Gavi The Vaccine Alliance

Joint appraisal report

Country	Uzbekistan
Reporting period	*Previous appraisal:* ***Internal Appraisal Report, July 2013*** *Current appraisal:* ***September 2015***
cMYP period	*2011 – 2015*
Fiscal period	*January – December*
Graduation date	*Last year of Gavi funding – 2018 or 2019 in case of HPV introduction*

1. EXECUTIVE SUMMARY

1.1. Gavi grant portfolio overview

Uzbekistan has been eligible for Gavi funding since 2000 and received both vaccines/injection supplies and vaccine introduction grants from Gavi. It currently receives Gavi support for Hib containing pentavalent (2009-2015), rotavirus (2014-2015), IPV (as included in the Polio End Game strategy), and PCV (planned introduction in November 2015 – ongoing) vaccines, and has been approved for HPV vaccine introduction. The country also have been approved for HSS in early 2014, which country applied first time for such cash grant, and the funding is yet to be sent pending FMA discussions.

The country successfully introduced Rota Virus Vaccine in June 2014. The country reached to national coverage for first dose 99.4% and second dose 99.9% within 2014. Rotavirus vaccine is provided to all children free of charge through fixed clinic sites. Healthcare workers reported no problems administering the rotavirus vaccine. The post introduction evaluation is conducted in April 2015 and details of findings are further summarized in the body this report. The PCV13 introduction was originally planned for mid-2015, however due to registration issues the introduction is delayed to November 2015. HPV vaccine was to be introduced in 2015 however, with IPV coming into the schedule the country preferred to postpone the introduction to 2016. During JA mission, it became apparent that the country does not have the needed storage, particularly at the central level to manage all new vaccines. The new HSS grant has substantial cold chain improvement investment (about 4,5 million USD) to upgrade the cold chain, however no HSS funds disbursed as of yet. Therefore, the country requested HPV vaccine introduction to be further postponed to late 2017 as there is no storage capacity.

FMA for HSS funding was conducted in May-June 2015, however the final requirement and terms and conditions on grant governance were not concluded. It is planned that FMA teams to re-visit

the country and further discussion to conclude the FMA and subsequent requirements later in 2015. The terms will determine the timing of the first disbursement.

In January 2014, Uzbekistan entered the accelerated transition (formerly known as graduating) phase from Gavi support due to its recent growth in per capita income and the final year for Gavi support will be 2018. The government took advantage of its last opportunity to apply for additional Gavi support in late 2013 with requests for pneumococcal and HPV vaccines as well as Health System Strengthening (HSS) cash support. Initial graduation assessment was done in September 2013, and in line with November 2014 Gavi Board decision a new graduation assessment is conducted in conjunction with joint appraisal mission. The plans and budget are yet to be detailed and approved by the country and partners.

1.2. Summary of grant performance, challenges and key recommendations

Grant performance (programmatic and financial management of NVS and HSS grants)

According to national reporting, Uzbekistan has achieved a high level of coverage rates (over 99%) for immunization service provision in the country. During 2015, no outbreaks were detected which serves as additional indication of the strengths of the National Immunization Program (NIP). There is strong population demand for immunization services with low vaccine hesitancy.

The Government of Uzbekistan recognizes NIP as one of the priority national public health programs. Immunization is provided to all citizens free of charge. New Law on Sanitary-Epidemiological Welfare of Population was recently adopted with a separate immunization-related chapter and takes steps towards clarifying organizational structure for vaccine management with defined roles and responsibilities. MOH, MOF, and Cabinet of Ministers become responsible for reporting to the parliament for planning and execution of immunization budget.

High level political commitment to the immunization program and support from development partners contributed into the high coverage rates for all antigens. Major key functions of NIP are in place and function such as supervision, with defined frequency of visits. The country is planning introduction of PCV by the end of this year and IPV vaccine in early 2016 subject to supply availability.

The country did not have any census data since 1989 which reveals other data reliability issues and concerns around the denominators, and challenges the coverage data. Other area of concern is the lack of gaining formal recognition of need for buffer stocks for vaccines. These issues creates instability for the program to manage the vaccine forecast each year and planning processes.

The country has the largest birth cohort of the Gavi eligible countries in the region. However, the cold chain capacity is limited and has not been paid attention it deserves in last 20 years. Central level cold chain facilities are insufficient, there is no space for new vaccines, and non-prequalified cold chain equipment is widely used at service delivery level. Subsequently there is lack of capacity to secure sustainable investment for cold chain maintenance.

