**REPUBLIC OF NIGER
Fraternity-Work-Progress**

**MINISTRY OF PUBLIC HEALTH
GENERAL DIRECTORATE OF REPRODUCTIVE HEALTH**

**DIRECTORATE OF IMMUNIZATIONS**

**PLAN FOR INTRODUCING THE INACTIVATED POLIO VACCINE (IPV)**

**INTO THE ROUTINE EPI**

**SEPTEMBER 2014**

**TABLE OF CONTENTS**

2

**ABBREVIATIONS AND ACRONYMS** **3**

**LIST OF TABLES** **5**

**LIST OF GRAPHICS** **6**

**LIST OF APPENDICES** **7**

**IPV INTRODUCTION PLAN** **8**

**Executive summary of the introduction plan** **8**

**1. Justification for introduction of IPV and national decision-making process** **10**

**2. IPV overview** **12**

2.1 Vaccine preference 13

2.2 Country licensure status 13

2.3 Target population and vaccine availability 14

**3. Introduction and implementation considerations** **16**

3.1 Policy development 16

3.2 National coordination mechanism to ensure the successful introduction 17

3.3 Vaccine affordability and financial sustainability 17

1. **Analysis of future EPI financing for 2011-2015** 22
2. **Analysis of financing gaps** 23

3.4 Overview of cold chain capacity at district, regional and central levels 24

1. Analysis of vaccine storage capacity per level 24
2. Vaccine and supply distribution system 27

3.5 Waste management and injection safety 29

3.6 Health worker training and supervision 30

3.7 Risks and challenges 33

**4. Situational analysis of the immunization program** **34**

4.1 General context of the country 34

1. **Niger's health policy.** 34
2. **The place of the EPI in health policy** 36

4.2 Geographic, economic, policy, cultural, gender and social barriers to immunization

 37

4.3 Findings from recent program reviews 39

4.4 Inventory management 41

**5. Monitoring and evaluation** **42**

5.1 Updating of monitoring tools 42

**6. Advocacy, communication, and social mobilization** **44**

**ABBREVIATIONS AND ACRONYMS** 3

3

**RED** Reach Every District Approach

**MA** Market Authorization

**NRA** National Regulatory Authority

**SIA** Supplementary Immunization Activities

**BCG** Calmette and Guérin Bacillus

**CCC** Communication for behavioral change

**ICC** Inter-Agency Coordination Committee

**CDI** *Coordonnateur Départemental des Immunisation* - Departmental Immunization Coordinator

**CRI** *Coordonnateur Régional des Immunisations*- Regional Immunization Coordinator

**IHC** Integrated Health Center

**DGSR** General Directorate of Reproductive Health

**DI** Directorate of Immunizations

**DPHL/MT** *Direction des pharmacies, des Laboratoires et de la Médecine Traditionnelle* - Directorate of Pharmacies, Laboratories and Traditional Medicine

**DRSP** *Direction Régionale de La Santé Publique* - Regional Public Health Management

**HD** Health District

**DS** Statistics Department

**DTP** Vaccine for Diphtheria, Tetanus, Pertussis

**ECD** *Equipe Cadre de District* - District Management Team

**DHS-MICS** Multiple Indicator Demographic and Health Survey

**GAVI** GAVI Alliance

**HepB** Hepatitis B

**Hib** Haemophilus influenzae type b

**IEC** Information Education and Communication

**VII** Vaccine Independence Initiative

**INS** Institut National de la Statistique - National Institute for Statistics

**SFI** Synthetic Fertility Index

**AEFI** Adverse Events Following Immunization

**MenAfrivac** Conjugated meningitis A vaccine

**MPH** Ministry of Public Health

**WHO** World Health Organization

**NGO** Non-governmental organization

**AAP** Annual Action Plan

**PCV 13** Pneumococcus vaccine

**EPI** Expanded Program on Immunization

**AFP** Acute Flacid Paralysis

**EFP** Essential Family Practices

**GDP** Gross Domestic Product

**cMYP** comprehensive Multi Year Plan

**TFP** Technical and Financial Partners

**cVDPV** Vaccine-derived Polio Virus

**GPHC** General Population and Housing Census

**ROTARIX** Rotavirus diarrhea vaccine

**HSS** Health System Strengthening

**SAGE** Strategic Advisory Group of Experts

4

**MDRMS**  Medical Device Repair and Maintenance Service

**OMRMS** Operations Materials Repair and Maintenance Service

**AFR-FRRMS** Automobile Fleet Repair and Maintenance Service

**NHIS** National Health Information System

**ISS** Immunization Services Support

**MNT** Maternal and Neonatal Tetanus

**UNICEF** United Nations Children's Fund

**YFV** Yellow Fever Vaccine

**MCV** Measles vaccine

**TT** Tetanus vaccine

**IPV** Injectable Polio Vaccine

**OPV** Oral Polio Vaccine

**bOPV** Bivalent Oral Polio Vaccine

**tOPV** Trivalent Oral Polio Vaccine

**LIST OF TABLES**

5

|  |  |  |
| --- | --- | --- |
| **No.** | **Title** | **Page** |
| Table 1 | IPV vaccine preferences and estimated date of introduction | 13 |
| Table 2 | Reasons for preferred presentation and expected vaccine wastage rate | 13 |
| Table 3 | IPV target population for 2015 to 2018 | 15 |
| Table 4 | Current and future EPI immunization schedule in Niger | 16 |
| Table 5 | Summary of cost and financing of IPV introduction in US$ | 18 |
| Table 6 | Niger EPI needs for 2011-2015 | 21 |
| Table 7 | Unfinanced cost items and composition of the financial gaps (specific costs only) | 23 |
| Table 8 | GAVI table on investments to fill the storage capacity gap | 25 |
| Table 9 | Vaccine preservation capacity at regional level and required equipment | 26 |
| Table 10 | Vaccine preservation capacity at district level | 27 |
| Table 11 | Status of modern incinerators within the country | 30 |
| Table 12 | Trends in national vaccine coverage | 37 |

**LIST OF GRAPHICS**

6

Graphic 1 Projection of Assured Financing 22

Graphic 2 Projection of Assured and Probable Financing 22

Graphic 3 Gap for +5°c Storage Capacity 25

Graphic 4 Storage Capacity After Investment 25

**LIST OF APPENDICES**

7

Number Title

**Appendix 1** Appendix C: Executive summary of the introduction timeline

**Appendix 2** Appendix D: IPV introduction plan

**Appendix 3** Cold chain inventory report

**Appendix 4** Effective management of vaccines survey report

**Appendix 5** Expression of interest

**Appendix 6** Appendix B: Application Form

**Appendix 7** ICC report with list of participants from 7 May 2014

**Appendix 8** ICC report with list of participants from 8 September 2014

**Appendix 9** Agreement with UNICEF

**Appendix 10** Order creating the ICC

**Appendix 11** Order creating the NITAG

**IPV introduction plan**

8

**Executive summary of the introduction plan**

Niger, like other countries, signed the Global Polio Eradication Initiative and reconfirmed its commitment to the Initiative in 1996 in Yaoundé. Since 1997, Niger has organized activities related to the eradication of polio (supplemental immunization campaigns, strengthening of routine immunization surveillance).

During the 65th World Health Assembly held in May 2012, the eradication of polio was declared an urgent global public health issue and the Strategic Advisory Group of Experts (SAGE), who met in November 2013 recommended adding at least one dose of the Inactivated Poliovirus Vaccine (IPV) to the routine immunization programs.

The main goal of introducing the IPV will be to maintain children's collective immunity against the polio virus, and, in particular, against type 2 of the virus, leading to:

- Reduced risk of polio if there is exposure to type 2 after the OPV is withdrawn,

- Improved immunity reaction to a monovalent type 2 OPV if it is used during outbreaks,

- Strengthened immunity against types 1 and 3 polio virus.

- Reduced polio virus type 2 transmission if it is reintroduced.

In Niger, the quality of supplemental polio immunization campaigns and high OPV3 coverage in children under one year old have interrupted circulation of the wild polio virus. With AFP surveillance indicators doing well in all of the country's health regions, no cases of the wild polio virus have been detected since November 2012.

The elimination of the circulating wild polio virus and the isolation of 15 vaccine-derived polio viruses (cVDPV) between 2008 and 2014 both justify Niger introducing the IPV to mitigate the risks inherent in withdrawing the OPV2.

Niger has long experience introducing new vaccines into its program (the introduction of Hib and HepB in 2008 as the pentavalent vaccine and the introduction in 2014 of the pneumococcus and rotavirus vaccines). The training provided for the introduction of these new vaccines has allowed Niger to strengthen personnel competence in EPI management. The country has also improved its vaccine storage capacity at all levels to respond to the requirements need to preserve vaccines in proper conditions.

130 m3 is currently available at the central level. With 80 m3 planned within the framework of Health Systems Strengthening (HSS), and 160 m3 planned for the project to strengthen the cold chain that was submitted to GAVI in June 2014, the country will have a total positive storage capacity of 370 m3 at the central level. This will allow storage capacity needs to be met through 2017.

9

Niger's decision to choose the 10-dose presentation takes into consideration storage capacity, transportation logistics, and the expected immunization target (80%) (birth cohort) as well as the immunization method used in the routine EPI.

The IPV will be introduced into routine immunization nationally and will be administered at the same time as the third dose of OPV. The three strategies that will used to administer it are those used for routine immunization: outreach, fixed and advanced.

Niger's commitment and the Technical and Financial Partners' (TFP) commitments to support the EPI in this process will lead to increased funding to cover needs related to the introduction of the new vaccines. In addition, the budget planned for this application is FCFA 442,430,596 FCFA (US$ 884,861 dollars, where 1 dollar equals 500 FCFA).

The country has 5 modern, high-capacity incinerators in 4 regions to manage waste. However, to comply with international biomedical waste management regulations, the country is planning to equip the four regions without incinerators with incinerators.

Niger has had a monitoring guideline, and a plan for AEFI since the first measles catch-up immunization campaign in 2004, and the 2010 and 2011 MenAfrivac catch-up campaign. In addition, the AEFI monitoring committee that has been reactivated. This committee will be used for IPV introduction.

Risks related to the introduction will be taken into account in the

detailed communications vaccine introduction plan and will include information on crisis communications.

Monitoring and evaluation will follow the normal steps noted in the monitoring and evaluation guide included in the Ministry of Public Health's 2011- 2015 health development plan.

After a letter interest was produced and immunization personnel was briefed, the Directorate of Immunizations implemented a technical committee in charge of drafting the Plan. In addition, the Directorate has taken advantage of the ICC's various meetings and regional briefings on issues related to

EPI to inform health authorities and health personnel about why the IPV should be introduced into Niger's future Expanded Program on Immunization .

10

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

**Provide evidence that all key decision-makers in relevant agencies (e.g., Ministry of Health, Ministry of Finance, etc.) have been participating in discussions on the introduction, have been involved in making the final decision about introducing IPV and have endorsed its introduction.**

Niger, like other countries, signed the Global Polio Eradication Initiative’s and reconfirmed its commitment to the Initiative in 1996 in Yaoundé during the meeting between the heads of state at the Assembly of the African Union. Since 1997, Niger has organized activities related to the eradication of polio (supplemental immunization campaigns, strengthening of routine immunization surveillance). Despite efforts made by the various countries, much remains to be done.

