**Annex 1**

**Plan on inactivated polio vaccine introduction into national immunization schedule of Republic of Azerbaijan**

1. **Country context**
	1. Geography and demographics

The Republic of Azerbaijan is located in the borderlands of Asia and Europe. It is situated in the south-eastern part of the Southern Caucasus and shares borders in the north with the Russian Federation, in the south with the Islamic Republic of Iran, in the west with Turkey, Georgia and Armenia, and in the east its neighbors across the Caspian Sea are Kazakhstan and Turkmenistan. State borders with Iran 765 km, Turkey 15 km , Russia 390 km, Georgia 480 km, Armenia 1007 km. Azerbaijan is divided into 78 districts, 11 cities, and one autonomous republic of Nakhichevan subdivided into 8 districts and a city. Baku is the capital of Azerbaijan. Azerbaijan received independency from the Soviet Union on August 30, 1991. Starting 1991 Azerbaijan continues to be plagued by an unresolved conflict with Armenia over the Nagorno-Karabakh region of Azerbaijan. As a result 20% of territories of Azerbaijan has been occupied by Armenia, and there are 1 million refugees and internally displaced persons (IDPs) in Azerbaijan, of whom about 650 000 are IDPs from Nagorno-Karabakh and the nearby territories¹.

According to State Statistic Committee data for 2013, total population of Azerbaijan is 9 477 100 of which53% - urban and 47%- rural population. Based on the same source in 2013 the natural increase of population was 12,8 per 1000 of population and average life expectancy at birth is 74.2 years. Records for last 3 years indicated decrease of births from 19.4 to 18.6 per 1000 of population as well as slight decrease of deaths among population from 5.9 cases to 5.8 cases per 1000 population. Main causes of deaths among population are: diseases of the blood circulatory system, oncological conditions, digestive apparatus and accidents/injuries/poisoning. Available data over last 3 years has showed clear tendency in increasing of the portion of deaths related with blood circulatory system and oncological conditions as well as decreasing of portion of deaths related with other listed groups. The similar tendency is in infant mortality, thus during 2011-2013 infant mortality rate was decreased from 11.0 to 10.8. Among main reasons of infant deaths are: certain conditions arising during perinatal period, diseases of respiratory system, and congenital anomalies. The highest portion of infant deaths is related with diseases of certain conditions arising during perinatal period and it is gradually increased over past 3 years from 29.1 to 59.9 per 10 000 live births; at the same time deaths related with respiratory system diseases significantly decreased from 28.4 to 14.1 per 10 000 live births.

1.2Polio eradication and maintenance of polio free status

Last polio case has been registered in the country in 1996. During 1996- 2001, to keep the situation stable, country by WHO support implemented the MECACAR and MECACAR Plus SIA on polio. In 2002 Azerbaijan received a certificate on polio free status and up to now country regularly submits polio free status maintenance annual updates to Regional Certification Commission (RCC). Based on RCC report for 2013 Azerbaijan is considered to be at ‘low risk’ of wild poliovirus transmission, in case of importation.

Ministry of Health has established 3-years’ cycle of planning on polio eradication. National action plan “On polio free status maintenance” outlines activities on polio surveillance and immunization and along with action plan “On importation of wild polio virus to the country and neighborhood states” provides normative background for implementation of polio eradication program in the country. The most recent national action plans covering period 2014- 2016 were approved by Ministry of Health order N 13 dated 24 February 2014. According to the current national action plan “On polio free status maintenance” the introduction of 1 dose of IPV vaccine is scheduled for 2015.

In framework of polio eradication program Azerbaijan implements AFP and environmental surveillance. AFP surveillance also incorporated in Electronic Diseases Surveillance System introduced by the Ministry of Health since April, 2010. Azerbaijan national laboratory involved in polio surveillance is not accredited by WHO and therefore all AFP and environmental samples transported to WHO Regional Reference Laboratory in Moscow for cell culture. WHO recommended targets for annual non polio AFP rate and surveillance index consistently met at national level within last 3 years. Latest independent external assessment of polio surveillance in Azerbaijan conducted by WHO expert and consultancy team in May 2012 concludes that in general AFP surveillance system functioning well and there is no evidence of wild polio virus circulation in country.

Azerbaijan national immunization schedule includes 5 doses of OPV, starting from birth and up to 18 months. Country reports consistently high coverage by polio vaccination, particularly in 2013 national vaccination coverage by OPV 1 and OPV 3 was 97,8 % and 96.4% correspondingly. Starting 2011 according to National Action Plan “On polio free status maintenance” all districts with annual Polio 3 coverage ≤90% implements 2-rounds of tOPV SIA among children 1-5 y.o. Based on annual polio coverage for 2013, 1874 children were targeted and 1835 (98%) covered by two round SIAs in framework of EIW 2014. Latest DHS conducted by Public Health and Reform Center of the Ministry of Health in 2011 and published in 2014, showed 97% coverage by OPV 1 and 85.2% coverage by OPV3 among 18- to- 29-month- old children vaccinated at any time prior to the survey. During 2008- 2011, the WHO-UNICEF joint coverage estimates provided based on the 2006 DHS survey results, since survey evidence did not support officially reported coverage data and due to lack of other validation data. Notable for that period, Azerbaijan was the only country in the EURO region in terms of discrepancies between country reported coverage and WHO- UNICEF coverage estimates. In 2014, WHO-UNICEF coverage estimates for Azerbaijan have been revised embracing period 2010-2013 based on the most recent DHS results.

1.3 State Immunization Program

The legislative background for state efforts in immunization is laid by laws on Sanitary and Epidemiological Wellbeing and on Immunoprophylaxis of Infectious Disease adopted in 1992 and 2000 accordingly. Since 2005 the Ministry of Health has established 5-years planning cycle for NIP as one of 9 key state programs implemented in the health sector. The first National Action Plan on Infection Diseases Immunoprophylaxis was approved by Cabinet of Ministers in 2005 and it covers period from 2006 to 2010 inclusive. The second National Action Plan on Infection Diseases Immunoprophylaxis was approved by Cabinet of Ministers in 2010 and it covers a period 2011-2015.