Other key areas identified during the JA mission for improvement can be summarized as follows:

- Current national immunization technical advisory group (NITAG) is functional but needs strengthening.
- Supervisory tools and feedback mechanism of supportive supervision system are outdated.
- Lack of institutionalized training programme on immunization and vaccine.
- Timeliness of vaccinations not sufficiently being monitored.
- Reporting system are not robust
- High frequency of false contraindications.
- Limited use of computerized data management systems (temperature monitoring, stock management, cold chain inventory, etc.) at national and province level and not yet implemented at district level.
- Lack of extensive training for the 4000 facilities providing immunization services, both MLM and IIP.
- GP availability challenges at sub-national levels, high turnover rates of vocational nurses.
- Slow progress in implementing Effective Vaccine Management recommendations, particularly at the national level.
- Temperature monitoring in vaccine cold chain requires further strengthening.
- Limited use of cold chain inventory data for further actions (i.e. formal review, needs assessment, equipment planning, maintenance support).
- Auto-disable syringes (ADS) for non-Gavi vaccines are not in use due to procurement through local manufacturer that does not manufacture ADS.

Key recommended actions to achieve sustained coverage and equity (list the most important 3-5 actions)

The following key priority areas were identified for achieving sustainable coverage in Uzbekistan:

1. Maintain immunization as a priority and stay vigilant to increasing financial requirements in coming years;
2. Introduce new technologies to supply chain to improve its efficiency and functionality
3. Maintain current procurement modality in accessing to vaccines at affordable prices, but start improving capacity for eventual cost-effective self-procurement.
4. Sustain programme performance level by investing in quality of services (training, supervision, monitoring)
5. Target introduction of computerized immunization data management systems (by developing immunization and vaccine & supplies stock management modules)

6. Conduct data quality review to be accompanied with capacity building on improving target population estimation and other priority issues

1.3. Requests to Gavi's High Level Review Panel

Grant Renewals
New and underused vaccine support Renewal of 2016 doses for Pentavalent, PCV13, Rota. HPV introduction to be postponed to late 2017 subject to cold chain capacity upgrade for vaccine storage.

1.4. Brief description of joint appraisal process

The Joint Appraisal was conducted from 14th to 23rd September 2015 together with the Gavi graduation and national regulatory authority assessments. During the mission, participants from Gavi Secretariat, WHO Regional Office for Europe, UNICEF Supply Division and Sabin Institute met with representatives of the Ministry of Health, Republican Center for State Sanitary Epidemiological Surveillance (RCSSES), Cabinet of Ministers (Department of Social Services), Ministry of Finance (Department of Health Services), the World Bank Country Director and Health Officer, the acting Head of the WHO Uzbekistan office, UNICEF country office Representative, health and procurement officers, the Social Services Committee of the Parliament, Directorate for Pharmaceuticals and Medical Equipment Quality Control (NRA), Manager and representatives of the National Immunization Program. Based on the discussions during the mission and relevant background documents, the Joint Appraisal report was drafted by an independent technical expert in close cooperation with GAVI SCM. The findings and recommendations were discussed with the Deputy Minister of Health and ICC members during a meeting held on 22nd September 2015.

2. COUNTRY CONTEXT

2.1. Comment on the key contextual factors that directly affect the performance of Gavi grants.

1. Socio-political environment of immunization programme

Geopolitical context

The Republic of Uzbekistan is a land-locked country in Central Asia, bordering Turkmenistan to the southwest, Kazakhstan to the north, Afghanistan and Tajikistan to the south and Kyrgyzstan to the east. It has an estimated population of 30.7 million (as of 2014), about half of whom live in rural areas. Uzbekistan is a presidential constitutional republic, whereby the President of Uzbekistan is both head of state and head of government, which gained its independence in

Gavi The Vaccine Alliance

1991 with the break-up of the Soviet Union. Executive power is exercised by the government. Legislative power is vested in the two chambers of the Supreme Assembly, the Senate and the Legislative Chamber. President Islam Karimov has been in power since 1989, under a political system where there is neither intensive nor extensive political mobilization.

Socio-economic context

Since the mid-2000s Uzbekistan has enjoyed robust annual GDP growth, though from 2013 to 2015 it dropped from 8.4% to 7%. Data reliability issues must also be considered when interpreting economic indicators. Due to favorable trade terms for key exports, the government's macro-economic management and limited exposure to international financial markets it remained relatively sheltered from the global economic decline. With the goal of becoming an industrialized, high middle-income country by around 2050, Uzbekistan is continuing to transition to a more market-oriented economy to ensure equitable distribution of growth between regions and to maintain infrastructure and social services (World Bank, 2015). However, due to limited integration of Uzbekistan into the global market, the economic recession will have a postponed effect on the country, beginning of which is expected as early as in 2016.

1. Leadership, governance and program management

The Immunization Program of Uzbekistan benefits from collaboration with Gavi, WHO, UNICEF and from the political commitment of the Government to reform and increase efficiency of the health care sector.