To this effect, the 65th World Health Assembly that was held in May 2012 stated that the eradication of polio has become an urgent public health issue of global proportions. In addition, the Strategic Advisory Group of Experts (SAGE) which met in November 2013 recommended adding at least one dose of IPV into the EPI to (i) reduce the risk of polio if there is exposure to type 2 after withdrawal; (ii) improve immunity reaction to a monovalent type 2 OPV if it is used during outbreaks; (ii) strengthen immunity against types 1 and 3 of the polio virus (iv) reduce polio virus type 2 transmission if it is reintroduced.

In Niger, the quality of supplemental polio immunization campaigns that have been organized in the last five years and the high coverage of OPV3 in children under one year old have interrupted circulation of the wild polio virus. With AFP surveillance indicators doing well in all of the country's health regions, no cases of the wild polio virus have been detected since November 2012.

While Niger was able to stop the circulation of the wild polio virus in a short amount of time, the continued discovery of more cases of the vaccine-derived polio virus (cVDPV) remains a major concern of the program. From 2008 to 2014, Niger recorded 15 cVDPVs of various different types, categorized as follows:

cVDPV (Type 1) : 4 cases in 2012, (1 in the Filingué health district, 1 in the Konni health district, 1 in the Maradi health district and 1 in the Tahoua health district) ;

cVDPV (Type 3): 6 cases, 1 of which was in 2008, (in the Madaoua health district) and 5 of which were in 2012 (1 in the Filingué health district, 1 in the Keita health district, 1 in the Kollo health district, 1 in the Konni health district and 1 in the Maradi health district).

11

cVDPV (Type 2) : 5 cases, 2 of which were in 2011 (1 in the Keita health district and 1 in the Kollo health district) and 1 case in 2012 (in the Filingué health district), 1 case in 2013 (Diffa health district) and 1 case in 2014 (Diffa health district).

The two last cases of cVDPV (Type 2) detected in 2013 and 2014 in the Diffa region bordering Nigeria and Chad confirm Niger's decision.

Niger, like the other countries in the subregion, has adhered to its commitment and has already submitted an application for the injectable polio vaccine to GAVI.

The current introduction plan was submitted for validation by the ICC, which is chaired by the Ministry of Public Health, and brings together technical and financial partners, civil society organizations, universities, the private sector and representatives from the relevant Ministries.

**Describe the involvement of other relevant stakeholders, e.g. Civil Society Organizations, community representatives, national regulatory authorities, academic and training institutions and, as applicable, the private sector, in the decision-making process.**.

Two meetings of the ICC were held on 25 March and 7 May 2014, with immunization partners present. During these meetings, the Directorate of Immunizations presented the global context and why Niger should introduce a dose of IPV into the EPI. The ICC recognizes the progress that Niger has made toward eradication of polio. The ICC agrees with the Polio Eradication and Endgame Strategic Plan and the SAGE group's recommendations for the introduction of at least one dose of IPV into the routine EPI by 2015. Therefore, the participants approved the decision to introduce IPV. The Minister of Health then signed the letter of interest dated 12 May 2014. It should be remembered that the ICC, which is currently in charge of immunization-related decisions, was created by ministerial order no. 0174/MSP/CAB of 23 August 2001. Its responsibilities include validating introduction documents.

 **Describe the technical and operational feasibility of introducing IPV, based on country experience with other new vaccine introductions.**

12

Niger has long experience introducing new vaccines into its program: i) the HepB and Hib vaccine was introduced in 2008 in pentavalent form along with the DTP; ii) in 2014, the pneumococcus and rotavirus vaccines were introduced into the EPI, and the vaccine against uterine cancer was introduced in pilot form in three districts (Niamey 3, 4 and Madarounfa).

During the various processes related to the introduction of new vaccines, Niger has strengthened personnel competency in EPI management, advocacy and social mobilization, injection safety, surveillance of adverse effects following immunization (AEFI), and the vehicle fleet and vaccine storage capacity at all levels to respond to conservation requirements and required conditions.

Furthermore, to strengthen the human resources working in health facilities, 530 doctors and 1,158 paramedical professionals were recruited in 2011, followed by the integration of 672 contract workers. The recruitment of 130 other doctors is in progress for 2014.

IPV introduction will follow the same path as other new vaccines.

However, various inadequacies have been noted with the IPV introduction process, especially with regard to the strengthening of personnel competence in EPI management, cold chain capacity, communication, waste management, and vehicle fleet management.

Therefore, IPV will be introduced during the second half of 2015 into the national routine EPI and will be administered in all health facilities offering immunization. It will be administered at the same time as the third dose of the OPV and the DTP-HepB-Hib3 as well as the PCV13-3.

The three strategies that will be used to administer it are those that are used for routine immunization: fixed, mobile and outreach. Immunizations are provided free of charge to all of the target populations and throughout the entire country.

**2. Overview of IPV**

 Please specify vaccine preferences in Table B1 below.

Logistically, Niger will choose the presentation of 10 doses to avoid the same problems with capacity that were caused by the introduction of the mono vaccines for pneumococcus and the rotavirus in 2014.

**2.1 Vaccine preference**

13

**Table 1: IPV vaccine preferences and estimated date of introduction**

|  |  |  |  |
| --- | --- | --- | --- |
| **Preferred IPV vaccine** | **Month and year of first****vaccination** | **Preferred second presentation** | **Preferred third presentation** |
| [IPV 10 doses | [June 2015] | [IPV: 5 doses | [IPV: 1 dose] |

**Table 2: Reasons for preferred presentation and expected vaccine wastage rate**

|  |  |  |  |
| --- | --- | --- | --- |
| Vaccine preference (in order of first to third): | Month and year of first vaccination | Reason for choice of presentation: | Expected wastage rate\*: |
| 1. IPV 10 doses
 | June 2015 | — Limited storage capacity— introduction of two othernew mono dose vaccines in 2014 (Pneumo, Rota) | 50% |
| 1. IPV: 5 doses
 | JUNE 2015 | — If the first preference is not available on the Market | 30% |
| 3, [IPV: 1 dose] | June 2015 | — If the second preference is not available on the Market | 5% |

**2.2 Country licensure status**

Provide information on the status of the NRA in the country, i.e. whether functional and/or WHO-certified.

In Niger, the National Regulation Authority is represented by the Directorate of Pharmacies, Laboratories and Traditional Medicine (DPHL/MT) which is responsible for registering pharmaceutical products including vaccines, as well as providing authorization for making products available in the market. The DPHL/MT has experience registering new vaccines, specifically the MenAfriVac, HepB- Hib, Gardasil, PCV13 and Rotarix vaccines.

**State whether national vaccine licensure will be needed for IPV, in addition to WHO qualification, and if so, describe the procedure and its duration. State whether the country accepts vaccines that have been pre-qualified by WHO.**

14

National vaccine licensure is not required. Niger will acquire the IPV which has been pre-qualified by WHO. The regulatory process for this vaccine will be accelerated.

After the submission has been accepted , the methods for ordering vaccines through UNICEF will be given priority and adjusted, as for the other vaccines. Vaccine resupply procedures for the different levels of the health system, similar to those defined in the program's various other procurement procedures, will be applied.

**Provide the actual licensure status of the preferred presentation and of any alternative presentations.**

The different presentations selected by the country are pre-qualified by WHO. The request for Market Authorization introduced by the pharmaceutical company Sanofi for the ten (10) dose presentation was approved by the DPHL/MT.

**Describe local customs regulations, requirements for pre-delivery inspection, special documentation requirements that may potentially cause delays in receiving the vaccine. If such delays are anticipated, explain what steps are planned to handle these**.

Current customs regulations in Niger authorize immediate pick up for all perishable products, including vaccines. The procedures for clearing customs take place afterward, however EPI vaccines are exempt from all taxes. For pick up at the airport and delivery to the Directorate of Immunizations, the Ministry of Public Health uses an approved transit service.

**2.3 Target population and vaccine availability**

**Provide an estimate of the target population for a single dose of IPV, to be administered with the OPV3, at the same times as the DTP3/Penta3 (or DTP2, depending on the current DTP vaccination schedule, as described in section 2.3 of the directives on IPV introduction) every year until 2018, beginning with the first year of IPV introduction. Please adjust the targets for the first year of IPV introduction for the month when vaccinations begin.**1

1 GAVI will determine vaccine and AD syringe needs, depending on the size of the target population and vaccination preferences, taking into account wastage rates and vaccine buffer inventory (25% for the first

WHO's multi-year forecasting and logistics tool (Epi-log Forecasting) was used to estimate vaccine and supply need for 2015 to 2018. The presentation chose by the company is the 10-dose presentation.

15

**Table 3: IPV target population for 2015 to 2018**

|  |  |  |  |
| --- | --- | --- | --- |
| **Years** | **IPV target population** | **Number in****birth cohort** | **Number** **of****surviving****newborns** |
| 2015 | 1 | 114 | 317 | 1 | 114 | 317 | 1 | 037 | 467 |
| 2016 | 1 | 157 | 775 | 1 | 157 | 775 | 1 | 077 | 928 |
| 2017 | 1 | 202 | 928 | 1 | 202 | 928 | 1 | 119 | 968 |
| 2018 | 1 | 249 | 842 | 1 | 249 | 842 | 1 | 163 | 646 |

*Source: GPHC 2012, INS*

*Comment: the population used is that from the 2012 GPHC (17,129,076) to which a growth rate of 3.90% has been applied.*

*While waiting for the detailed results of the 2012 GPHC, the birth cohort (the IPV targets) represents 5.8% of the population, as per previous plans.*

**GAVI purchases and distributes vaccines through UNICEF or the PAHO Revolving Fund. If an alternative mechanism is requested, please document the following:**

* **Other vaccines or immunization commodities procured by the country and descriptions; and**
* **the functions of the National Regulatory Authority (as evaluated by WHO) to show they comply with GAVI requirements for procurement of vaccines and supply of assured quality.**

The Government of Niger, represented by the Ministry of Public Health, and UNICEF signed an agreement on 08 December 1995. UNICEF, in accordance with its mandate and the Vaccine Independence Initiative, agrees to assist the Government with the procurement of vaccines that are of better quality than those on the market.

Therefore, vaccine procurement via UNICEF for the Government's account will be carried out in compliance with UNICEF's financial regulations, with UNICEF's standard procurement procedures (which includes using pre-approved suppliers) and with UNICEF's quality control procedures (which includes sales certificates from the national quality assurance authorities

year of sales). If there are differences between the country's, WHO's and UNICEF's s coverage estimates, the Secretariat will use WHO's and UNICEF's.

in the countries where the vaccines are manufactured which attest that the vaccine lots provided comply with their national requirements and to those of WHO.

16

The agreement is valid for three (3) years. After it has expired, the two parties will amend the agreement. The Vaccine Independence Initiative agreement dated 16 August 2011 has been extended through 31 December 2015. For IPV, Niger will receive vaccines via UNICEF as an intermediary as previously agreed with the Government.

**3. Introduction and implementation considerations**

**3.1 Policy development**

**Describe any need to alter the National Immunization Policy to include IPV in the national immunization schedule, including any changes in schedule and the likely impact on existing vaccination contacts this may have. Be sure to clearly describe the timing of IPV to align with the current DTP dosing schedule (see section 2.3 of the IPV Guidelines).**

In 2013, Niger revised its immunization schedule to account for the introduction of the pneumococcus and the rotavirus vaccines and the introduction of the 2nd dose of the measles vaccine. IPV introduction is planned for 2015, and the target population will be 0-11 month olds.