Key objectives of the program are to:

* maintenance 95% and higher vaccination coverage by all antigens included in NIS
* ensure immunization quality and safety
* assure epidemiological surveillance on infection diseases
* provide capacity building for immunization program staff
* conduct social mobilization and public awareness among target groups and general population

From 2006 through 2011 coordination of Immunization Programme has been conducted by Inter-sectional Coordination Committee on International Projects (HSCC alternate). In 2012 by initiative of the Ministry of Health and international partners, including World Health Organization and Rostropovich –Vishnevskaya Foundation in order to ensure sustainable coordination it was agreed to include immunization program in the functions of the CCM “the Country Coordinating Mechanism on HIV, TB and Malaria” and change its title to “the Country Coordinating Mechanism on International programs in Azerbaijan”. This proposal was supported by Global Fund Portfolio Manager and GF Secretariat and accepted unanimously by CCM Board on 22-nd meeting of the CCM. Immunization program coordinated working group/ task force established under CCM Board and has regular, at least quarterly meetings each year.

The State Immunization Programme had centralized management by the Ministry of Health, which units and coordinates all resources and activities, and makes sure legal obligations are fulfilled during immunization activities. The Ministry of Health supervises interaction of key agencies involved in functions of the program, particularly Republican Center for Hygiene and Epidemiology (EPI), Innovation and Supply Center and Center for Analytical Expertise of Medicines (NRA). The Programme has organizational structures at national, rayon/municipality and local level.

The Republican Center for Hygiene and Epidemiology (RCHE) is primarily responsible agency for the organizational and methodological work as well as implementation of EPI through the network of city and district centers. Deputy Director of Republic Centre of Hygiene and Epidemiology is the manager of the Expanded Programme of Immunization. RCHE also tracks the collection of statistical data on the spread of communicable diseases at all levels and determines the target groups and forecast for vaccines, participated in AEFI surveillance and monitors analyzes immunization coverage.

The registration, lot release and post marketing control of all medicines and biologicals including vaccine is responsibility of the Center for Analytical Expertise of Medicines, established under the Ministry of Health in June 2007. According to the state law registration of vaccines is mandatory since March 2008. There is no expedited review procedure implemented for WHO prequalified vaccines, however according to the legislation there is waiver/exception procedure on supply of WHO prequalified vaccines without registration if epidemiologically required or in case of public health emergency. This exception procedure has been implemented without limitation during Hib- penta vaccine introduction, pandemic influenza vaccine supply as well as for routine vaccine procurement for 2014.

 The procurement of all medications and the supply of all vaccines to medical facilities are conducted by the Innovation and Supply Centre, (ISC) which is also responsible for their custom clearance, storage at national level and distribution to sub-national level stores. The Innovation and Supply Center was established in 2006 and up to 2013 procurement of all EPI vaccines conducted by Government commission through open tender in line with the state law on purchase. Since 2008 the “WHO prequalification” has been added into ToR for the tender as one of major requirements. In 2014 upon consideration of new vaccine prices at open market and cost savings opportunities shown in reports of partners’ organizations, the Ministry of Health issued decree on procurement of EPI vaccines through UNICEF SD and based on this approval the Innovation and Supply Center has started to use UNICEF SD as single source for procurement EPI routine vaccines.

Vaccines are administered by primary health care providers. The maternity house, child polyclinic, doctor points and medical points are in charge of vaccination related services. Registration at pediatric polyclinic or other facilities takes place right after discharge from maternity. Immediately upon registration a new born child gets ambulatory card and e-health card, which are (the ambulatory card and e-health card) used as primary tools for registration of vaccination status. Twice a year door-to-door visits are conducted to identify target group. An area pediatrician and a patronage nurse inform parents in advance on the necessity of the vaccination. Each facility responsible for providing vaccination services should have separate vaccination room for permanent/fixed vaccination posts. Small medical points not equipped by refrigerator, vaccination services provided by outreach teams from doctor points. There are just few districts have to arrange mobile teams from central polyclinic to provide vaccination services in remote mountain area.

cMYP on NIP program was developed in accordance with the National Action Plan on Infection Diseases Immunoprophylaxis and reflects its vision, goals, strategies and targets. The annual national planning cycle for immunization includes updating lists of population served by health facilities, preparing population counts for the age groups targeted for specific immunizations; compiling figures at rayon level and submitting them to the Republican Center for Hygiene and Epidemiology. Performance of the program is assessed against target population groups. Based on the vaccination schedule, plans to introduce new antigens, vaccine stocks in the field and at the national level, estimates on financial needs for procurement of vaccines and supplies are prepared by RCHE in July each year and submitted to the MoH and Ministry of Finance for preparing the budget for the next year. Since 2009 the NIP vaccines & supplies are fully funded from state budget, and currently all vaccines except GAVI co-financed portion of Hib-penta and PCV, are fully procured by government through UNICEF SD. At the present time NIP provides free of charge vaccination for 0-6 years old children against 11 infection diseases: hepatitis B, poliomyelitis, tuberculosis, diphtheria, tetanus, pertussis, measles, mumps, rubella, Haemophilias influensae type B and pneumococcus. Introduction of new and under used vaccine in Azerbaijan NIS has been intensified since 2001, by introduction HepB in 2001, MMR in 2003, Hib-penta in 2011 and PCV in 2013.

The current National Immunization Schedule is shown in the table 1 below.

**Table 1: Current NIS; Azerbaijan**

|  |  |
| --- | --- |
| **Antigen** | **Age** |
| BCG | 4-7 days |
| DT | 6 years |
| DTP | 18 months |
| DTP-Hib-HepB | 2, 3,4 months  |
| PCV | 2, 4, 6 months |
| Hep B | birth |
| MMR  | 1, 6 years |
| OPV | 4-7 days;2,3,4,18 months |
| Vitamin A | 12, 18 months; 6 years |

1.4 New vaccine introduction decision making process

During 2009- early 2013 for introduction of new vaccine the Ministry of Health conducted several consultations with chief experts from panel and ICC meetings to discuss with partners and make final decision. Upon WHO recommendations National Immunization Technical Advisory Group has been established and formally approved by the Ministry of Health order N 103 dated 04.10.2013. NITAG chaired by chief pediatrician of the Ministry of Health and it includes virology, microbiology, epidemiology, pharmacology, neurology and infectious diseases experts. Close collaboration with WHO ETAGE, ECDC technical experts groups as well as sharing experience with NITAGs from other countries are considered as key strategies for Azerbaijan NITAG development.