Health Sector

The state-run health system consists of three distinct hierarchical layers: the national (republican) level, the viloyat (regional) level, and the local level made up of rural tumans (districts) or cities, with a relatively small private sector. As the government-owned health system still largely follows the integrated model (with the government being the principal payer and provider of health services), almost all health workers are government-salaried employees. The key players involved in organizing and managing the health system in Uzbekistan are the President, the Cabinet of Ministers, the Supreme Assembly (Legislative Chamber and Senate), the Ministry of Health, the Ministry of Finance, viloyat and tuman health authorities and the network of health facilities. (Ahmedov et al. 2014)

Allocations to the health sector as % of total government budget have been in the range of 9-10% (WHO NHA data) in the last years. Health care reforms have been supported by WB projects, including introducing a pilot with per capita financing for primary health care.

The country has embarked on several major health reforms covering health care provision, governance and financing, with the aim of improving efficiency while ensuring equitable access. Primary care in rural areas has been changed to a two-tiered system, while specialized polyclinics in urban areas are being transformed into general polyclinics covering all groups of the urban population.

Political Support

The Government of Uzbekistan recognizes National Immunization Program (NIP) as one of the priority national public health programs, which is confirmed by the Government commitment to provide predictable financing to the NIP for fulfilling its co-financing commitments for vaccine procurement and 100% provision of approved budget.

In August 2015, a legislative basis for prioritization of immunization secured via Special Article on Immuno-prophylaxis. Currently, the Government is working on developing the new Immunization Program for the period 2016-2020.

As part of the public immunization policy the government guarantees free primary health care, including preventive vaccination to Uzbek citizens included in the national immunization calendar.

Immunization program management

The immunisation program is managed by State Surveillance Department of the Ministry of Health and the NIP manager is a Deputy Head of the department. The Ministry of Health together with the Republican Centre of State Sanitary and Epidemiological Surveillance (RCSSES) have developed a protocol for mandatory immunisation, which is strictly monitored and controlled, according to the country comprehensive multi-year plan for 2011-2015. The latter is also responsible for program management at the sub-national level, which is provided through the 14 regional levels, 196 rayons, by means of 4004 immunization points, including policlinics, rural health centers and maternity hospitals. At service delivery level, immunization services are mostly integrated with primary health care services and delivered by nurses and healthcare workers. Planning, procurements and distribution of immunization supplies, including vaccines, is managed by the RCSSES, which has a network in all provinces and district centers. The epidemiologists employed at the branches of RCSSES act as provincial and district EPI managers

Uzbekistan was certified polio-free in 2002. Uzbekistan successfully responded to the polio outbreak in Central Asia in 2010 with series of supplementary immunisation activities during 2010-2013. The country has conducted a nation-wide measles campaign in 2011 with coverage above 95%, and no endemic measles cases have been reported since 2011.

The Interagency Coordinating Committee (ICC) coordinates the support of all agencies involved in the National Immunisation Program. The ICC is chaired by the Deputy Minister of Health, Chief Sanitary Doctor of Uzbekistan. It includes lead officials from the MOH, representatives of major academic and research institutions and representatives of WHO and UNICEF. USAID, the World Bank, JICA, and TIKA used to be active but are no longer actively involved immunisation and have not been on the ICC since 2008. Since 2009, participation of the MOF has been quite limited.

Gavi The Vaccine Alliance

Legislation framework
Immunization in Uzbekistan is regulated by the newly passed (in August 26 of 2015) Law on Sanitary-epidemiological Welfare of Population with immunization chapter and the sanitary-hygienic norms approved by the Decree of the Ministry of Health on Immuno-prophylactics of Infectious Diseases in the Republic of Uzbekistan (dd. 22.02.2015). The law addresses the responsibilities of governmental structures at central and regional levels in organizing epidemiologic and hygienic system of Uzbekistan, sets accountability obligations and ensures participation of multiple stakeholders (including non-government) in the process. The immunization chapter (article 33) of the law states generally the importance of immunization and mentions that vaccination is to be provided in accordance with national immunization calendar. As the Head of the Labour and Social Affairs of the Parliament underlined, there were long debates about legal status of immunization when drafting the new law; finally, they agreed not to mention neither obligatory nor voluntary status of immunization in the document to avoid any further wrong interpretations and decided to focus on education and awareness principles instead.

The Decree of the Ministry of Health on Immuno-prophylactics of Infectious Diseases in the Republic of Uzbekistan (dd. 22.02.2015) is the key document setting the goals, stakeholders' responsibilities and organizational aspects of immunization. The document states that government provides vaccinations free of charge to the population in accordance with the national immunization calendar; the government sets objective of 95% coverage for 13 antigens within routine vaccination. All the vaccines should be registered by the national regulatory body – Main Direction for Controlling the Quality of Medicines and Medical Devices (equivalent of NRA).
The sanitary-hygienic norms designed certain hierarchy for managing immunization at central and regional level. Chief Sanitarian Doctor of Uzbekistan (Deputy Ministry of Health) leads disease surveillance and immunization process and coordinates the work of chief sanitarian doctors of rayon and city levels. Chief pediatrician, chief therapist and immunologist of rayon/city are in charge of immunization planning. Immunization plans pass long way to implementation: from local CSSES office to the RCSSES for consolidation and later to the Main Directorate of Sanitary-epidemiologic Surveillance (EPI manager) for endorsement.