**Table 4: Current and future EPI immunization schedule in Niger**

|  |  |
| --- | --- |
| **Current children's schedule: 0-11 months** | Future children's schedule: 0-11 months |
| - Birth: BCG, OPV 0 | - Birth: BCG, OPV 0 |
| - 6 weeks: Penta1; OPV1; PCV13-1; | - 6 weeks: Penta1; OPV1; PCV13-1; |
| Rotarix1 | Rotarix1 |
| - 10 weeks: Penta2 ; OPV2; PCV13-2; | - 10 weeks: Penta2 ; OPV2; PCV13-2; |
| Rotarix2 | Rotarix2 |
| - 14 weeks: Penta3; OPV3, PCV13-3 | - 14 weeks: Penta3; OPV3- **IPV**; PCV13-3 |
| - 6 months: Vitamin A | - 6 months: Vitamin A |
| - 9 months: MCV + YFV | - 9 months: MCV + YFV |
| - 16 months: Reminder: MCV 2 | - 16 months: Reminder: MCV 2 |

Penta =DTP-HepB-Hib

* **Provide information on immunization practice decisions, e.g. injection site, order of injections, and which limb for two or more injections.**

Current immunization practices consist of administering the pentavalent to the anterior external surface of the left thigh and the PCV13 to the anterior external surface of the right thigh.

The IPV will be administered in one dose, also intramuscular to the anterior external surface of the right thigh at about 2 cm from the PCV13 injection. This will require an update to the guidelines to include IPV.

17

In addition to specific training related to this introduction, all other occasions for meeting with personnel responsible for immunization will be used to strengthen health worker capacities with regard to the administration of all vaccines in the program, including IPV.

**Describe any integrated delivery of other health interventions that are planned.**

Currently, no other intervention has been planned for the same time as the IPV introduction.

**3.2 National coordination mechanism to ensure the successful introduction**

Summary of the immunization schedule for IPV, (see Appendix C)

For the introduction of the IPV vaccine, emphasis will be placed on the following strategies: (i) institutional and partnership development; (ii) communications (advocacy, IEC/behavioral changes); iii) capacity building, (iv) strengthening of legislation and regulation; (v) promotion of research and monitoring/evaluation.

Describe the national level management process to oversee IPV introduction, including any steering committee and/or subcommittee tasked with various activities for the introduction.

Three levels of management are actually in place per the national management guidelines drafted by the Ministry of Public Health (MPH). Therefore, the national level supervises the regional level, and the regional level supervises the district level, which, in turn, supervises the integrated health centers (IHCs). There are social mobilization, technical and logistical committees and sub-committees at all levels which participate in management activities per the plan set out in the national guidelines.

**3.3 Affordability and financial sustainability**

**Summarize the budget and financing of IPV introduction, as presented in Annex D.**

**Table 5: Summary of cost and financing of IPV introduction in US$**

18

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | **Government****financing** | **Partner financial support\*** | **GAVI financial support** |
|  | **Expense category**  | **Total (local currency)** | **TOTAL COST** | **Amount** | **Name** | **Amount** | **Amountrequired** |
|  | **US $** | **US $** | **US $** | **US $** |
| **1** | **Program management and coordination** |  |  |  |
|  | Technical implementation support | 619,4400 | 12,389 |  |  |  | 12,389 |
|  | Steering committee meeting (ICC) | 572,000 | 1,144 |  |  |  | 1,144 |
|  | Funding for maintenance and operation of generator group | 443,2000 | 8,864 |  |  |  | 8,864 |
|  | MHP/TFP field visit | 479,0000 | 9,580 |  |  |  | 9,580 |
| **2** | **Planning and preparations** |
|  | Documentation development workshop | 490,8950 | 9,818 |  |  |  | 9,818 |
|  | Micro-planning support mission | 11,659,012 | 23,318 |  |  |  | 23,318 |
|  | IHC district micro-plan development | 41,050,000 | 82,100 |  |  |  | 82,100 |
| **3** | **Training and meetings** |
|  | Preparation of training module revision workshops | 5,730,900 | 11,462 |  |  |  | 11,462 |
|  | Training for trainers | 10,983,714 | 21,967 |  |  |  | 21,967 |
|  | Training for Districts | 9,123,256 | 18,247 |  |  |  | 18,247 |
|  | Training for health workers | 36,550,000 | 73,100 |  |  |  | 73,100 |
| **4** | **SOCIAL MOBILIZATION** |
|  | Advocacy | 2,500,000 | 5,000 |  |  |  | 5,000 |
|  | Production of educational materials | 15,950,000 | 31,900 |  |  |  | 31,900 |
|  | Media | 15,980,000 | 31,960 |  |  |  | 31,960 |
|  | press briefing and social mobilization sub-committee management | 13,400,000 | 26,800 |  |  |  | 26,800 |
|  | civil society/community NGOs | 7,400,000 | 14,800 |  |  |  | 14,800 |
|  | Links to community leaders | 39,699,000 | 79,398 |  |  |  | 79,398 |
|  | Community IEC | 33,795,000 | 67,590 |  |  |  | 67,590 |
|  | Supervision | 23,776,000 | 47,552 |  |  |  | 47,552 |
| **5** | **Copying materials** |
|  | Immunization cards | 30,000,000 | 60,000 |  |  |  | 60,000 |
|  | Temperature forms | 62,500 | 125 |  |  |  | 125 |
|  | checklist | 1,500,000 | 3,000 |  |  |  | 3,000 |

19

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | stock record | 8,000,000 | 16,000 |  |  |  | 160,00 |
|  | order form | 3,000,000 | 6,000 |  |  |  | 6,000 |
| **6** | **VACCINE TRANSPORT, MATERIALS AND SUPPLIES** |
|  | Vaccine resupply | 1,945,280 | 3,891 |  |  |  | 3,891 |
|  | Material and supply resupply | 5,156,000 | 10,312 |  |  |  | 10,312 |
| **7** | **Waste management** |
|  | Pit construction | 840,000 | 1,680 |  |  |  | 1,680 |
|  | Combustibles | 210,000 | 420 |  |  |  | 420 |
|  | Protection materials and equipment | 1,050,000 | 2,100 |  |  |  | 2,100 |
|  | Per diem | 1,505,000 | 3,010 |  |  |  | 3,010 |
|  | Fuel for transporting waste | 323,400 | 647 |  |  |  | 647 |
| **8** | **AEFI monitoring** |
|  | Training for trainers and IHC managers | 25,267,960 | 50,536 |  |  |  | 50,536 |
|  | AEFI care | 8,484,500 | 16,969 |  |  |  | 16,969 |
|  | Central team management of AEFI monitoring | 6,028,960 | 12,058 |  |  |  | 12,058 |
|  | Meetings of Experts to classify AEFI cases | 2,016,000 | 4,032 |  |  |  | 4,032 |
|  | AEFI investigation fees | 7,588,960 | 15,178 |  |  |  | 15,178 |
|  | Revision of AEFI data collection materials | 395,680 | 791 |  |  |  | 791 |
| **9** | **Post-introduction assessment:** |
|  | Internal /external assessment 15,000,000 30,000 30,000 |
| **10** | **Technical assistance** |
|  | Support from consultants 5,000,000 10,000 10,000 |
| **11** | **SUPPORT TO IHCs AND DISTRICTS** |
|  | Cold chain repair and corrective maintenance  | 4675000 | 9,350 |  |  |  | 9,350 |
|  | Spare parts (lump sum) | 8120000 | 16,240 |  |  |  | 16,240 |
| **12** | **Central level supervision of regions** |
|  | Agadez Region | 2544648 | 5,089 |  |  |  | 5,089 |
|  | Diffa Region | 2682160 | 5,364 |  |  |  | 5,364 |
|  | Dosso Region | 2243220 | 4,486 |  |  |  | 4,486 |
|  | Maradi Region | 2393060 | 4,786 |  |  |  | 4,786 |
|  | Tahoua Region | 2380100 | 4,760 |  |  |  | 4,760 |
|  | Tillabéri Region | 2211740 | 4,423 |  |  |  | 4,423 |
|  | Zinder Region | 2450856 | 4,902 |  |  |  | 4,902 |
|  | Niamey Region | 861340 | 1,723 |  |  |  | 1,723 |
|  | Details on element 2 [please add lines as necessary] |
|  | **Total** 442,430,596 884,861 0 0 0 884,861 |

**Provide the method used to estimate these costs.**

20

The introduction planning budget uses the total population to calculate the IPV target population. Using this population and information from past introductions of other vaccines, and also the results of past assessments, a series of activities was retained and costs were defined.

Include the identification of the non-vaccine operational costs for introduction and whether funds are secured.

Non-immunization costs identified for IPV introduction are FCFA 442,430,596 FCFA (US$ 884,861 dollars, where 1 dollar equals 500 FCFA). The principal activities adopted are:

* Management and coordination of the introduction program;
* Planning and preparations of the different implementation phases;
* Development of training guidelines for the introduction
* Workshop to strengthen worker capacity;
* Organization periodic informational meetings with the primary participants;
* Development and production of communications materials;
* Development of social mobilization strategies at the community level;
* Copying of revised data collection materials and social mobilization;
* Resupply of immunization vaccines, materials and supplies for health

facilities that provide immunization services throughout the country (transport);

* Development of management procedures and the destruction of immunization waste
* Implementation of AEFI monitoring mechanisms;
* Post-introduction assessment;
* Implementation of central level supportive supervision of the regions and

operational facilities;

* Support for IHC and districts for cold chain maintenance;
* Technical assistance.

**Discuss the overall trend of country immunization financing, of both government funding and donor funding (if applicable), and plans to absorb the additional costs of IPV.**

According to the cMYP, EPI needs for the 2011-2015 period are US$ 270,421,962, or an average yearly cost of US$ 52,084,392, with the minimum of US$ 29,106,365 in 2012, and the maximum of US$ 87,660,832 in 2014. Between 2011 and 2015, the EPI costs will increase by nearly US$ 56 million. This increase is largely due to the introduction of the pneumococcus vaccine the rotavirus and the HPV in 2014. The increase is also due to the SIA which are scheduled during this period.

To accomplish its objectives in the long term, especially reaching a 95% national vaccination coverage in DTP-HepB-HIB in 2015 and also a DTP-HepB-HIB immunization coverage rate of 80% in all health districts, the EPI will need to deal with major financial needs, related to the operational approaches to be developed. There has been strengthening of the implementation of the Reach Every District approach and the Accelerated Child Survival and Development Approach recommended by WHO and UNICEF and the renewal of the cold chain, vehicles and immunization campaigns.

21

As a function of the operational approaches to be implemented, routine vaccination (fixed, advanced and mobile strategies) occupies an average of 86% of EPI costs, compared to 12% for immunization campaigns. As for shared costs, they represent 2%.

The cost analysis per immunization system component showed that the largest portion is devoted to vaccines and logistics. The component vaccines, injection supplies and logistics represent 68.45% of the program's costs for the 2011- 2015 period. The supplemental vaccination activities represent 14.46%, advocacy and communication 6.3%, providing services 3.32%, program management 4.51%, and epidemiological monitoring and surveillance 0.89%. Table 6 shows details on costs per immunization system component.