The Ministry of Health has initiated decision making process on IPV introduction upon endorsement of “Polio Eradication and Endgame Strategic Plan 2013-2018” by WHO Executive Board and based on WHO EURO letter from August 2013, with information on global efforts in introduction IPV vaccine and withdraw type 2 OPV. Upon Ministry of Health request to NITAG, chairman and members received briefing from WHO CO and invited to and participated in WHO regional workshops covered IPV introduction in several sessions, including Program Managers Meeting conducted in March, 2014 and EVM assessment planning workshop in May 2014. NITAG experts as well as EPI manager and NRA also received information and shared their opinion during in-country needs assessment mission in April 2014.

For decision making on IPV introduction, Azerbaijan NITAG has considered epidemiological data, immunization program performance, available vaccine products and their licensing, exist IPV vaccination experience, operational issues, cost implications and exist financial support opportunities. Immunization staff at WHO CO level has supported to NITAG decision making process by providing required documents as well as participation in NITAG meeting for additional clarifications & information. Particularly following documents and data have reviewed by NITAG prior to final decision:

* Summary of “Polio Eradication and Endgame Strategic Plan 2013-2018”
* WHO Position Paper on polio vaccines, dd January 2014, published February 2014
* WHO list of prequalified IPV products
* Country annual updates on polio free status maintenance for last 3 years
* RCC reports – summary for last 3 years
* WHO global updates on polio- summary for last 3 years
* Azerbaijan EPI reported vaccination coverage for last 3 years
* DHS report 2014- summary tables on EPI vaccine coverage
* WHO- UNICEF coverage estimates for Azerbaijan for last 3 years
* IPV related NIS of countries of WHO EURO and EMRO Regions, as well as PAHO
* WHO SAGE recent conclusions and recommendations on pertussis vaccines- April 2014
* Key information on GAVI support to IPV introduction- briefing note from July 2014
* Information on IPV combined vaccines’ prices in open market and registration of these products in Azerbaijan
* Country multi-dose open vial policy and logistic arrangements of EPI for routine immunization

Based on reviewed documents and data, as well as briefing and clarifications provided by WHO during international and in country meetings, NITAG recommended to the Ministry of Health to introduce 1 dose standalone IPV vaccine for single dose vaccination of children at 6 months of age with further switch to 3 dose vaccination schedule by IPV contained combined vaccine starting from 2018, upon WHO prequalification of IPV contained combined vaccines and updated WHO PP on pertussis vaccine.

NITAG recommendation has been approved by the Ministry of Health, and IPV introduction was preliminary scheduled to April 2014. Related information provided by country team at IPV introduction implementation workshop conducted in August, 2014. During workshop based on feedback and latest updates from WHO, UNICEF SD and GAVI Alliance, country team has critically reviewed country plan on IPV vaccine introduction in terms of timeline and single-dose vaccine availability and agreed to postpone IPV introduction to July 1, 2014. Related information has been provided to the Ministry of Health and no objection received on IPV introduction in July 1, 2014.

1. **IPV introduction concept**
	1. Goal, objectives and indicators

The goals of the Ministry of Health of Azerbaijan are:

- to increase immunity of population against polioviruses, reduce risk of after OPV2 is withdrawn globally and fill the immunity gap by priming population against type 2 polio virus

- to support timely implementation of objective 2 of “Polio Eradication and Endgame Strategic Plan 2013-2018” globally

 - to set up an example for further switch from OPV to IPV

Objectives are to:

Short-term- 2015

- Introduce Inactivated Polio Vaccine in the National Immunization Schedule starting from 01 July 2015

Mid- term- 2016-2017

- Ensure 95% IPV coverage at the national level with at least 90% coverage at the district level by the end of 2016 while maintaining OPV coverage above 95% at national and 90% at district level.

- Promote timely and complete vaccination of children under 1 by all EPI vaccines according to NIS

Long term- 2018

- Address/mitigate program risk for further switch to IPV combined vaccine

Following key indicators will be used against objectives:

- IPV vaccination coverage in children under 1 year of age at national and district levels

- OPV3 coverage

- Polio (OPV and IPV) dropout rate, between Polio1 and Polio 4

- % of 1 years old children timely completed primary OPV vaccinations and IPV (e-health card register)

- % of 1 years old children timely completed DTPHibHepB and PCV vaccinations (e-health card register)

Additional indicator:

- %IPV vaccination among AFP cases reported by surveillance system

2.2 Expected outcome and challenges

The Azerbaijan Government has proved its strong political commitment to global polio eradication by direct leading several polio related initiatives at the country level, including MECACAR, MECACAR Plus and SIA during EIWs, and the Government’s readiness to introduce of IPV in NIS on time is another evidence of this. IPV introduction is a key opportunity to:

- boost immunity on wild polio virus type 1and 3

- increase medical workers and public awareness on current achievements of polio eradication program

- promote timely vaccination of target group

- enhance immunization program ability on new vaccine intake

- provide capacity building for medical staff on administration of injectable polio vaccine

Besides these major outcomes, it is expected that introduction of IPV vaccine in NIS will ensure free of charge vaccination of immunosuppressed individuals from target group in framework of EPI. Due to very limited number of this group and insufficiency of procurement opportunities up to now related polio vaccination has been available for children with the underlined health conditions only through private vaccination facilities.

At the same EPI faced several challenges related with new vaccine introduction and these must be taken into consideration in order to address them through IPV introduction:

* High prevalence of false contraindications – despite the fact that Azerbaijan NIS allows IPV vaccination parallel to 3rd dose PCV at 6 months and by this way to avoid simultaneously administration of more than 2 injections, there is still high probability of delayed vaccination as identified by PCV introduction monitoring conducted in June- July 2014. However taking into account high priority of the polio eradication program and attention provided by health authorities to polio vaccination coverage, the implementation of IPV at 6 months will increase system precaution on medical contraindications and control strict implementation of the ICD10 and MoH approved procedures.
* High wastage rate due to following issues:
1. WHO multi-dose open vial policy has not been adopted by EPI yet. According to country practices, in general, use of multi-dose vials by EPI depends on NRA recommendations indicated at registration documentation of vaccine, which always refers to producer instruction. The same experience applies to OPV multi doses vials currently used at national level.
2. Country has high proportion of medical points with low birth cohort targeted for immunization, particularly based on data for 01.09.2014, 1446 (63%) out of 2265 medical facilities providing vaccination services have up to 30 children annually targeted by EPI. Thus of supply of multi-dose presentation can significantly affect wastage rate and will lead to high number of missing opportunities. Detailed information is indicated below.