The Sanitary-hygienic norms require the awareness of national immunization calendar, vaccine contraindications and side effects of vaccinations from all doctors at primary health care facilities. Patronage doctors and nurses are responsible for planning and monitoring the vaccination within their catchment area as well as periodic reporting. The document also sets details about vaccination procedures and contraindications; active patronage and high accountability regarding unvaccinated/insufficiently vaccinated children; supports proactive approaches for avoiding false contraindications. According to the decree, newborns should be provided with "immunization passports" at maternity hospitals that is continuously updated with vaccination notes.

National Regulatory Authority (NRA)

An assessment of the activities of the Directorate for Pharmaceuticals and Medical Equipment Quality Control (NRA) was conducted in September 21-23 in conjunction with JA and Graduation assessment.

The current regulatory system imposes an extensive approval procedure on all imported vaccines and pharmaceuticals, irrespective of their WHO pre-qualification status. A lengthy and costly registration process can discourage vaccine manufacturers from applying for market authorization and licensing for their products, which in turn can limit the immediate access to a specific vaccine when the need arises or can reduce the overall choice of vaccines (e.g. access to a cheaper product or to an alternative product in case of supply interruptions). It is therefore important that the department has a clear understanding of the specificities of the vaccine market (as opposed to pharmaceuticals) and recognizes its role in ensuring competition and, ultimately, the ability to achieve a sustainable vaccine supply at affordable prices. The requirement for full registration of WHO pre-qualified vaccines results in duplication of quality assurance functions such as the lot release (certificate), which is not required and causes redundant expenses to the NIP that is being charged fees for each lot release. These fees should be eliminated for any regulatory services linked to publicly procured vaccines that are used in the NIP.

WHO assures that the necessary regulatory functions are in place in its prequalification process. Uzbekistan could then streamline the regulatory process for products procured through UNICEF for use in the NIP by using a fast-track procedure. Such a procedure would recognize the contribution of the WHO prequalification process, while a) ensuring a methodology that will be in accord with national regulations and international standards of regulatory approval of products and b) continuing to provide timely access to vaccines used in the NIP that meet standards of assured quality. In addition, it can help NRAs define priorities, including placing more emphasis on adverse event surveillance - the most relevant function for all countries receiving prequalified vaccines from any source.

Potential delays and interruptions in vaccine supply due to lengthy registration requirements are partly mitigated by the existing process for a one-time waiver for vaccines to be used for humanitarian purposes or emergency situations. However, utilizing this approach on a routine basis may eventually lead to safety concerns and its application should therefore be limited to its intended purpose.

The official state register of pharmaceuticals approved for medical use in Uzbekistan contains approximately 3,900 products. While this is a considerable number, the number of registered vaccines is comparatively low. So far, only 38 vaccines (from 11 manufacturers – 7 WHO pre-qualified, 4 non-WHO pre-qualified) have gained market authorization in Uzbekistan (2013). Efforts should be made to encourage the registration of additional manufacturers with WHO-

prequalified vaccines and the NRA should prioritize registration of vaccines to be used in the NIP whenever required.

The agency plays no role in case of AEFI and its management, only provides annual data to Upsala Center for Pharmacovigilence.

Gender and Equity

According to the UNDP's Human Development report for 2014, Uzbekistan's Human Development Index (HDI) value for 2013 is 0.661— which is in the medium human development category—positioning the country at 116 out of 187 countries and territories. The 2013 Gender Development Index (GDI), based on the sex-disaggregated Human Development Index, defined as a ratio of the female to the male HDI, is 0.945. In comparison, GDI values for Kyrgyzstan and Tajikistan are 0.976 and 0.952 respectively. (UNDP 2014). There is no gender or ethnic disparity in access to immunization services. Geographic difficulties could be regarded as an important gap in terms of equity in immunization service provision of the country. There is also inbuilt inequity in the allocation of resources in the health sector, with allocation of funds being based more on inputs such as existing infrastructure that in many cases in outdated, rather than actual population numbers, needs and provider outputs.

2. Costing and Financing

According to the recent IMF outlook, the economy of Uzbekistan has been resilient in a difficult external environment of economic crisis. The country's GDP increased by 7.5 percent over the first quarter of 2015, while the growth in 2014 amounted to 8.1 percent. IMF further prediction shows decrease in GDP growth: 7% in 2016, 6.7% in 2017, and 6.5% each year from 2018 to 2020. Inflation in Uzbekistan will amount to 10.1 percent in late 2015, while the previous forecasts showed it at 9.5 percent, and will drop to 9 percent in 2016. The fund estimates that inflation in Uzbekistan will amount to 10.5 percent in 2017, and to 10 percent in 2018-2020. The nominal GDP of Uzbekistan will rise from $62.613 billion in 2014 to $89.791 billion in 2020. Nominal GDP per capita will increase from $2,046 in 2014 to $2,731 in 2020.

cMYP: Uzbekistan's current cMYP covers 2011-2015. New cycle will cover the next 2016-2020 period which will be ready by the end of 2015.