**Table 6: Niger EPI needs for 2011-2015**

|  |  |  |
| --- | --- | --- |
|  | **Future Cost Projections** |  |
| **Components of the Multi-Year Plan** | **2011** | **2012** | **2013** | **2014** | **2015** | **Total 2011 - 2015** |
|  | **US $** | **US $** | **US $** | **US $** | **US $** | **US $** |
| Vaccines and Logistics | 6,391,669 | 13,518,665 | 22,666,527 | 70,174,684 | 72,344,186 | 185,095,731 |
| Services provided | 1,631,012 | 1,784,605 | 1,919,703 | 1,786,688 | 1,867,820 | 8,989,828 |
| Advocacy and Communications | 4,448,860 | 4,196,096 | 4,256,131 | 3,000,297 | 1,130,798 | 17,032,182 |
| Epidemiological Monitoring and Surveillance | 462,755 | 472,010 | 481,450 | 491,079 | 500,900 | 2,408,194 |
| Program Management | 2,433,837 | 2,604,222 | 2,817,487 | 2,001,057 | 2,346,136 | 12,202,739 |
| SIA | 12,669,290 | 5,414,386 | 5,657,253 | 9,178,502 | 6,178,159 | 39,097,590 |
| Shared costs | 1,392,755 | 1,116,381 | 993,943 | 1,028,525 | 1,064,094 | 5,595,698 |
| **GRAND TOTAL** | **29,430,177** | **29,106,367** | **38,792,493** | **87,660,834** | **85,432,094** | **270,421,962** |

**a) Analysis of future EPI financing for 2011-2015**

22

In the chart below, external assured financing is the largest item: 90.33%, including 61.59% for GAVI financing. At this rate, it would be impossible to conduct the immunization activities without the resources expected from GAVI. Considering the epidemiological situation, it is necessary to have the resources expected from GAVI and also to consider the mobilization of resources from other parties and potential stakeholders. The government's contribution only represents 9.67%, which puts the country in a vulnerable position.

**Chart 1: Projection of the Assured Financing**

|  |  |
| --- | --- |
| $100,0 $90,0 $80,0 $70,0 $60,0 $50,0 $40,0 $30,0 $20,0 $10,0$0,0 |  |

2011 2012 2013 2014 2015

Local government Local government

GAVI WHO

UNICEF JICA

COMMON FUNDS ROTARY

RED CROSS KOICA

i

*Source: 2011-2015 cMYP.*

By merging the assured and probable financing, it can also be seen that the expected share of the external resources in the context of the program financing is also high.

**Chart 2: Projection of Assured and Probable Financing**

|  |  |
| --- | --- |
| $100,0 $90,0 $80,0 $70,0 $60,0 $50,0 $40,0 $30,0 $20,0 $10,0 |  |

2011 2012 2013 2014 2015

*Source: 2011-2015 cMYP.*

E

National government National government

GAVI WHO

UNICEF JICA

COMMON FUNDS ROTARY

RED CROSS KOICA

**b) Analysis of financing gaps**

23

The analysis of the financing for the Expanded Vaccination Program over the next five years uncovers a definite financing gap for the specific costs of US$ 21,247,852. When the shared costs are assessed, the financial gap is US$ 26,843,550 in relation to assured funding.

**Table 7: Unfinanced cost items and composition of the financial gaps (specific costs only)**

|  |  |
| --- | --- |
| **Composition of the financial gaps**2011 2012 2013 2014 2015**Average** | **Finances****2011 - 2015** |
| Vaccines and injection equipment | $0 | $0 | $0 | $0 | $0 | $0 |
| Staff | $11 930 | -$1 | $0 | $1 | $0 | $11 930 |
| Transportation | $1 | -$1 | $0 | $0 | $0 | $1 |
| Activities and other recurring costs | $594 648 | $736,116 | $0 | $406,936 | $512,515 | $2,250,215 |
| Logistics (vehicles, cold chain, etc.) | $1,016,241 | $518,930 | $230,288 | $0 | $178,861 | $1,944,320 |
| Immunization Campaign | $1 | $4,002,332 | $4,169,359 | $4,343,774 | $4,525,920 | $17,041,386 |
| **Funding Gap\*** | **$1,622,821** **$5,257,377** **$4,399,648 $4,750,711 $5,217,296** | **$21,247,852** |

The resorption of these financial gaps rests on the degree of commitment of the Government and its partners, the guarantee of a minimal financing from the Government and on the implementation of effective strategies for mobilizing additional resources. This resorption will also depend on effective organization of the immunization campaigns against polio planned for between 2012 and 2015.

It is true that the Government has already made major efforts by gradually increasing its contribution to the financing of vaccination every year, but there is still a gap with the coverage targets the program is to reach by 2015. The Government should increase its share of the budget again to support the costs for the sake the durability of the program, to respect its commitments, and even provide additional resources.

**If co-financing, please indicate how the co-financing amounts will be paid (and who is responsible for this).**

The purchase of vaccines and injection supplies is done through a budget line item created by the Government in conjunction with the implementation of the Vaccine Independence Initiative in Africa policy which provides for an order and two deliveries annually. Already the Government's own funds make it possible to pay the salaries and some recurring costs for the program's operation.

 These funds also contribute to financing the cost contribution related to the introduction of certain new and under-used vaccines (Penta, Pneumo, Rota, YFV) and other immunization campaign operational costs.

24

Costs related to the purchase of the IPV vaccine and supplies are fully funded by the GAVI.

In addition, Niger has benefited from US$ 891,454 from GAVI, to ensure the financing of operational costs.

**3.4 Overview of cold chain capacity at district, regional and central levels**

 **Describe adequacy of storage capacity for IPV at each level of the cold chain, based on the vaccine supply and distribution system planned for the introduction.**

The Expanded Program on Immunization (EPI) was officially launched in Niger at the end of January 1987. At that time, the EPI was using traditional vaccines (BCG, DTP, OPV, MCV and TT) and under-used vaccines with a gross positive storage capacity of 50 m3. For the pentavalent introduction in 2008 (DTP–HepB-Hib), storage capacity increased to 90 m3 in 2006.

In 2011, thanks to the Korea International Cooperation Agency, the immunization program was able to increase its storage capacity by four (4) 40 m3-positive cold rooms, one of which was at the central level, and three (3) which were provided to priority regions (Tillabéri, Maradi and Dosso). At the same time, UNICEF provided 2 additional cold rooms, one at 30 m3 in Diffa, and the other at 20 m3 in Agadez.

Fridge-tags have been placed in the cold rooms and in refrigerators at all levels since June 2013. These allow vaccine preservation conditions at the different levels to be tracked better.

a) Analysis of vaccine storage capacity per level

**Central Level**

With 130 m3 already available at the central level, the 80 m3 included in the Health Systems Strengthening (HSS) application, and the 160 m3 included in the project to strengthen the cold chain submitted to GAVI in June 2014, the country will have a total positive storage capacity of 370 m3 at the central level. This will allow storage capacity needs to be met through 2017 and also to ensure the introduction of the injectable polio vaccine can go forward as planned for 2015.

**Table 8 : GAVI table on investments to fill the storage capacity gap**

Graph 3 : Gap for +5°c storage capacity Graph 4: Storage capacity after investment

**10 litr**

**8Thousands**

**Mi**

**8 litr**

**4 litr**

**6 litr**

**2 litr**

**0 litr**

Required capacity Total capacity made available

**2015 2016 2017 2018 2019**

**Analysis of -20°C cold chain capacity at the central warehouse**

25

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Formulas** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** |
| **A** | Total annual volume of vaccines in positive storage | *Number obtained by multiplying the total number of vaccine doses by the volume per dose* | 63,143 litr | 107 771 litr | 115,227 litr | 119,715 litr | 124,376 litr | 129,237 litr |
| **B** | Net existing total positive capacity in the cold chain | *#* | 30,952 litr | 30,952 litr | 30,952 litr | 30,952 litr | 30,952 litr | 30,952 litr |
| **C** | Estimated minimum number of shipments per year required for the actual cold chain capacity | *A/B* | 2.04 | 3.48 | 3.72 | 3.87 | 4.02 | 4.18 |
| **D** | Number of shipments per year | *On the basis of the national vaccine shipment plan* | 2 | 2 | 2 | 2 | 2 | 2 |
| **E** | Gap (if any) | *((A/D) - B)* | **619 litr** | **22,933 litr** | **26,662 litr** | **28,906 litr** | **31,236 litr** | **33,666 litr** |
| **F** | Estimated expansion cost | *USD* | $123 472 | $246,943 | $0 | $0 | $10 700 | $61,736 |

**Regional Level**

Each of the 7 regions has a positive cold room with capacity between 20 and 40 m3 and could also address the storage needs required for the introduction of the new vaccines (Pneumo, Rota and IPV). For the Niamey health region, and a second cold room in Zinder, the equipment has already been provided by UNICEF. UNICEF is also funding the construction of the buildings to house them and their installation.

See the table below for situational information generated by the Epi log 2014 tool.

**Tableau 9: Vaccine preservation capacity at regional level and required equipment**

26

**Analysis gap and additional costs for the secondary warehouse cold chain for the next five years**

|  |  |  |
| --- | --- | --- |
|  |  | **Additional refrigeration storage capacity** |
| **Level** | **Warehouse name** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** |
| Region | Agadez | **-** **4,807 litr** | **-** **4,404 litr** | **-** **4,349 litr** | **-** **4,311 litr** | **-** **4,276 litr** | **-** **4,231 litr** |
| Region | Diffa | **-** **7,359 litr** | **-** **6,844 litr** | **-** **6,777 litr** | **-** **6,742 litr** | **-** **6,691 litr** | **-** **6,633 litr** |
| Region | Dosso | **-** **5,648 litr** | **-** **3,970 litr** | **-** **3,724 litr** | **-** **3,602 litr** | **-** **3,433 litr** | **-** **3,251 litr** |
| Region | Maradi | **-** **12,041 litr** | **-** **9,173 litr** | **-** **8,762 litr** | **-** **8,558 litr** | **-** **8,256 litr** | **-** **7,946 litr** |
| Region | Tahoua | **-** **6,646 litr** | **-** **3,783 litr** | **-** **3,371 litr** | **-** **3,167 litr** | **-** **2,864 litr** | **-** **2,562 litr** |
| Region | Tillaberi | **-** **4,812 litr** | **-** **2,549 litr** | **-** **2,217 litr** | **-** **2,055 litr** | **-** **1,823 litr** | **-** **1,578 litr** |
| Region | Niamey | **882 litr** | **1,735 litr** | **1,862 litr** | **1,919 litr** | **2,006 litr** | **2,099 litr** |
| Region | Zinder | **-** **6,363 litr** | **-** **3,305 litr** | **-** **2,868 litr** | **-** **2,649 litr** | **-** **2,327 litr** | **-** **2,000 litr** |

In 2014, funded by GAVI to support the introduction of the new vaccines (pneumo and rota), Niger ordered 201 refrigerators (25 Vesfrost MK404, 90 Vesfrost MK 304 and 86 solar BLF100DC) through UNICEF. This strengthened storage capacity and addressed the need for preservation volume for future vaccine introduction at the district and operational levels.

In addition, for the Health Systems Strengthening (HSS), 21 districts will be provided with cold chain equipment.