828 (36,5%) –1- 15 children under 1 annually

618 (27, 3%) - 16- 30 children under 1 annually

331 (14,6%) - 31- 50 children under 1 annually

273 (12,0%) - 51-100 children under 1 annually

195 (8,7%) - > 100 children under 1 annually

Currently EPI uses mainly 1 and 2 doses vials, whenever these vaccine presentations exist at producers. Therefore procurement of single dose vial IPV is only recommended by NITAG and approved by MoH in order to reduce possible risks, ensure immunization safety, timely vaccination and low wastage rate.

* Low performing and fragmented AEFI surveillance system- Starting 2005 EPI has made several efforts on strengthening AEFI surveillance system and gradually improved AEFI reporting at phc level. Thus by order of the Ministry of Health AEFI commission has been created at national level, AEFI reporting has been intensified during SIA and followed by regular reporting for EPI routine program. However in terms of AEFI surveillance standards and reporting procedures available documents require significant modification to address new vaccine specific aspects. Also revision of AEFI surveillance system is needed in order to integrate EPI and NRA efforts and ensure rationale use of resources and adequate data analysis.

EPI strongly monitors gender issue during analysis of annual vaccination coverage data. There is no gender disparity in vaccination coverage reported by country, and the recent DHS also confirmed no gender gap in immunization between girls and boys.

1. **IPV introduction strategies and policies**

Ministry of Health of Azerbaijan is planning to introduce a nation-wide IPV vaccination from 1 July 2015. The vaccine of choice is 1-dose IPV, prequalified by WHO and available at GAVI vaccine list.The rationale of requesting only one dose vial, is to ensure safety of immunization, and reduce missing opportunities and expected high wastage due current open vial policy and portion of medical facilities with small size of annual target group.

IPV will be provided to all children at 6 months of age jointly with the 2-nd dose of PCV. This in line with WHO recommendation on adding one dose of IPV to the immunization session not early than 14 weeks as well as justified by results of studies on immune respond to one dose IPV. Administering IPV at 6 months of age will also allow to avoid three injections at a visit as well as to keep number of OPV doses without changes. IPV will be administered intramuscularly in outer part of right thigh, with PCV injected after in the left thigh.

Updated National Immunization Schedule (NIS) reflecting IPV introduction is shown in the table 2 below.

 **Table 2: Updated NIS; Azerbaijan**

| Vaccine | Age |
| --- | --- |
| Primary Vaccinations | Booster |
| Hepatitis B  | At birth, within first 12 hours  | - |
| BCG | At 4-7 days  | - |
| OPV | At 4- 7 days, 2, 3, 4  | 18 months |
| DTPHibHepB | 2, 3 and 4 months | - |
| PCV | 2, 4 and 6 months | - |
| IPV | 6 months | - |
| MMR  | 12 months | 6 years |
| DPT |  | 18 months |
| TD |  | 6 years |
| Vit A | 12 months, 18 months, 6 years |  |

Retroactive vaccination for IPV is not considered. Therefore, given the introduction on 1 July 2015, only 50% of survival infants for introduction year are targeted by EPI for IPV immunization.

The detailed information on size of target group for 3 subsequent years is shown in the table 3 below.

 **Table 3 Target groups for 2015-2018**

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Number in target population for IPV | Number in birth cohort | Number of surviving infants |
| 2014 | 0 | 160 543 | 158 712 |
| 2015 | 80 308 | 162 469 | 160 617 |
| 2016 |  161 299 |  164 256 |  161 299 |
| 2017 |  163 072 |  166 062 |  163 072 |
| 2018 |  164 867 |  167 889 |  164 867 |
| Total |  596 546 |  821 219 |  808 567 |

IPV immunization will be provided through EPI using all available means for routine vaccination, including fixed vaccination points, outreach vaccination session and mobile teams in very limited required circumstances. No special strategies, in addition to routine considered by EPI for IPV introduction.

1. **Resources, costs, financing, and sustainability**

4.1 Overall trends of country immunization cost and financing

The total cost of the immunization activities in Azerbaijan in 2009 was nearly 7 million USD. This amount is immunization-specific only and does not include any health system shared costs. 94, 6 % of the immunization activities in 2009 were funded by the national public sources, as shown in table 4 below

Table 4: Total Immunization Expenditure, 2009



Source: cMYP, 2011-2015

Spending on the traditional vaccines contributed 56% to the overall spending in 2009. Expenditure on underused vaccines was 12%, and injection supplies contributed 10%; vaccine supply and logistics represents 2/3rds of the cost profile. 10% of funds were spent on other routine recurrent costs, 4% on Personnel involved in the delivery of immunization services, and 2% on cold chain equipment, as shown in Figure 1 below.

**Figure 1: Baseline cost profile, 2009 (without shared costs)**



Source: Figure adapted from cMYP, 2011-2015

Since 2006 government allocates funds for the immunization activities every year based on the national immunization programme 5-year action plan, and national immunization schedule. Funds allocated are used for vaccines, injection supplies, cold chain and laboratory equipment. The amount allocated and approved by the Cabinet of Ministers for the period 2006-2010 was as shown in table 5 below.

**Table 5: Funds allocated for National Immunization Programme (NIP- direct line; in thousands AZN)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2006** | **2007** | **2008** | **2009** | **2010** |
| 530  | 1100 | 1160 | 1180 | 1200 |

Source: cMYP, 2011-2015

The Azerbaijan NIP became quite self-sufficient recently. Currently only vaccine support received from donors is the GAVI support to Hib containing pentavalent vaccine and PCV. All other vaccines in the schedule are covered from state budget. The NIP vaccines financed by the Government reached to 81.6% in 2011, rest belonging to the GAVI support (18.4%). No vaccine stock out reported during the recent years, including period 2011-2013. The Ministry of Health successfully funded the NIP and fully covered increased country co-financing in years 2011, 2012 and 2013. Vaccine resource requirements (as reflected in the cMYP) have been communicated to mid-term expenditure framework (MTEF) and required funding was secured for the period 2011-2013.

The health budget (Government Health Expenditure-GHE) from 2003 to 2013 are shown in table 6 below. Approximately half of the GHE is allocated to central level of the Ministry of Health, two-thirds to sub-national authorities (districts) of the MoH and rest (one sixth) to other ministries. Vaccines are procured centrally by the MoH, therefore the NIP budget and vaccines are funded from budget allocated to central level of the MoH.