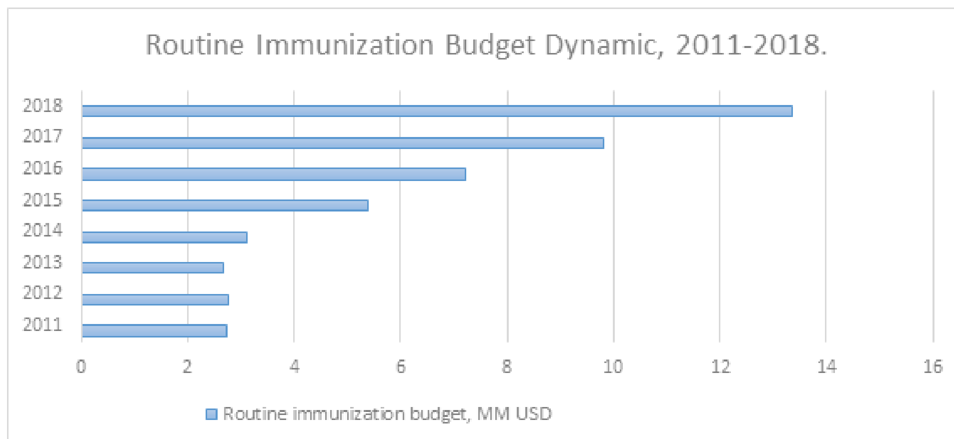
cMYP is the only strategic document for immunization in the country. Its programmatic part is implemented into the state program of immunization which is updated and approved annually. It should be noted that cMYP vaccine cost estimates are reflected in the national budgeting mechanisms; but not the operational costs of the programme are not fully reflected due budgetary constraints.

Government and donor funding: The government of Uzbekistan finances all the vaccines centrally and Immunization program benefits from availability of secured funds through the separate budget line for routine vaccines; non-routine vaccines are funded through Epid-Fund. Immunization service fee is integrated into primary health care services.

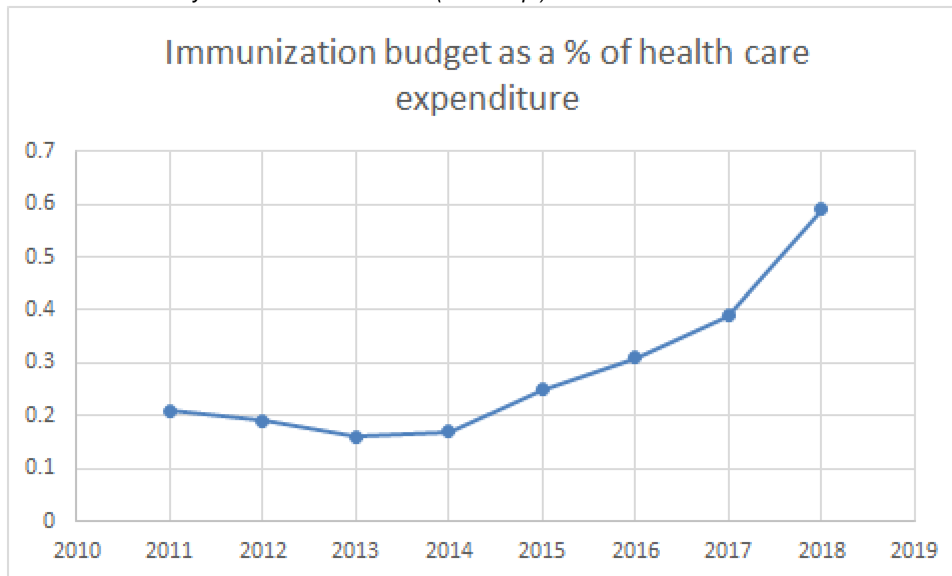
Table 1. Uzbek government health budget for 2011 – 15 and 2016-18 (forecast)

Years	Vaccines amount in UZB Sums	Central MoH budget in UZB Sums	% of central MoH budget
2011	4.7	2195.9	0.21 %
2012	5.2	2723.3	0.19 %
2013	5.6	3511.3	0.16 %
2014	7.2	4206.9	0.17 %
2015	13.6	5430.2	0.25 %
2016	20.4	6516.2	0.31 %
2017	30.6	7819.5	0.39 %
2018	45.9	9383.4	0.59 %

In the recent years, routine vaccine budget has been considerably increased (from $2.7 MM in 2011 – $5.6 MM in 2015) in line with government spending on fully immunized child ($ 5 in 2010 – $15 in 2014). The share of routine vaccine budget is going to significantly from 0.21% in 2011 to 0.59% in 2018. However, high population growth, inflation and currency depreciation may decrease its value in real term. The country needs further improvement on including buffer stocks into its forecasts and budget for the immunization program.