The situation generated by the Epi log 2014 tool confirms that 21 districts, or 50%, need to have their storage capacity strengthened between 2014 and 2019. See the table below.

**Tableau 10: Vaccine preservation capacity at district level**

27

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Additional refrigeration storage capacity** |  |  |
| **Level** | **Warehouse name** |  | **2014** |  | **2015** |  | **2016** |  | **2017** |  | **2018** |  | **2019** |
| Region | Agadez | **-** **4** | **806 litr** | **-** **4** | **382 litr** | **-** **4** | **313 litr** | **-** **4** | **276 litr** | **-** **4** | **231 litr** | **-** **4** | **185 litr** |
| Region | Diffa | **-** **7** | **374 litr** | **-** **6** | **860 litr** | **-** **6** | **772 litr** | **-** **6** | **720 litr** | **-** **6** | **668 litr** | **-** **6** | **609 litr** |
| Region | Dosso | **-** **5** | **590 litr** | **-** **3** | **821 litr** | **-** **3** | **526 litr** | **-** **3** | **342 litr** | **-** **3** | **157 litr** | **-** **2** | **968 litr** |
| Region | Maradi | **-** **12** | **027 litr** | **-** **9** | **073 litr** | **-** **8** | **575 litr** | **-** **8** | **278 litr** | **-** **7** | **974 litr** | **-** **7** | **647 litr** |
| Region | Tahoua | **-** **6** | **718 litr** | **-** **3** | **826 litr** | **-** **3** | **347 litr** | **-** **3** | **050 litr** | **-** **2** | **752 litr** | **-** **2** | **435 litr** |
| Region | Tillaberi | **-** **4** | **768 litr** | **-** **2** | **407 litr** | **-** **2** | **018 litr** | **-** **1** | **775 litr** | **-** **1** | **522 litr** | **-** **1** | **276 litr** |
| Region | Niamey |  | **882 litr** | **1** | **759 litr** | **1** | **909 litr** | **1** | **993 litr** | **2** | **083 litr** | **2** | **179 litr** |
| Region | Zinder | **-** **6** | **430 litr** | **-** **3** | **342 litr** | **-** **2** | **829 litr** | **-** **2** | **516 litr** | **-** **2** | **198 litr** | **-** **1** | **861 litr** |
| Department | Agadez | **-** | **176 litr** | **-** | **147 litr** | **-** | **145 litr** | **-** | **141 litr** | **-** | **138 litr** | **-** | **133 litr** |
| Department | Arlit | **-** | **438 litr** | **-** | **396 litr** | **-** | **391 litr** | **-** | **386 litr** | **-** | **381 litr** | **-** | **378 litr** |
| Department | Bilma | **-** | **174 litr** | **-** | **168 litr** | **-** | **166 litr** | **-** | **165 litr** | **-** | **163 litr** | **-** | **163 litr** |
| Department | Tchiro | **-** | **148 litr** | **-** | **104 litr** | **-** | **95 litr** | **-** | **91 litr** | **-** | **88 litr** | **-** | **83 litr** |
| Department | Diffa | **-** | **284 litr** | **-** | **219 litr** | **-** | **208 litr** | **-** | **203 litr** | **-** | **195 litr** | **-** | **188 litr** |
| Department | Maine | **-** | **121 litr** | **-** | **56 litr** | **-** | **45 litr** | **-** | **40 litr** | **-** | **32 litr** | **-** | **25 litr** |
| Department | N'guigmi | **-** | **313 litr** | **-** | **280 litr** | **-** | **273 litr** | **-** | **271 litr** | **-** | **265 litr** | **-** | **263 litr** |
| Department | Boboye | **-** | **86 litr** |  | **11 litr** |  | **27 litr** |  | **37 litr** |  | **47 litr** |  | **58 litr** |
| Department | Doutchi | **-** | **404 litr** | **-** | **229 litr** | **-** | **198 litr** | **-** | **181 litr** | **-** | **162 litr** | **-** | **142 litr** |
| Department | Dosso | **-** | **290 litr** | **-** | **154 litr** | **-** | **132 litr** | **-** | **116 litr** | **-** | **104 litr** | **-** | **87 litr** |
| Department | Gaya | **-** | **63 litr** |  | **39 litr** |  | **56 litr** |  | **66 litr** |  | **77 litr** |  | **90 litr** |
| Department | Loga |  | **19 litr** |  | **67 litr** |  | **77 litr** |  | **82 litr** |  | **87 litr** |  | **90 litr** |
| Department | Aguie | **-** | **231 litr** | **-** | **119 litr** | **-** | **100 litr** | **-** | **88 litr** | **-** | **76 litr** | **-** | **63 litr** |
| Department | Dakoro | **-** | **201 litr** | **-** | **14 litr** |  | **17 litr** |  | **36 litr** |  | **58 litr** |  | **77 litr** |
| Department | G.Roumji |  | **50 litr** |  | **194 litr** |  | **220 litr** |  | **233 litr** |  | **249 litr** |  | **266 litr** |
| Department | Madarounfa | **-** | **2 litr** |  | **122 litr** |  | **143 litr** |  | **155 litr** |  | **168 litr** |  | **182 litr** |
| Department | Maradi C. | **-** | **53 litr** |  | **20 litr** |  | **30 litr** |  | **39 litr** |  | **47 litr** |  | **55 litr** |
| Department | Mayahi |  | **119 litr** |  | **272 litr** |  | **299 litr** |  | **316 litr** |  | **331 litr** |  | **347 litr** |
| Department | Tessaoua | **-** | **65 litr** |  | **79 litr** |  | **101 litr** |  | **116 litr** |  | **130 litr** |  | **145 litr** |
| Department | Abalak | **-** | **104 litr** | **-** | **35 litr** | **-** | **23 litr** | **-** | **14 litr** | **-** | **6 litr** |  | **1 litr** |
| Department | Konni | **-** | **255 litr** | **-** | **106 litr** | **-** | **80 litr** | **-** | **67 litr** | **-** | **50 litr** | **-** | **32 litr** |
| Department | Bouza | **-** | **507 litr** | **-** | **386 litr** | **-** | **365 litr** | **-** | **353 litr** | **-** | **338 litr** | **-** | **325 litr** |
| Department | Illela | **-** | **101 litr** |  | **10 litr** |  | **28 litr** |  | **40 litr** |  | **52 litr** |  | **64 litr** |
| Department | Keita | **-** | **373 litr** | **-** | **278 litr** | **-** | **263 litr** | **-** | **253 litr** | **-** | **242 litr** | **-** | **234 litr** |
| Department | Madaoua | **-** | **188 litr** | **-** | **40 litr** | **-** | **16 litr** |  | **1 litr** |  | **16 litr** |  | **33 litr** |
| Department | Tahoua | **-** | **103 litr** |  | **55 litr** |  | **83 litr** |  | **98 litr** |  | **115 litr** |  | **134 litr** |
| Department | Tchinta | **-** | **358 litr** | **-** | **301 litr** | **-** | **292 litr** | **-** | **288 litr** | **-** | **282 litr** | **-** | **273 litr** |
| Department | Filingue | **-** | **99 litr** |  | **53 litr** |  | **79 litr** |  | **95 litr** |  | **112 litr** |  | **129 litr** |
| Department | Kollo | **-** | **49 litr** |  | **78 litr** |  | **99 litr** |  | **112 litr** |  | **124 litr** |  | **141 litr** |
| Department | Ouallam |  | **50 litr** |  | **157 litr** |  | **174 litr** |  | **185 litr** |  | **197 litr** |  | **208 litr** |
| Department | Say | **-** | **255 litr** | **-** | **155 litr** | **-** | **140 litr** | **-** | **129 litr** | **-** | **117 litr** | **-** | **107 litr** |
| Department | Tera | **-** | **252 litr** | **-** | **70 litr** | **-** | **39 litr** | **-** | **21 litr** | **-** | **2 litr** |  | **17 litr** |
| Department | Tillaberi | **-** | **159 litr** | **-** | **82 litr** | **-** | **70 litr** | **-** | **61 litr** | **-** | **53 litr** | **-** | **42 litr** |
| Department | Goure | **-** | **85 litr** |  | **18 litr** |  | **35 litr** |  | **45 litr** |  | **56 litr** |  | **69 litr** |
| Department | Magaria | **-** | **39 litr** |  | **217 litr** |  | **259 litr** |  | **284 litr** |  | **311 litr** |  | **338 litr** |
| Department | Matameye | **-** | **28 litr** |  | **82 litr** |  | **100 litr** |  | **113 litr** |  | **125 litr** |  | **137 litr** |
| Department | Mirriah | **-** | **565 litr** | **-** | **293 litr** | **-** | **245 litr** | **-** | **216 litr** | **-** | **189 litr** | **-** | **158 litr** |
| Department | Tanout | **-** | **3 litr** |  | **144 litr** |  | **169 litr** |  | **185 litr** |  | **202 litr** |  | **217 litr** |
| Department | Zinder | **-** | **115 litr** | **-** | **26 litr** | **-** | **12 litr** | **-** | **2 litr** |  | **5 litr** |  | **17 litr** |
| Department | Niamey1 | **-** | **152 litr** | **-** | **19 litr** |  | **3 litr** |  | **17 litr** |  | **32 litr** |  | **46 litr** |
| Department | Niamey2 | **-** | **45 litr** |  | **74 litr** |  | **94 litr** |  | **106 litr** |  | **118 litr** |  | **24 litr** |
| Department | Niamey3 | **-** | **333 litr** | **-** | **294 litr** | **-** | **287 litr** | **-** | **284 litr** | **-** | **279 litr** | **-** | **275 litr** |

b) Vaccine and supply distribution system

At the regional level, only Zinder and Maradi each have a refrigerated five (5) m3 vehicle.

In general, vaccine transport from the regions to the districts is taken care of using passive containers.

At the district level, the IHCs use vaccine carriers to get their supplies.

To strengthen vaccine transport capacity, the Directorate of Immunizations, funded by GAVI, has already ordered 244 coolers and 375 vaccine carriers through UNICEF.

28

Inventory management is both computerized and manual at the central, regional and district levels; conversely, at the IHC level, inventory management is only manual, using out stock sheets to fill out, inventory sheets, and order and reception forms. Each time a new vaccine is introduced, the Directorate of Immunizations plans training and retraining of workers in the integrated health centers.

 **Where capacity is deficient, provide an estimate of needs and budget for increased transport and cold chain at central level (cold rooms, refrigerators, cold boxes and ice packs, vaccine carriers) to accommodate IPV.**

After the equipment planned for in the HSS and the ISS has been acquired and ELMA funding has been obtained to strengthen the supply chain, Niger will be able to address the capacity needs for the IPV introduction.

**Provide evidence of availability of sufficient funding at local levels for the ongoing power supply and maintenance of any new cold chain equipment.**

In Niger, the Government provides the supply of electricity for all levels of the health care system. Nevertheless, some health centers use solar energy and a conversion system to run refrigeration equipment. When a center is not part of the electricity network and does not use solar energy, refrigerators operate using butane gas. The gas is funded through health care cost recovery.

Emergency gas stocks will be created at the regional and sub-regional levels so that health centers that use gas-operated cold chain equipment can be provided with gas. The only health centers affected by this measure are those for which the health care cost recovery rate is less than 110%.