**Table 6: Budget allocated for health by the Government (Government Health Expenditure-GHE), 2003 - 2013**



Despite the fact that financing of the national immunization activities currently comes mainly from public sources, donors provided immunization-related financial and technical support in the past years. A large number of the existing cold chain, laboratory and office equipment were provided by UNICEF, USAID, WHO, World Bank, Vishnevskaya-Rostropovich Foundation among others. Donors’ support is also channeled to program activities, surveillance and training- the key areas suffering from sub-optimal state budget allocation.

4.2 Financial sustainability of National Immunization Program

The country has a number of scenarios for the future financing developed in the cMYP, and there are appear to be no major problems with future funding or sustainability for the immunization program. According to report of GAVI graduating country assessment, conducted in July 2013, Azerbaijan was expected to sustain investments in immunization without much threat to financial sustainability. Main reason for that was the rapid economic growth due to oil production and moderate political commitment to the NIP.

In line with results of the assessment up to 2014 the main challenge for financial sustainability of the NIP in Azerbaijan was inefficiency of the procurement system, rather than the amount allocated for procurement of vaccines. In order to address this issue Ministry of Health updated MoU (memorandum of Understanding) with UNICEF and issued decree on procurement of EPI vaccines through UNICEF SD and based on this approval the Innovation and Supply Center has started to use UNICEF SD as single source for procurement EPI routine vaccines. Procurement of EPI vaccines through UNICEF Supply Division (with more competitive and optimum prices) in 2014 brought to almost 50% cost saving of NIP budget allocated for vaccine & supplies. Vacant financing has been used for procurement of MR vaccine for SIA to respond 2013 outbreak and cover susceptible pockets of population, as well as for HepB immunization for medical workers. Thus country succeeds in covering previously underfunded components of NIP, which requires large investments due high level priority and limited donors support. Availability of GAVI support for IPV is considered by the Ministry of Health as essential opportunity for timely introduction of IPV vaccine and use of saved NIP budget for sustaining efforts on measles/rubella eradications particularly by SIA, and improving of surveillance.

1. **Strategies and activities for the vaccine introduction, including opportunities to improve the immunization program and overall health system during the introduction**

5.1 Coordination and monitoring the preparation and implementation of the vaccine introduction

Coordination of IPV introduction is conducted by CCM WG on immunization, chaired by EPI manager. Group includes representatives from sanitary-epidemiological surveillance sector of the Ministry of Health, Republican Center Hygiene and Epidemiology, Innovation and Supply Center, Public Health and Reform Center (communication/public awareness) and partners agencies involved in immunization, Rostropovich- Vishnevskaya Foundation, UNICEF, WHO. CCM WG has regular meetings, scheduled quarterly based and for vaccine introduction also several ad hoc meetings conducted to address needs and support timely completion of preparation process. Most recent experience with PCV introduction proved that CCM WG on immunization effectively coordinates preparation process and required flexibility is ensured in terms of frequency of meetings and participation of additional agencies, which are not core members of WG, but represented in CCM Board in Azerbaijan. International missions on immunization also invited to CCM WG meeting to present their vision and results, as well as missions’ reports further included in briefs provided for WG by responsible agencies. Particularly during 2013 several missions participated in CCM WG meeting: Immunization data quality assessment mission, GAVI graduating country assessment mission and PCV communication consultancy mission. Also briefs on preparation to PCV10 programmatic readiness assessment and results were provided by WHO. CCM WG recommendations and meetings minutes field by CCM Secretariat and further submitted to CCM Board in Azerbaijan in order to ensure implementation at country level.

Current IPV introduction plan and application to GAVI Alliance have been discussed and approved by CCM WG on Immunization. The experience in coordination of PCV10 introduction and lesson learnt will be applied for IPV introduction as well.

* 1. Planning for procurement and distribution of vaccine

There are few IPV combined vaccines registered by Center of Analytical Expertise of Medicines (NRA) for use in Azerbaijan and all of them used in private sector.At the present time no standalone IPV vaccine registered by NRA. Ministry of Health approved introduction WHO prequalified standalone single dose vial IPV, which will be imported to country using waiver/exception procedure available in the law on medicines on supply of WHO prequalified vaccines without registration if epidemiologically required or in case of public health emergency. Country has had the experience on use of this procedure including Hib- penta vaccine introduction, pandemic influenza vaccine supply as well as for procurement of few routine vaccine for 2014. Further vaccine registration in country has to be initiated by producer through submitting vaccine dossier to NRA, and according to procedure review of documents for registration requires up to 6 months. Detailed information on registration procedures is available on NRA website <http://www.pharma.az/>. NRA has no established expedited review procedure for WHO prequalified vaccines, however training of staff on this procedure is included in NRA development Plan submitted for WHO review and support in 2013. By the end of 2014 WHO EURO is planning to conduct Regional workshop for NRAs on expedited review for WHO prequalified vaccines. It is expected that upon participation on this workshop staff will obtain required knowledge and skills to work on incorporation this procedure in NRA functions.

Since 2014 for routine EPI vaccines the Ministry of Health has switched to procurement mode through UNICEF SD. Forecasting of routine vaccine for 2015 was conducted during week 8-12 September, and information on IPV needs was included in the forecast to UNICEF SD. IPV vaccine and injection supply needs for 2015-2017 are shown in the table 8 below

 **Table 8. Forecast of IPV and related injection supply for 2015- 2018**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Products | 2015 | 2016 | 2017 | 2018 |
| IPV, single dose vial | 80 308 | 161 299 | 163 072 | 164 867 |
| Including wastage (rate 1.05) | 88 539 | 169 363 |  171 225 |  173 110 |
| Vaccine buffer stock (25%) | 22 135\* |  20 205\*  |  NA |  NA |
| **Total IPV doses** | **110 674** |  **189 568** |  **171 225** |  **173 110** |
| AD syringes  |  80 308 |  161 299 |  163 072 |  164 867 |
| Including wastage (rate 1.11) |  89 141 |  179 041 |  181 009 |  183 002 |
| **Total AD syringes**  | **89 141** |  **179 041** |  **181 009** | **183 002** |
| **Total Safety boxes** | **1114** | **2 238** | **2 262** |  **2 287** |