Source: The Ministry of Health of Uzbekistan (2015 Sept)



Source: The Ministry of Health of Uzbekistan (2015 Sept)

Gavi is the only source of external funding for Uzbekistan's immunization program, but the support will end by 2019 (depending on timing of HPV introduction) following the country's graduation. So far, Uzbekistan has met its co-financing obligations and MOH budget projections for the following years show continuous increase in immunization expenditure. However, financial sustainability and budget feasibility become serious concern due to graduation challenges, new vaccine (PCV and HPV) introductions and the risk of undesirable changes regarding country's economic situation and changes in the global vaccine market. Having said that, the country is keen on maintaining the achievements and continuing introducing new vaccines and technologies as they become available as child health is one of the priorities of the Government. Political will seems to be key factor to mobilize increasing immunization resources in Uzbekistan.

The last immunization assessment mentioned about significant difference in budget figures between RCSSES submissions and MOH approvals while MOF had been consistently approving the MOH submissions. The recent trend regarding budget reliability is a positive: No cut in approved and allocated routine vaccine budgets of the current year; Government allocation for 2015 exceeds the immunization expenditure projected by MTEF.

Disbursement mechanisms within the immunization program works well: budget absorption and budget credibility indicators show nearly 100%; e-system of accounting between MoF and the Treasury supports accuracy and timeliness of disbursement procedures.

Budgeting process

The Government Budget in Uzbekistan is an annual document which is in effect for each calendar year from January to December. It is drafted by the Government of Uzbekistan and submitted to the Parliament. The Annual Budget is adopted by the Parliament and signed by the President. In

addition to annual budgeting, the country has implemented medium term prognosis system with 3-year period. The MTEF is operational in the country.

The state budget process and relations in drafting, implementation and reporting is regulated by the Budget Code. Annual budget projections are based on short-term macroeconomic forecasts; therefore, to realize public expenditure policy and to avail budgetary resources, annual budget and MTEF projections are reviewed together and MTEF is updated annually. Based on micro- and macroeconomic parameters and the budget execution reports, MOF sets ceilings for each spending body. The Ministry of Health, as an execution agency, elaborates the proposals for annual and mid-term expenditure every year, under the guidance of MOF.

Uzbekistan established budget line for purchasing vaccine since 2003. The process and timeframe for financial planning and budgeting is as follows:

- By 15 June: Based on the consolidated immunization plan, RCSSES calculates vaccine resource needs and elaborates budget proposal (without consideration of buffer stock) and sends this to MOH for review of projections of the overall MOH budget.
- July: MOH consolidates its administration and program budgets and sends to the Ministry of Finance (MOF)
- July-November: MOF communicates the budget with the Cabinet of Ministries; at the same time, MOF makes prognosis on macroeconomic parameters, sets the ceilings of the next year expenditures per agency. Based on the ceilings, Ministries are required to prioritize their activities fit for the next budget cycle.
- November: Cabinet of Ministries reviews the annual budget proposal together with the MTEF projections and submits to Parliament for Presidential ratification.
- 10-15 December: The Parliament reviews the annual budget and submits to the President for final approval.
- Last week of December: the President signs the state budget bill.

Financial Management

The first comprehensive review of the Uzbekistan's Public Financial Management and Procurement was performed by the World Bank in 2010 and, in March 2011, a Country Integrated Fiduciary Assessment (CIFA) was issued. The Public Expenditure and Financial Accountability (PEFA) was subsequently carried out in 2012. In addition, the FM assessment carried out by the World Bank for Health III project specifically focused on the MoH. The GAVI FMA in 2014 complemented and updated some of the outdated information through discussions and research..

The conclusions of the FMA team is consistent with the other donors assessments as regards both profile and level of fiduciary and oprational risks and the mitigating measures and other financial management arrangements. Several of the PEFA indicators were scored as lower than average and in need of improvement before development partners could use the country public financial management (PFM) system. Most, if not all donors, use a Project Implementation Unit (PIU) type set up, and supported by presidential and other exceptional measures as legal and institutional framework.

Gavi
The Vaccine Alliance

Most of the records by donors and Gavi FMA outline several areas of strength of the Uzbekistan PFM systems but also reveal challenges and areas for improvement. The overall fiduciary risk of the PFM in Uzbekistan is rated as substantial. This rating is a result of some weaknesses and challenges such as: (i) low predictability of availability of funds in the state budget; (ii) poor public access to key fiscal information and lack of transparency; (iii) lack of well established internal audit function in most ministries; (iv) a need for capacity building in the Chamber of Accounts engaged in the external audit of governmental organisation; (vi) complexity and slow procurement processes; and (V) fragmentation in legal and insitutional framework and settings.