To ensure equipment maintenance and repair at the central, regional and district levels and also at health facilities, the Ministry of Public Health has implemented the three following technical departments:

- Operations Materials Repair and Maintenance Service (OMRMS) for equipment related to cold, climate control and electricity;

- Medical Device Repair and Maintenance Service (MDRMS) for biomedical equipment;

29

- Automobile Fleet Repair and Maintenance Service (AFR-FRRMS) for the vehicle fleet.

These three departments have qualified and experienced personnel and a minimum of equipment and tools to accomplish the tasks assigned to them.

For this project, spare parts are to be available to facilitate preventive and curative maintenance for cold chain equipment. This maintenance will comply with the program to be established in agreement with the EPI, the partners and OMRMS. This department currently ensures maintenance and repair of cold and climate-regulating equipment and the EPI generators.

Nevertheless, to guarantee prompt and rapid action when a machine breaks down, fuel must be available for OMRMS technician travel for this project.

**3.5 Waste management and injection safety**

 **Describe existing injection safety and waste management activities and detail whether any changes are needed to accommodate IPV in line with national policies and how and when this will be ensured.**

Introducing one dose of IPV into the EPI will increase the need for syringes and sharps containers from what is needed to fulfill the current immunization schedule.

To remove all risk of contamination (HIV, hepatitis etc.), only auto-disable syringes will be used to administer vaccines during immunization sessions. All used syringes will be collected in sharps containers that will then be destroyed in compliance with WHO recommendations (incineration or burying after burning in certain cases). This also requires the management of waste transportation from the IHCs to the HDs, and from the HDs to the regions, the purchase of protective equipment for handlers, and the construction of storage facilities and incinerators at the regional level first, to be followed by construction of these in each district.

Most of the IHCs have burners to destroy waste as do all Health Districts.

**Tableau 11: Status of modern incinerators within the country**

30

|  |  |  |
| --- | --- | --- |
| **REGIONS** | **LOCAL COMMUNITIES** | **NUMBER** |
| **Niamey** | Issaka Gazobi Maternity Center | 01 |
| **Maradi** | Regional Hospital CenterRHC | 01 |
| **Zinder** | National Hospital | 01 |
| Central Maternity Center | 01 |
| **Tillaberi** | Tillaberi Health District | 01 |
| **Country TOTAL** | **05** |

On an annual basis, each district will develop its action plan, and a promotional strategy for the security and appropriate use of syringes. In addition, to comply with international biomedical waste management regulations, the Directorate of Immunizations is planning for the four other regions without incinerators to be equipped with them. This will require partner funds to be mobilized. A chapter will be devoted to waste management for personnel training on the IPV introduction.

**If a country self-procures vaccine delivery devices, provide information on whether these devices are WHO pre-qualified, and if not, the process in use at national level for the licensure of their use in country.**

The purchase of vaccines and injection supplies is ensured by the budget line item assigned to it by the Government. The GAVI Alliance funds new and underused vaccine procurement for the country. Vaccine procurement for the country is through UNICEF, per an agreement between UNICEF and the Government, after the EPI makes known the annual need, in cooperation with WHO and UNICEF.

**3.6 Health worker training and supervision**

**Describe the current adequacy of trained human resources to introduce IPV across all sectors of the immunization program, e.g. for vaccine storage and management, in-country distribution, training of healthcare workers at peripheral levels, supervision, delivery, etc.).**

Health workers have received information in advance about trainings on the introduction of the new vaccines Penta, PCV13, HPV and ROTARIX. However, before the dose of IPV is introduced into the immunization routine, immunization personnel will be trained at all levels. The trainings will be conducted cascade-style: at the central level, a *train the trainers* training will be organized; then, the central level will be responsible for

training the executive teams in the regions and districts. The regions and districts will, in turn, train the immunization service providers (workers in the IHCs and the health huts).

31

The trainings will focus on themes that are related to EPI management, including: communications, inventory management, distribution, vaccine preservation, vaccine administration, waste management, AEFI management and monitoring.

**Describe how any additional need will be addressed.**

The technical committee at the central level made up of experts from MPH departments, related sectors, WHO, UNICEF and NGOs participating in immunization will determine the content of the training on IPV introduction. A supportive supervision training schedule will be created and supervision sheets will be revised. These will be available at all levels.

 **Provide information on the development and provision of training materials for IPV, e.g., handbook for health workers, FAQs, fact sheets, training video, posters, pre- and post-knowledge tests, etc.).**

Also, the IPV introduction will require the revision of all of the program's management tools (data collection sheets, registers, immunization cards, material for monthly reports, order and delivery forms, etc.). This was taken into account in the revised training modules (communications and advocacy, immunization) which will be reproduced and distributed.

 **Describe the training plan, method, and any refresher training on immunization practices (e.g. injection safety, AEFI communications, etc.).**

Depending on the different levels of intervention, the trainings will be cascade-style training. The trainers at all levels will use the participative, interactive and adult-focused learning methods during the trainings. Specifically, they will use case studies followed by discussion, brainstorming, demonstrations and role play.

**Outline any plans for increased supervision activities before, during and after the introduction of IPV.**

Specific supervisory activities will be carried out in three phases: before, during and after the introduction.

- **Before the introduction**, supervision will consist of inventory activities: evaluation of logistical needs, human resources, the cold chain, and training.

Then, micro-planning will take place. It is at this time that awareness-raising and advocacy activities are begun for all stakeholders (administrative and traditional authorities as well as those for health care personnel, etc.).

32

- **During introduction**, supervision will focus on implementing the micro-plan developed about:

* session management, vaccine administration, vaccine management, the cold chain, immunization waste, the availability of human resources, the availability of vaccine supplies, educational materials (for social mobilization) and data collection.
* AEFI monitoring is a very important aspect that requires special attention from staff (identifying AEFI cases, notification, the care of minor AEFI cases at the IHC level, referral of severe AEFI cases to the district or regional hospital) per national protocol.

- **After introduction**, supervision will lead to monitoring that the micro-plan is being effectively implemented, the monitoring of data collection and coverage analysis. There will also be an assessment of the introduction at the end of its first year.

In addition to the specifics linked to the introduction, IPV supervisory activities will be integrated into routine EPI supervisory activities that have already been established by the Ministry of Health for all levels of the health system. These are:

monthly supervision by the district of integrated health centers (IHC) to monitor the effective implementation of activities, that administration guidelines are being respected, cold chain inventory management, and the data collection and analysis,

quarterly supervision by the regional level of each district to monitor inventory management; the cold chain; data collection, compilation and analysis per decisions taken; and that IPV introduction guidelines are being respected,

quarterly supervision by the central level of each regions to monitor planning and the effective implementation of guidelines, introduction activities, inventory management and regional cold chain management as well as management support.

Each level will be supervised according to the techniques, timeline and results expected of it.

Integrated supervision will, above all, be focused on training and will lead to improved management of the immunization program's activities in general, and those linked to the IPV introduction, in particular.

After each supervisory activity, a report is drafted by the teams that were in charge of the supervisory activities. A report is created for all levels, recommendations are made considering the inadequacies observed, recommendations are monitored for each level to ensure that they are effectively implemented.

33

**3.7 Risks and challenges**

**Identify risks and challenges to the new vaccine introduction – e.g. financial, mobilization of communities, programmatic, etc., - and outline the plans to address them.**

For the IPV introduction, all activities are covered by the GAVI grant, and considering this, financial risk is low.

Although IPV is a liquid vaccine, the opened vial policy will be not be applied. Because IPV is not eligible for the opened vial policy, this will lead to excessive vaccine waste. This is a programmatic risk which will be necessary to address. Toward this end, the Directorate of Immunizations will develop clear guidelines to avoid administering vaccines that have been opened for more than six hours and guidelines about missed immunization opportunities and vaccine inventory shortages. These guidelines will be widely distributed to service providers at all levels.

The other risks are related to the multiple injections involved in the administration of PCV13 and the IPV on the same thigh during the same session, and, also, potential AEFI cases. To minimize risk, the specific communications plan will focus on interpersonal communications and local communications using relevant guidelines that will be created and distributed. Surveillance of the care of AEFI cases will be strengthened using the existing system for pharmacovigilance. In addition, the expert committee will be reactivated to monitor introduction of the IPV.

The introduction of a new dose of injectable vaccine can also lead to a lack of adherence by the community, and the vaccine being not accepted by the staff. Supported communication must exist to intensify awareness, interpersonal communication as well as advocacy of opinion leaders, parents and health care personnel.

**4. Situational analysis of the immunization program 4.1 General context of the country**

34

**Summarize the country context, health system, health priorities, and organizational structure of National Immunization Program.**

Niger has an area of 1,267,000 km2 and is a continental country located at the heart of West Africa. It is located between 11° 37 and 23° north latitude and between the Greenwich meridian, and 16° east longitude, 700 km north of the Gulf of Guinea, 1,900 km east of the Atlantic coast, and 1,200 km south of the Mediterranean. It is bordered to the north by Algeria and Libya, to the east by Chad, to the south by Nigeria and Benin, to the West by Burkina Faso and to the northwest by Mali. The country is landlocked and is located mid-way between the Mediterranean and the Gulf of Guinea.

A large part of the country is desert (more than half the country) and Niger has a short rain season with random, irregular and insufficient rainfall in terms of both duration and volume. The country's population is 17,129,076 (INS 2012) and 78.0% of its inhabitants live in a rural area. The average density is around 13 inhabitants/km2 with a significant disparity between the different regions within the country: more than 75% of the population occupies less than 40% of the country's territory and around 15% of the population is nomadic. The synthetic fertility index remains very high, at around 7.6 children/woman (DHS-MICS IV 2012) and is a major public health concern since it remains the main determinant for a demographic growth rate of 3.9% per year, one of the highest in the world.

The economic growth rate has increased in recent years. Between 2008 and 2012, it was estimated at 6.1 % for a population that increases at a rate of 3.9 % (GPHC 2012). The per capita GDP went from FCFA 124,600 in 2000 to FCFA 212,500 in 2012, or an increase of close to 70%.

**a) Niger's health policy.**

The 2011-2015 Health Development Plan, the third after the 1994-2000 and 2005-2010 plans, is the main tool for implementing national health care policy. It is consistent with the Millennium Development Goals (MDG), the United Nations Development Assistance framework Plan (UNDAF) and the strategic direction defined by the Ministry of Health for the 2002-2011 period. The 2011-2015 HDP's focus is to reach the Millennium Development Goals:

Eradicate extreme poverty and hunger (reduce malnutrition by half by 2015);

Reduce the mortality of children under five years old (reduce the child mortality rate by two-thirds for children under five years old between 1990 and 2015);

Improve maternal health (reduce the maternal mortality rate by three-fourths between 1990 and 2015);

35

Combat HIV/AIDS, malaria and other endemic diseases (stop the spread of HIV/AIDS and reverse the current trend by 2015; control malaria and reverse the trend);

Ensure environmental sustainability (reduce by half, by 2015, the percentage of the population that does have sustainable access to clean drinking water and sanitation services); put in place a global development partnership (to make essential drugs available and affordable in developing countries, in cooperation with the pharmaceutical industry).

The Government remains the main source of funds for national health expenditures (40%). Other funding efforts come from households (28%) and technical and financial partnerships (27%). The private sector, although it is in high-growth mode, only contributes 4%. National NGO contribution are very low at 0.2%.

Infant mortality and under-five mortality as well as maternal mortality are decreasing. A recent study conducted by the *Institut national de la Statistique* showed that under-five mortality has decreased to close to 40% during the last ten years.