\*Vaccine buffer stock has to be adjusted in 2016

The Innovation and Supply Center of the Ministry of Health is directly responsible for procurement of all EPI vaccines and injections supplies, based on forecast/annual plans developed by Republican Center Hygiene and Epidemiology and approved by the Ministry of Health. For IPV, the Ministry of Health is planning to receive forecasted number of doses and injection supplies from UNICEF SD, funded by GAVI Alliance. At country level, the Innovation and Supply Center of the Ministry of Health is responsible agency for IPV vaccine & injection supplies custom clearance and further transportation to national cold store. Shipping documents (e-copies) on IPV and injection supplies has to be provided to the Innovation and Supply Center at least 2 weeks prior to product arrival to country in order to proceed with tax free custom clearance approval through Cabinet of Ministers. Minimum required documents for Green Light Request are listed below:

* Invoice
* Air/rail Way Bill
* Packing list
* Certificate of origin
* Certificate of production
* Donation letter

Original documents have to be attached to shipment, for their availability during custom clearance. Full list of original documents for shipment can be obtained from the Innovation and Supply Center during Green Light Request. Store temperature, if it is out of usual ambiance temperature range for shipment season, should be clearly in Invoice, packing list and way bill documents shipment accompanying, as well as stated in shipment package. In order to avoid logistic expenses for storage due to custom clearance, shipment delivery should not take place on weekends and official holidays, since custom office is not fully operated these days. Experience with Hib penta and PCV introduction has shown no significant delay on custom clearance upon timely receipt of Green Light Request documents.

The Ministry of Health is planning to implement IPV vaccination starting 01 July 2015, which means that vaccine & injection supplies has to be available at districts level store at least one month ahead, since phc receives EPI vaccine & supplies monthly. There is quarterly based distribution from national to sub-national/district level arranged by the Innovation & Supply center based on distribution list prepared by Republican Center for Hygiene and Epidemiology and approved by the Ministry of Health. IPV and related injection supply has to be distributed to subnational/district stores along with other EPI products required for Q3, 2015, which scheduled end of May early June 2015. So IPV vaccine and supplies forecasted for 2015 has to be shipped to Azerbaijan in the beginning of May 2015, and Green Light Request with required documentation for tax free custom clearance has to be provided no later than 15 April 2015.

Shipment of IPV and injections supplies in 2016- 2018 has to be further adjusted through APR, according to shipment schedule of GAVI co-financed PCV portion, in order to rationalize use of human resources and harmonize obtaining of Cabinet of Ministries permission letter on tax free custom clearance.

According to findings from latest EVM assessment, conducted during 25 August-1 September 2014, Innovation and Supply Center implements required VAR (vaccine arrival report) procedures and currently used VAR form fully meets WHO and UNICEF requirements. VAR completed for each vaccine separately, full set of documents accompanying shipment, as well as country NRA lot release certificates collected and kept per vaccine for every shipment. At the same assessment identified that VARs are not fully completed, and some fields saved empty in the reporting form, even required information is available. Another issue related with shipment was new EVM requirement on product arrival report. In fact Innovation and Supply center has implemented product arrival report using local reporting form, which however does not fully meet standards of PAR suggested by WHO/ UNICEF EVM. By the end of assessment, Innovation and Supply Center briefing and received SOP in English and Russian on completion of VAR and PAR, and these issues have been highlighted during de-briefing with management of Innovation and Supply Center.

* 1. Cold chain, logistics, and vaccine management

Since 2011 the Ministry of Health has been implementing annual cold chain inventory for national, district and service provider levels, using forms and software developed by WHO support.

At national level, Innovation and Supply Center of the Ministry of Health is responsible agency for storage of all EPI vaccines and injection supplies. According to the most recent data confirmed by EVM assessment conducted during 25 August-12 September 2014, the Innovation and Supply Center has 6 cold rooms at +2 +8 C, including 3 main cold rooms and 3 reserve cold rooms and total net volume of cold rooms is 97850 liters (98 m³). All EPI routine vaccines stored in one cold room, equipped by shelves, with shelves net volume 37 422 liters (37.4 m³). Since 2014, due to limitations of invoice procedures at UNICEF SD, country has ordered all EPI vaccines by single shipment, therefore volume per fully immunized child calculated for single shipment, including wastage and buffer stock (15 months).Upon introduction of IPV, the volume requirement for +2 +8C at national level per fully immunized child will be 220 cm³ and according to birth cohort estimates for 2018, total maximal required storage capacity at national level is 36 935 liters (36, 9 m³). So, up to 2018 the current cold room at national level is capable to accommodate EPI needs and in short term perspectives for IPV introduction no investment required in this area. T-mapping of the cold room dedicated for vaccine storage was conducted by WHO consultant in June 014. The cold room equipped by WHO/UNICEF prequalified continuous temperature monitoring system with alarm functions, which also installed by WHO consultant. As shown by EVM 2014, key recommendations from previous assessment on arrangement and equipment of buffer zone of cold store have been also implemented.

For OPV total 8 freezers dedicated at national level with net volume 1897 liters. All freezers equipped by Log Tag for continuous temperature monitoring.

Current cold stores capacities at district level are sufficient to accommodate IPV introduction, having recent procurement of 44 WHO/UNICEF prequalified MK404 refrigerators in 2013. Among 44 refrigerators, 36 refrigerators are distributed and installed at district stores in 2014, 1 kept for emergency request at Republican Center for Hygiene and Epidemiology and 7 refrigerators are not functioning. Information about 7 refrigerators which are not functioning has been provided by Innovation and Supply Center to UNICEF CO. Total 179 refrigerators at district level used for vaccine storage and only 110 (62%) of them are WHO/UNICEF prequalified equipment. For replacement of most part of non- prequalified cold chain equipment at district level procurement of additional 45 MK 404 refrigerators will be implemented by the Ministry of Health in 2014 using funding allocated in PCV VIG budget. In order to ensure full replacement of non-prequalified cold chain equipment, another 24 MK 404 refrigerators has to be procured using IPV VIG. For proper temperature monitoring 150 Log Tags and 450 Freeze Tags were procured in 2013 for distribution to district level stores; however the procured number is not enough to equip all vaccine refrigerators and additional number of Log Tag has to be procured to cover all needs at sub-national level. Trainings on Log tag and temperature monitoring was conducted by WHO consultant for national level in June 2014. Training for district level has been already initiated, covering 5 districts of Baku and related funding is allocated in PCV VIG budget.

