etc., in the awareness-raising activities on the advantages of IPV immunization. National and international NGOs, women's and youth organizations, religious organizations, and community-based organizations will take part in its conferences.
3. Mass communication: to involve the media (radio, TV and newspapers) in IPV introduction activities. The diffusion of text messages may be considered, so as to include this new communication technology into immunization in Djibouti.
4. Communication for behavioural change: community discussions will be organised on the theme of IPV introduction, in order to talk about the advantages of this vaccine, its harmlessness and its importance in speeding up the eradication of polio. During these discussions, the healthcare personnel will strive to sensitise the communities, parents and persons in charge of children to accept the vaccine and the new immunization schedule that will be set up.

**The communication materials that will be developed to introduce IPV and used during each of these three strategies**

To work out the communication plan for IPV introduction in Djibouti, the country will refer to the existing strategic communication documents.

The process of developing communication materials in favour of introduction will be as follows:

1. Organising a national workshop to design and validate the communication materials and the key messages;
2. Pre-test the messages;
3. Producing copies of the materials and messages;
4. Distributing the materials and messages;
5. Organising the press points and broadcasts to be developed (radio, TV) on IPV introduction.

Djibouti is going to organise official launch ceremonies, at the national level under the official patronage of the highest level of state, and at the health region level by the Prefects. The practical aspects of this launch will be defined with the national and regional authorities, as has already been done for the launch of the previous vaccines. Launch at the national level is planned for September 2015.

The Ministry of Health is the institution that will appoint, based on proposals by the EPI and its partners WHO and UNICEF, the person who will deal with the communication problems related to IPV introduction in Djibouti.

Djibouti, December 29, 2014

1. Source: Office of Research, Planning and International Cooperation of the Ministry of Health (DEPCI) – Ministry of Health [↑](#footnote-ref-1)