The main diseases for which the sick seek assistance and which make up the main causes of mortality in 2012 remain malaria (37.9 %), coughing and colds (17.9%), pneumonia (10.9%) and diarrheal diseases (10.4 %).

The health system in Niger is made up of three hierarchical levels with packages of activities per level. Health services are provided by public and private health facilities, including religious ones. The public sector has 42 operational health districts with 33 district hospitals, 871 Integrated Health Centers and 2,434 operational health huts, 6 regional hospitals, 2 regional maternities for referral, 7 Mother and Child Centers and 4 regional blood transfer centers, 7 specialized centers, 3 national hospitals and one national referral maternity ward.

In addition to fixed service providers, due to inadequate health coverage (47.80%), health fairs, mobile and decentralized strategies have also been developed to reach the maximum amount of the population, and especially areas that are difficult to access as well as nomadic peoples. To ensure quality health services for the entire population, a referral system and a counter referral system have been put in place, supported by a processes of quality assurance and action in the health care sector.

**b) The place of the EPI in health policy**

36

The EPI Department was made a Directorate by Order no. 2011-221/PRN/MSP of 26 July 2011. This Directorate is part of the General Directorate of Reproductive Health (DGSR) and includes:

* A secretariat,
* Resource management department,
* Monitoring and evaluation programming department,
* Logistics and procurement department,
* Communications and advocacy department,
* Immunization department.

EPI management is guaranteed as a function of the level of the healthcare pyramid by staff working specifically in conjunction with the program and staff dedicating part of their time to vaccination activities.

Regionally, the Regional Public Health Directions ensure the coordination, planning, technical management and also supervision and monitoring of program activities through the Regional Vaccination Coordinator (RVC).

In the Districts which constitute the operational level, the coordination, planning, technical management and also the supervision and monitoring of the Program activities are performed by the District Management Team (DMT) through the Vaccination Department Coordinator (VDC).

The health facilities provided with equipment from the cold chain lead the vaccination activities in compliance with the national vaccination calendar. Today there are 769 operational public integrated health centers to which must be added the associated structures, the NGOs and certain private health institutions.

Unlike the central and intermediate levels where there is a coordinator for the specific activities of the program, in the periphery the people responsible for the EPI are also responsible for other tasks in conjunction with the integration of the activities. The EPI coordinators are members of that Epidemic Management Committees at the regional and departmental level.

The vaccination activities throughout the territory are coordinated by the Immunization Department. An inter-agency coordinating committee (ICC) created by Order no. 010 MSP/LCE of 30 January 2004, chaired by the Minister of Health, is the entity that ensures coordination of Technical and Financial Partners' activities and interventions.

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

37

Please complete Table B2 below to report immunization coverage data for the two most recent years. As a part of the priority for gender parity and equity, please report coverage data disaggregated based on sex if available.

**Tableau 12: Trends in national vaccine coverage**

|  |
| --- |
| **Trends of national vaccine coverage (percentage)** |
| **Vaccines** | **Vaccine Used** | **Target Population 2013****(data** **disaggregated****by age** **and** **gender,** **as** **applicable)** | **Coverage reported (JRF)** |
| **2013** | **Year 2012** |
| BCG | BCG | 982,242 | 58% | 99 % |
| OPV 3 | tOPV | 937,480 | 80 % | 95 % |
| DTP 1 / Penta 1 | DTP- HepB-Hib | 937,480 | 97% | 104 % |
| DTP 3 / Penta 3 | DTP- HepB-Hib | 937,480 | 92 % | 96 % |
| HPV 1 | Gardasil | 19,232 |  |  |
| HPV 3 | Gardasil | 19,232 |  |  |
| Measles 1 | Rouvax | 937,480 | 92 % | 91 % |
| Measles 2 | Rouvax | 937,480 |  |  |
| PCV 1 | PCV13 | 937,480 |  |  |
| PCV 3 | PCV13 | 937,480 |  |  |
| Rota 1 | Rotarix | 937,480 |  |  |
| Rota 2 | Rotarix | 937,480 | % | % |

**Please describe any specific geographical, economic, policy, cultural, gender and social barriers to immunization. Given the priority of GAVI to ensure gender parity and reduce inequity in immunization services, please describe any gender and/or equity analyses that have been conducted including actions taken to mitigate barriers.**

**Geographic barriers**

- Only 43% of the population lives less than 5 km from a health center (EPI 2014 targets per the 2006 consensus), and there are also physical obstacles: sand dunes, seasonal streams and rivers, hills, permanent and temporary lakes and ponds, that prevent passage.

Geographic access to health centers is also made difficult due to flooding and roads being cut off, to dunes in certain areas that result in health workers organizing fair-based strategies to ensure improved immunization coverage of the population. To do so, logistics are adapted to the type of obstacle (canoe, pinnace, camel, animal cart).

38

Economic barriers

In 2013, the gross domestic product is only $382.6 $ per inhabitant, with an effective health coverage of 47.8% (2011- 2015 HDP).

Political barriers

Delays with releasing immunization funds are sometimes linked to the multitude of national priorities. It should also be noted that health facilities do not follow standards and norms. There is also inadequate staff mobility.

Cultural barriers

Refusal of immunization due to certain beliefs is often exacerbated by rumors represent 1.5% [sic] according to the measles and routine EPI immunization coverage survey from January 2013.

The low participation of women in decision making delays access to health care and immunization. (*Politique Nationale du Genre*, Page 1 to 7).

Some husbands will not allow their wives to receive health care from male staff members.

15% of the population is nomadic and this lifestyle does not encourage regular or permanent access to health care or immunization. This is an obstacle to being able to improve immunization coverage. Campaigns to raise awareness and advocate through the media, advocacy activities directed toward religious leaders in places of worship and public places, women's organizations, NGOs and development associations have led to reducing various inequalities, but much remains to be done.

A strategy is currently under development at the national and regional levels to reach nomadic populations.

**Gender-related barriers**

With regard to immunization, according to the measles and routine EPI immunization survey conducted in January 2013 (table 39, page 42), there is no gender difference related to children who are fully immunized: 63.9% for girls as opposed to 63.7% for boys.

**Social barriers**

39

With a fertility index of 7.6 children per woman (DHSN, 2012), a weak GDP and a health cost recovery system that does not share risk (group assumption of risk), access to health care remains low. However, family planning programs are in place to improve maternal and child health in general and immunization coverage specifically.

The literacy rate for women is 27%.

Various social conflicts (land, farmers-ranchers, traditional leaders, communities), are a barrier to the rational use of health services.

Awareness campaigns by community leaders and guidance from traditional leaders has led to fewer discrepancies between the stakeholders involved.

4.3 Findings from recent program reviews

**Highlight key competencies/strengths of the immunization program that make it feasible to carry out IPV introduction – including recent changes to address any weaknesses previously identified.**

The availability of competent human resources at all levels, an effective vaccine management assessment (VMA) being carried out and then followed by a roadmap that is currently being implemented, technical input from partners via the creation of a coordination network (ICC, NITAG), coordination and targeted, regular weekly meetings, and the development of AAPs and the cMYP, have led to improvements in program management.

**Summarize findings from recent program reviews, indicating whether the recommendations are part of a subsequent national Plan of Action, and describe the status of implementation of recommendations and how these will impact on the proposed new vaccine introduction.**

The Directorate of Immunizations has organized a series of assessments in the last three years:

- Effective vaccine store management (EVM) in May 2011;

- Vaccine management assessment (VMA) in August 2012;

- Immunization coverage survey in January 2013;

- Cold chain inventory in May 2014;

- Effective Vaccine Store Management (EVM) in July 2014.

At each of these assessments, recommendations were made. If these recommendations are implemented, Niger's EPI performance will improve. These are:

40

- For the 2011 EVM: an improvement plan was developed and some actions have been implemented. An internal assessment was conducted in March 2014, following which a new EVM was recommended that was carried out in July 2014. The report improvement plan for the latter are currently being drafted.

- The 2012 effective vaccine management assessment (VMA): a roadmap was developed,

for which the actions have been included in the 2014 annual action plan; - The coverage survey in January 2013: these recommendations are

currently being implemented;

- The cold chain inventory conducted in May 2014: the report is currently being finalized.

**Highlight whether there are resource constraints in implementing recommendations from recent reviews and how these will be overcome.**

Constraints related to mobilizing internal resources have prevented the implementation of certain activities resulting from the various assessments, specifically those that require large investment or partner support. Nevertheless, most of the activities included in the AAP for the different health facilities and that were validated by the Government and its partners have been executed during the last three years.

**Describe any previous experience with introducing a new vaccine and how lessons learn will be used to ensure a smooth introduction of the new vaccine under consideration.**

Niger has long experience introducing new vaccines into its program: the HepB and Hib vaccine was introduced in 2008 in pentavalent form along with the DTP; in 2014, the pneumococcus and rotavirus vaccines were introduced into the EPI and the vaccine against uterine cancer was introduced in pilot form in three districts (Niamey 3, 4 and Madarounfa). All this experience has allowed us to carry out specific activities, including increasing capacity for cold chain management, injection technique, population awareness raising, organization of integrated supervision. This background will allow for an easy IPV introduction.

4.4 Inventory management

41

**Provide a brief overview of the stock management system in use in the country, i.e. whether computerized, manual or other, highlighting foreseeable issues in stock management with IPV introduction and how these will be addressed.**

Inventory management is both computerized and manual at the central, regional and district levels. All of these levels use the computerized stock management tool, manual inventory registries, and order and delivery forms. At the IHC level, manual registries and order and delivery forms are mostly used.

Each time a new vaccine is introduced, the Directorate of Immunizations plans for the training and retraining of workers at all levels.

 **Provide a description of the transport system available for delivery of vaccines to the periphery, how this will accommodate IPV, whether the frequency of deliveries needs to be increased, and if so, whether there are sufficient funds, e.g. for vehicles, drivers, fuel, and per diem for distribution of the new vaccine at all levels.**

Supply of vaccines to the regions by the central level is carried out with three (3) refrigerated vehicles, one 2003 vehicle that is 5 m3, and two 2009 vehicles that are 15 m3. One of these vehicles is no longer working. This capacity (20 m3), is not sufficient when the new introductions are taken into account, specifically the introduction of pneumo and rota in 2014 and the IPV in 2015.

The EPI is planning to use an old delivery van to strengthen supply transport capacity and another delivery van to support the priority region that supplies the districts.

However, the acquisition of a high-capacity refrigerated truck from GAVI would ensure the transport of vaccines to the intermediary level under optimal conditions.

At the regional level, only Zinder and Maradi each have a refrigerated five (5) m3 vehicle.

In general, vaccine transport is taken care of using passive containers from the regions to the districts, and from the districts to the IHCs.

To strengthen vaccine transport capacity, the Directorate of Immunizations, funded by GAVI, has already ordered 244 coolers and 375 vaccine carriers through UNICEF.

5. Monitoring and evaluation

42

5.1 Updating monitoring tools

* **Describe measures to update, print and distribute EPI monitoring and supervision tools (recording and reporting formats, including tally sheets, registers, immunization cards, wall charts, computerized database, other) to include IPV and other new vaccines envisioned in the current cMYP, prior to the launch of IPV.**

The computerized EPI data management tool has been updated to include

the IPV introduction.