At service provider level, among 2265 vaccination points only 1179 (47%) have functioning refrigerator for vaccine storage. Since fund flow for phc level comes from District Health Authority from budget allocated by District Executive Power, the situation varies from district to district. Most of facilities which not equipped by refrigerators are medical points supervised by surrounding doctor point; vaccination at this medical points provided directly by outreach team from doctor point. Another issue for this level is notable shortage of thermometers. Procurement of 3500 dial thermometers will be conducted in 2014 using budget allocated in PCV VIG; and Log Tag procurement for service providers with large size of target group will be budgeted in IPV VIG. According to latest EVM results, another critical issue at service provider level, which has not find solution yet, is absence of freeze indicators for storage and transportation. In order to address this challenge the required funding will be budgeted in IPV VIG.

Azerbaijan has 3 levels in vaccine distribution system, national, sub-national (district Hygiene and Epidemiology Center- LD) and service provider. Vaccine and supplies from national store to sub-national stores distributed by Innovation and Supply Center vehicles. Refrigerated tracks used for vaccine distribution are also equipped by log tags, in line with recommendations provided by WHO consultant. Since refrigerated trucks do not have self-sustained diesel refrigeration units and stand-by electrical power systems for refrigeration, for vaccines transportation insulated shipping containers with icepacks are used. From districts stores service providers collect and deliver vaccines & supplies in cold boxes with ice-packs. During transportation from district to service provider, no temperature indicator is used except VVM. The recent EVM assessment main recommendation in relation to vaccine transportation is to ensure use of freeze indicators.

**Figure 2- Vaccine distribution**



According to EVM assessment results stock records system in place and functioning, however set up standards and procedures not always fully implemented at district and service provider levels. The main gap is absence of separate records on diluents; dispute the fact that in line with national requirements quantity of diluent has to be clearly indicated in vaccine& supply log books, this information is always missing at district and service provider levels. Also modification required to stock management documents in order to reflect status of temperature indicators, particularly freeze indicator, to be used at the nearest future. Required modification already drafted by EPI under discussion with EVM consultants and updated log book and vaccine issue voucher forms prepared by distribution during Log Tag & temperature monitoring trainings.

Another critical issue identified by recent EVM assessment is insufficient supportive supervision. Minimum required 4 supervisory visits per year are not implemented by national level, mainly due to large number of districts and also due to limited budget allocated to Republican Center for Hygiene and Epidemiology. Despite several supervisory visits, WHO and conducted annually by national staff by WHO support in framework of IIP supportive supervision or new vaccine implementation monitoring, or surveillance assessments, almost half of districts has no visit from RCHE within last year. In order to improve situation EPI decided to use e-Work tool recently introduced by the Ministry of Health for EIDSS project trainings. This tool allows providing basic on-job training for sub-national staff without direct travel to the place and rationalizing the work with district in terms of time and financial resources. At the same time since performance and capacity on immunization significantly varies between districts, it was decided to focus for direct visits mainly on poor performing and understaffed places. Another opportunity to address this issue to some extend is MLM training to be conducted by WHO support at national level in Q4, 2014; however taking into account limited number of participants it can be considered a supporting solution and for substantial improvement of situation more sustainable approach is required. Based on example of introduction of IIP at medical colleges with further follow up through HSS project, implementation of MLM at Doctors’ Post Graduate Institute can be helpful as long term approach and it requires significant funding and dedicated task force.

* 1. Waste management and injection safety needs

Azerbaijan EPI fully follows standards on injection safety. All vaccines are administrated by AD syringes only and safety boxes are used for waste management. Utilization of safety boxes monitored by EPI and related reports have to be kept at phc level for minimum 3 years. Recent EVM assessment preliminary confirmed that staff knowledge and skills in terms of injection safety, including open vial policy, vaccine handling, and waste management are generally good and national guidelines are well known and carefully followed. However in terms of upcoming introduction of IPV, the main challenge of injection safety is related to country open multi-dose vial policy. According to EPI practice and NRA procedures on registration, for new vaccine products open vial policy implemented according to instruction of producers. In absence of NRA registration, supply of multi-dose presentation of IPV will create challenge for EPI at the beginning of IPV implementation, and provoke unnecessary precaution among vaccinators, which can affect vaccination coverage and wastage rate.

* 1. Information management /data collection forms and systems

According to the Ministry of Health procedures, revision of electronic and paper immunization/vaccination recording and reporting forms due to IPV introduction will be initiated and laid into Ministry of Health order on vaccine introduction. There is no external budget required for modification or printing.

Recent experience of Hib-penta and PCV introduction has shown that full modification of paper recording documents at all levels to reflect all required information is completed by the beginning of second year of introduction. Despite the fact that information for first year is available usually it is not properly reflected.This happens mainly because new vaccines introduction scheduled to the end or middle of year and templates of all recoding documents prepared at the end of previous year. The revision of reporting form requires also consultations with and endorsement by State Statistic Committee and it has to be done by December 2014. In order to avoid delay with revision of recording and reporting forms it is required to receive confirmation on IPV supply by end of November 2014. In terms of modification to forms used by electronic health information system (e-health card) related discussion already initiated by EPI and its implementation will be done through Information Technologies Center of the Ministry of Health.

In 2013 follow up immunization data quality mission was conducted by WHO, and based on mission results Improvement Plan has been developed and budgeted. Improvement plan covers period 2014-2016 and includes key activities on validation of immunization coverage, improving target population accuracy, data processing and electronic health information system. Implementation of the plan supported by WHO and all critical shortcoming related with vaccine information system and data quality are addressed.

The part of information system, which requires substantial revision is AEFI reporting and recording. AEFI surveillance system is fragmented at national level and due to gaps in procedures there is limited interaction between EPI and NRA. Also surveillance standards, recording and reporting forms requires modification/update in order to address new vaccine related issues. Partially AEFI surveillance system related activities included in NRA Development Plan elaborated at WHO workshop in 2013, however this plan has not been funded yet and therefore its implementation is delayed. In order to address AEFI surveillance shortcomings, country has requested WHO technical and expertise support prior to IPV introduction.

* 1. Monitoring and evaluation of the new vaccine introduction

Country has significant experience in monitoring of new vaccine implementation. Since introduction Hib-penta, national staff by WHO support has developed monitoring checklists, covering issues on target group planning, vaccine & supply distribution, cold chain, vaccine management, injection safety, social mobilization and supportive supervision. Monitoring of new vaccine implementation is conducted by staff of Republican Center for Hygiene and Epidemiology by WHO support. The same practice was used for PCV introduction in 2013, enriched by participation of national staff also at programmatic readiness assessment. Also national staff is familiar and skilled in conduction of Post Introduction Evaluations, particularly for Hib penta. For IPV introduction there are several activities are planned by WHO support for 2015, particularly pre introduction evaluation in framework of PCV PIE scheduled for Q2, monitoring of IPV introduction by the end of Q3, and IPV PIE in 2016.