Gavi FMA will be concluded in November 2015 which will set out the terms and conditions for Gavi HSS fund governance. The initial FMA has concluded that the fiduciary risk is high for the proposed arragments. However, with the implementation of the mitigating measures, the risk would be reduced to a managable level (moderate) which can be monitored and managed during the implementation period. In November 2015, it is planned the proposed mitigating measures will be discussed and agreed with the country.

Procurement mechanism

The national vaccine procurement is mostly centralized, with multiple partners involved at the national and sub-national levels and using various funding sources. Prior to initial graduation assessment conducted in 2013, vaccines that are provided after age of two were purchased by local governments. Based on partners' advice, procurement of those routine vaccines have been centralized. Currently, procurement of only non-routine vaccines are decentralized. The funds required for procurement of new vaccines are directly transferred by RCSESS to the UNICEF Supply Division via UNICEF Country Office. The RCSESS and MoH are responsible for all operations related to the transfers.

Uzbekistan procures all routine immunization vaccines and the vaccines for SIAs exclusively through UNICEF SD. The procurement is based on the MoU signed between UNICEF and the Uzbek MoH. The country does not request alternative mechanisms for vaccine supply and procurement. However, there might be groups in the MoH that would like to change the procurement mechanism which is an issue to be addressed under the transition plan. If the country changes the current mechanism, it would challenge sustainability of the program as the vaccine cost would dramatically increase, leading to vaccine supply interruptions and jeopardizing the immunization program as a whole. However, if the country is able to develop cost-effective self-procurement capacity, the groundwork for such should be started.

There have been unnecessary regulatory and financial burdens in managing multiple shipments or shipment of multiple lots (1 month to clear each lot in each shipment) as well as a lack of understanding of the UNICEF procurement procedures and misalignment between national procurement requirements and UNICEF procurement procedures. There is a lack of guidance on national vaccine procurement (product requirements, procurement procedures and assessing procurement effectiveness). National Procurement of non-routine vaccines is driven by distributor's available offers rather than by specific formulated demand (i.e. vaccines provided without VVMs). There is lack of knowledge of vaccine market and lack of strategies to address procurement challenges (i.e. management of competitive bidding, international procurement, and transparency) and increase purchasing power by introducing robust strategies such as having multi-year agreements.

Human resources

The immunization services in Uzbekistan are provided through the PHC network. Uzbekistan similar to other FS countries inherited a large health workforce at independence, but availability of doctors decreased and is now below the both former Soviet and EU average. GPs make up

only a small part of physicians and a large part of services at PHC level is provided by specialized doctors through out-patient services in a polyclinic model particularly in urban areas. Population coverage of nurses on the other hand is still among the highest in the region and higher then both CIS and EU averages. Uzbekistan is experiencing a shortage of GPs and there is a high turnover of vocational nurses, with imbalanced distribution of human resources across the regions.

Cold chain and logistics

The latest EVM assessment was carried out in Uzbekistan in April 2012 and the next one is scheduled for November 2015. A comprehensive cold chain inventory conducted with WHO support in 2015.

The cold chain system has not received investment by the government or donors for very long time. As country did not apply for cash funding from Gavi in the past (no ISS or HSS), there has been no substantial investment to the system. EVM report 2012 indicated that central store was in need upgrades and that the system cannot take on new vaccines. Therefore a substantial portion of HSS funds are to be invested in cold chain upgrades and renovation.

Currently, the cold chain storage capacity is not sufficient due to sharp increase of required storage volume following implementation of new routine vaccines (PCV and IPV in pipeline) as well as non-EPI vaccines and other biologicals kept in the vaccine cold chain; as a consequence, the national vaccine store acts as a transit point rather than the main vaccine storage.

As HSS funding is yet to be disbursed to the country, the country requested to further postpone HPV introduction as it would be not possible to manage the storage of the vaccine.

There are other needs identified during the JA mission for the cold chain system improvements:

- Service agreements with private pharmaceutical companies to address cold chain capacity shortages at the national level;
- Address the lack of national cold chain regulations, applicable beyond EPI vaccines (including customs storage, distributors of pharmaceuticals, private vaccine supply chain);
- Vaccine transport facing the same challenge of handling dramatically increased vaccine volumes;
- Continuous temperature monitoring using electronic and computerized systems is not implemented;
- Stock management needs improvement: due to limited cold chain capacity at national and regional levels vaccines are pushed down to be stored at the district level where conditions are less secure;
- A formal cold chain maintenance programme has not been established reducing the effectiveness of the investment in cold chain;
- Update requirements in the HSS proposal basing on of cold chain inventory needs assessment and the forthcoming EVM assessment (November) focusing to address the needs at the central, regional and district level;
- In cooperation with NRA, develop integrated national cold chain regulations, applicable to all pharmaceuticals requiring cold chain, including vaccines and to all actors involved in vaccine transport and distribution;
- Establish a functional structure or mechanism for cold chain maintenance and repair

It is recommended for Uzbekistan to apply and benefit from the CCE Platform opportunity to address cold chain needs at immunization delivery level.