The other EPI management tools were revised and adopted during a national workshop.

The following tools are used:

- Vaccine and supply order forms

- Vaccine stock registries

- Immunization registers

- Temperature reading cards

- Immunization session booklets

- Immunization cards

- Immunization monitoring chart

- Monthly immunization reports, and

- AEFI report and investigation cards.

- - Supervision of immunization activities: Immunization data collection is supported by the national health information system (NHIS). Data collection is carried out at the operational level by workers at the immunization centers who fill out various collection materials (registers, session booklets, immunization cards). Every month, activity reports are produced by the immunization centers. The reports are transmitted by the 5th day of the following month to the health district where they are compiled into the database. The health district reports are transmitted to the region by the 10th day of the current month. After the information is computerized, the region then transmits the activity report to the national level by the 15th day of the current month. The country report is sent to WHO by the 7th day of the month following the month to which the report refers.

- At every level, there is an analysis, followed by feedback to improve program performance. The distribution of data is ensured via tracking forms, coordination meetings, reviews, information bulletins and statistics yearbook at various levels.

In line with GAVI’s policy advocating for gender equality as a means to improve coverage and access to services, please be sure all immunization tracking forms can collect and report vaccine delivery by sex, if current forms do not already do so.

43

With regard to immunization, according to the survey data, there are no inequalities linked to gender because there is not a significant difference in access to immunization services (DHS 2012, 2013 immunization coverage survey). **5.2 Adverse Event Following Immunization (AEFI) monitoring and reporting**

**Provide information on the national AEFI policy, e.g. describe the national capacity to implement pharmaco-vigilance, AEFI investigation and response to AEFIs, to address relevant rumors and potential allegations.**

**Provide information on a national AEFI Expert Review Committee (if available) and methods of establishing causality assessments of AEFIs.**

 **Describe process and procedures for monitoring adverse events following IPV introduction at local, district, region/provincial, and national levels.**

Niger has had a diagnostic monitoring guide, and a plan for AEFIs since the first measles catch-up immunization campaign in 2004 and the 2010 and 2011 MenAfrivac catch-up campaign.

The national pharmacovigilance system was created in 2006 and updated in 2014 via Order no. 253. It's mission is to collect, detect and assess all adverse events related to the human use of these products. The pharmacovigilance system is made up of national commissions and technical committees at the central, regional and sub-regional levels. Specific contact points have been designated within hospital facilities to ensure that both minor and severe AEFI cases are cared for.

These facilities will also be used to care for AEFI cases following IPV introduction.

The diagnostic guidelines are part of the documents used for training and for briefing the executive teams and health workers. These guidelines define two types of AEFI cases to be considered: minor and severe cases. For each severe case of AEFI, the head of the IHC will initiate appropriate treatment per the guidelines, filling out the AEFI sheet and notifying the district's head doctor. The head doctor will conduct an investigation using the AEFI Notification Sheet. This form is filled out and sent to the central and regional levels.

Severe cases of AEFI will be cared for at hospitals and minor AEFI cases will be cared for by the integrated health centers. The IHCs are provided a specific inventory of drugs for this purpose.

44

6. Advocacy, communication, and social mobilization

The introduction of the injectable polio vaccine (IPV) in Niger requires intense communication and social mobilization activities to encourage parents to accept the immunization of their children. Communication efforts related to this vaccine must be accompanied by efficient strategies that strengthen the routine EPI. Other innovative communication strategies for advocating private individuals (example: cell phones) should be promoted so that key messages are disseminated, resulting in positive change.

Advocacy, social mobilization, and communication for social change and behavioral changes are the strategic pillars of the promotional actions for IPV introduction.

In addition, to be able to immunize all children aged 0 to 23 months, participants of the primary, secondary and tertiary groups are to be targeted.

**Primary participants** : will be the mothers of children aged 0 to 23 months who are most often with the children and are directly in charge of their children's health.

**Secondary participants** : This target group includes fathers, heads of families, friends, peers, mothers-in-law who support or influence the mothers of children in adopting the desired behavior.

**Tertiary participants:** This includes decision makers, local leaders, traditional and religious leaders, health workers, and opinion leaders that are able to contribute to the adoption of the desired behavior by making communities take responsibility for immunization.

**Describe plans to sensitize political and opinion leaders at national, regional, and district levels on IPV introduction, benefits to the population, and contribution to the polio Endgame Strategy.**

Two principle strategies are used: advocacy and interpersonal communication.

Advocacy: To encourage the commitment of political, traditional and religious leaders, advocacy must be conducted at the central and regional levels. This leads to the commitment and support of the leaders mentioned above during all phases of the IPV introduction processes. This advocacy will focus on the importance of vaccination, the regional epidemiological situation, the reluctance vis-à-vis immunization and the challenges faced during epidemics.

To accomplish this, cascade-style advocacy will take place at the national, regional, departmental and communal levels. Coordination for advocacy operations will be taken care of by the Ministry of Public Health at the national level and supported by administrative authorities at the regional level. Furthermore, support from development partners (WHO, UNICEF, Rotary International, GAVI, NGOs, etc.) will be requested during all phases (planning, implementation, monitoring and evaluation).

The principle advocacy activities that should be conducted at the various levels are the following:

**At the national level:** an information and advocacy day will be organized for the managers at the relevant ministries (the ministries for National Education, Population, the Promotion of Women and Protection of Children, Community Development, and Communication), opinion leaders, NGOs and national and international associations, and those in charge of national and international media via a press conference given by the Ministry of Public Health.

Public and private radio and television at all levels will disseminate programs or spots (advertisements, songs, press conferences, talk shows, etc.) that have been planned for this introduction.

**At the intermediary level**: Regional Public Health Directors will organize advocacy and information meetings for administrative and political managers (prefects, local elected officials), opinion leaders, economic operator, regional media, managers at higher institutes

and universities, NGOs and women's associations, traditional leaders, and especially religious leaders, to encourage their commitment in support of the IPV.

Finally, those responsible for communication in the regions must ensure that specific advocacy activities are carried out in certain health districts and integrated health centers where there are religious and traditional leaders who show reticence to immunization. These specifically-targeted advocacy activities will also be take place in certain health districts located in border areas.

**At the operational level**: an information and advocacy day will be organized by the district communications personnel for local NGOs, teachers, canton chiefs, villages and neighborhoods, religious leaders, and community-based organizations (women's associations, groups for young people, COSAN, COGES) to raise awareness about IPV introduction. These stakeholders are involved in all phases: development, implementation, and the monitoring of communication activities at all levels.

Workers will engage in interpersonal communication with mothers of children when vaccines are administered, to encourage participation and commitment by the largest number of individuals at the community level.

46

**Describe development of a communication strategy for IPV introduction at the community level with identification of key messages, communication channels, and methods for greatest impact. If applicable, describe the extent to which results of the KAP evaluation of healthcare providers, and/or studies on barriers to vaccination have been used, in order to clarify the communication strategy for IPV introduction.**

Communication related to changes in behavior to support IPV introduction will revolve around the following activities:

- The distribution of advertisement spots and micro-programs on radio (8 public, 20 private and 129 community channels) and national TV (Télé sahel, Tal, Dounia, RTT);

- The organization of educational talks at the IHC and neighborhood level;

- Local awareness raising by community mobilizers and town criers,

before and during the IPV introduction and during immunization activities; - Training in interpersonal communication for health workers and

social mobilizers;

- Developing educational messages and materials for interpersonal and mass communication.

These communication strategies for IPV introduction will be based on the results of the behavioral analysis conducted when Pneumo13 and Rotarix were previously introduced.

This analysis showed that heads of families, mothers and first children are the main individuals that influence the decision to seek out health care and to get immunized. The preferred channels to stimulate the decision are: health workers, the Imam and the town crier.

Success with the three groups of individuals cited above is important to address the weaknesses identified and to strengthen immunity for young children.

The main concern related to duplicate injections during sessions has been fully addressed, since the population trusts health personnel to perform medical tasks, including immunization. Related to this, for IPV, messages will be developed for the target population.

Key messages

Key message to be distributed take into account other essential family practices and preventive measures that are applicable to the prevention of polio, such as:

Immunization of children aged 0 to 23 months,

47

Compliance with the immunization schedule,

Washing hands with soap and water,

The construction and appropriate use of latrines,

Sanitation related to water, food and the environment.

**The messages to be distributed are:** The message that vaccines improve

children's health and protection. It is important to ***integrate***

elements from other programs related to child survival.

**With regard to community leaders:** They must be informed about the context of IPV introduction, its advantages, and the threat of polio. They must be asked to commit to the introduction and for their support in mobilizing the population. What they expect from the promotion of routine immunization should also be asked.

**With regard to health workers:** They will be informed about the vaccine, the threat of polio, and the challenges that must be faced to improve the staff's interpersonal communication skills, their roles and responsibilities for social mobilization and the goal of promoting routine immunization.

**With regard to parents**: Parents have the right to know why IPV is being introduced into the routine EPI and the advantages of this vaccine, its effectiveness, the threats from polio considering the country's geographic position, AEFI and the immunization schedule.

**Describe the process of preparing information, education and communication (IEC) materials, media campaigns, discussion groups and demographic evaluations of the primary target groups, if applicable.**

For this process, diverse educational materials must be developed to reach all stakeholders. These will include a media guide, flip charts, banners, advocacy kits, posters, brochures, etc.

Two workshops should be organized. The first should address the development of educational materials for communicators, media representative, designers and artists. The purpose of the second should be to validate these tools. Finally, these tools will be pre-tested in the field.

A national strategy will be defined for nomadic populations, considering their mobility and lifestyle.

**Specific communication approaches for nomadic peoples, the transhumants and refugees.**

Specific focus will be given to the immunization of nomadic peoples, transhumants and refugees during planning meetings. The following measure will be taken in the field:

Mobilization of partners for the immunization of nomadic peoples at all levels: Ministry of Animal Husbandry, Ministry of Agriculture, Ministry of Hydraulics, Ministry of Education, traditional and religious leaders, animal husbandry associations, group leaders, NGOs (AREN, CAPAN, RECA, Rotary, Red Cross, Save the Children, HKI, MSF (Doctors Without Borders), the Media, WHO and UNICEF).

48

Definition of specific communication strategies to reach nomadic populations:

1. Communication caravans at water sources, during farming festivals, school lunch rooms and weekly markets.
2. Performance analysis and the identification of nomadic and pastoral zones that are not well covered.
3. Compilation of immunization coverage data for the nomadic population.

**Specific approach in border zones**

Technical support will be provided at trans-border meetings in priority zones to identify and support opportunities to strengthen communication and mobilization strategies:

1. Joint cooperation with traditional chiefs for the successful mobilization of trans-border communities;
2. Identify local NGOs that are active in the trans-border areas to involved them in mobilizing communities in favor of immunization.
3. Develop joint messages and discussions on private and community radio and ensure their distribution.
4. Ensure specific planning for the immunization of nomadic peoples during trans-border preparatory immunization meetings with tools developed to guarantee the data collection and documentation.
5. Ensure monitoring and supervision of community-related activities and town criers in trans-border areas.

**Describe the steps that have been taken to organize a launch ceremony at the national level, if any, and ceremonies at the sub-national level, if any, including any promotion of vaccination programs and integrated disease prevention strategies.**

Informational meetings on IPV introduction will be organized for each region, district and IHC.