* 1. Training of health workers

According to country practices Republican Center for Hygiene and Epidemiology is planning to conduct cascade trainings on IPV introduction, covering, epidemiologists from districts/cities Hygiene and Epidemiology Center, pediatricians involved in immunization and vaccinators. Trainings will be conducted by national level staff 3 months prior to introduction, inter-district approach will be implemented. Follow up trainings will be conducted by senior staff of district/city level HEC and chief pediatricians. As EPI requirement, prior to introduction of IPV all vaccinators should be tested to be certified for IPV administration. Results of PCV monitoring and EVM assessment conducted in 2014 suggest that in general staff involved in immunization program has good knowledge and skills in terms of cold chain, vaccine handling, injection safety and certification of vaccinators in most of districts completed prior to vaccine introduction. It is planned to conduct trainings by technical support of WHO.

WHO developed trainings materials, including guidelines and presentations will be translated and adopted by EPI prior to trainings. Printing of trainings materials is budgeted from IPV VIG. Also pre and post test questionaries’ will be elaborated in order to assess participants knowledge and areas required follow up.

Upon completion work on adaptation of trainings materials on IPV introduction, final product will be submitted to medical colleges for further incorporation in immunization curriculum.

* 1. Social mobilization, communications and advocacy activities

The Ministry of Health website on Immunization and Vaccine Preventable Diseases will be the main platform for IPV introduction social mobilization and advocacy activities. Website development started in 2013 by WHO consultancy support and required funding budgeted from PCV VIG. It is expected that website will be launched during EIW 2015. Website target groups are media, health workers, general population and policy makers.

In addition to website the national workshop on IPV introduction will be conducted in order to address interest of medical academicians and management. It is planned to conduct this workshop in framework of EIW 2015, with participation of partners and by funding budgeted in PCV VIG.

As regular practices for new vaccine introduction printing of posters on updated NIS for vaccination rooms and booklets for parents is considered by state funding allocated to Public Health and Reform Center on annual implementation of social mobilization activities indicated in program on Immunoprophylaxis of Infectious Diseases, for 2011-2015.

Limited KAPB assessment among focus groups is considered prior to development of communication materials and it requires external assistance by partners.

Despite the steps taken by EPI within last several years, communication of immunization related issues with public and mass media still requires improvement. There is no comprehensive communication strategy on immunization program, including crisis communication. All activities on this area planned and implemented in ad hoc base and external support and opportunities are available primarily in framework of mass immunization activities or new vaccine introduction. NIP so far has not noticeably suffered from insufficient communication/social mobilization, mainly due to strong political commitment to immunization at government level and absence of active anti-vaccination lobby at country level. Latest experience with PCV10 introduction has clearly shown that timely conducted and correctly approached communication are essential for vaccine acceptance by medical workers and population, however in order to sustain achievements of program it should be provided in regular manner.

**Annex 2 and 3. Timetable & Budget**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Component** | **Activity** | **Timeline** | **Responsible agency** | **Cost (USD)** | **Funding****source** |
| 1. | Coordination of IPV introduction  | Meeting of CCM WG on Immunization on endorsement IPV application | September 2014 | EPI manager,CCM Secretariat | 0 | NA |
| Order on IPV introduction  | December 2014 | Ministry of Health | 0 | NA |
| CCM WG meetings on IPV introduction | Quarterly based | EPI manager,CCM Secretariat | 0 | NA |
| 2. | Information system, data collection forms and system  | Revision of paper based and electronic recording and reporting forms | December 2014 | Ministry of HealthRepublican Center for Hygiene & EpidemiologyInformation technologies Center of the MoHState Statistic Committee | 0 | NA |
| Revision of standards, procedures and recording and reporting forms on AEFI surveillance | Q 1, 2015 | Republican Center for Hygiene & EpidemiologyCenter for Analytical Expertise of MedicinesWHO consultant  | 15 000 | WHO |
| 3. | Training  | Adaptation of WHO guidelines and training materials  | Q4, 2014-Q1, 2015 | Republican Center for Hygiene & Epidemiology | 0 | NA |
| Printing of national guidelines and instructions for vaccinators | Q1, 2015 | Republican Center for Hygiene & Epidemiology | 15 000 | GAVIIPV VIG |
| Inter-district trainings on IPV, including AEFI surveillance  | Q2, 2015 | Republican Center for Hygiene & Epidemiology | 15 000 | WHO |
| 4. | Cold chain, logistic and vaccine management | Procurement of Log tags and USB interface  | January- May 2015 | Innovation and Supply Center | 15 000 | GAVIIPV VIG |
| Procurement of Freeze tags | January- May 2015 | Innovation and Supply Center | 10 000 | GAVIIPV VIG |
| Procurement of MK 404 | January- May 2015 | Innovation and Supply Center | 35 000 | GAVIIPV VIG |
| 5 | Social mobilization, communications and advocacy activities  | National conference on IPV introduction and polio eradication | April 2015 | Ministry of HealthRepublican Center for Hygiene and EpidemiologyPartners |  10 000 | GAVIIPV VIG |
| KABP in focus groups | Q1, 2015 | Republican Center for Hygiene and EpidemiologyPublic Health and Reform Center by WHO communication consultant support |  5 000 | GAVIIPV VIG |
| Video spot on NIS | Q2, 2015 | Public Health and Reform Center | 10 000 | GAVIIPV VIG |
| 6 | Monitoring and evaluation  | Pre vaccine introduction evaluation  | Q2, 2015 | Ministry of HealthRepublican Center for Hygiene and Epidemiologyby WHO support | NA | WHOjointly with PCV PIE |
| Monitoring of IPV introduction  | September-October 2015 | Republican Center for Hygiene and Epidemiologyby WHO support | 15 500 | GAVIIPV VIG |
| Supportive supervision to low performingdistricts | November- December 2015 | Republican Center for Hygiene and Epidemiology | 15 500 | GAVIIPV VIG |
| IPV PIE | Q3, 2016 | Ministry of HealthRepublican Center for Hygiene and Epidemiologyby WHO support | TBC | WHO |