Immunization service delivery

Routine immunisation delivery in Uzbekistan is based on fixed immunisation points. Vaccines are administered through the network of 5,000 sites. Birth doses of BCG, and HepB and OPV are administered in maternity hospitals as 99% of deliveries take place in the maternity hospitals, thanks to strict pre-natal follow up program administered in the country. In rural areas, vaccination is carried out on specific days in rural doctors' offices in order to decrease vaccine wastage when using multi-dose vials.

Antigen	Age
BCG	birth
Hep B	birth
tOPV	Birth, 2, 3, 4, 16 months; 7 years
DTP-Hib-HepB	2, 3, 4 months
PCV	2,3,4 months
RV	2, 3 months
MMR	1, 6 years
DTP	16 months
Td	7, 16 years

Table 2 – Immunization Schedule (MOH)

Reaching the un-reached population is part of the Reaching Every District (RED) strategy with the objective of strengthening district capacity. RED activities are being complemented with Immunisation in Practice trainings for health staff. The RED strategy implies the use of additional strategies, such as outreach and mobile teams.

NITAG

A functional national immunization technical advisory group (NITAG) was established in March 2012 and revised in 2015. Leading specialists, including from disciplines such as epidemiology, pediatrics, immunology, virology, infectious diseases, neuropathology, finance and budgeting, vaccines regulation and programme management are part of NITAG. Members have previously been trained at WHO workshops. NITAG is both empowering the immunization programme and providing strategic guidance by issuing recommendations. However the NITAG needs further capacity building on issues such as false contraindications. There is a need for inclusion of other expertise that would be essential for further strengthening of decision making processes.

Gavi The Vaccine Alliance

AEFI reporting disease surveillance (to be completed)

There is a national guideline on AEFI surveillance and the NRA is a member of the Upsala Center for Pharmacovigilance since 2006. Since 2012, NRA reports drug reactions through the electronic database to the Upsala Center. At each level (national, regional, district) there are established multi-discipline teams to investigate AEFIs. There is a routine reporting system for AEFIs integrated with monthly (now weekly) immunisation reports. Emergency notification of severe AEFIs (within 24h) integrated with notification of other health emergencies.

However, roles and responsibilities of the NRA and EPI in AEFI surveillance are not clearly defined and there is no system of reporting and exchange of AEFIs between EPI to NRA in place, as well as no national independent committee for AEFI causality assessment. Also, the national guideline is not up to date with the modern WHO AEFI surveillance concepts, definitions, and classification. There is also no targeted communication plan around the AEFIs which country needs assistance on.

Polio eradication

Uzbekistan, together with the rest of the WHO region, was certified as polio free in 2002. In 2014, Gavi approved Uzbekistan's application for IPV introduction, initially scheduled for mid-year 2015 together with PCV-13. Due vaccine supply constraints, IPV will only available by Q1 2016.

Communication

Communication plans have been developed for new vaccines introduced and crisis communication plan exists. An immunization website is available at: http://med.uz/privivka/vaccination/

Key programme staff received training on communications. Among the challenges is that the immunization Programme lacks a uniform communications plan and media staff requires better understanding on immunization. Furthermore, the Programme requires additional support to enable continuity of key communication materials and communication activities. Improving the immunization website development may also be useful.

3. Other factors, events

N/A

3. GRANT PERFORMANCE, CHALLENGES AND RENEWAL REQUESTS

3.1. New and underused vaccine support

3.1.1. Grant performance and challenges

Country has achieved consistently high national and sub-national coverage rates since 2009. Targets for 2016 seem appropriate, and historical coverage evidence suggests that they will be met.

Gavi The Vaccine Alliance

Rota vaccine was introduced in June 2014. Rotavirus PIE conducted in April 2015. PIE report indicates that the introduction of rotavirus vaccine in Uzbekistan was a smooth process. The national RV1 coverage was 99.4% and RV2 coverage was 99.9% between June and December 2014. Prior to the introduction, the Ministry of Health updated the Sanitary Rules and Regulations to introduce rotavirus vaccine, developed an introduction plan and updated the national immunization schedule to include RV. Conferences and trainings on the RV vaccine introduction were held March-May 2014 and training materials were distributed.

The evaluation found that all health facility staff were satisfied with the training provided and most had brochures and training materials at the time of the visit. For future trainings, some healthcare workers requested more information on contraindications to vaccination, more printed materials and practical exercises and the use of slides and videos. District and provincial staff requested longer trainings.

In 2014, national coverage for RV1 was 99.4% and RV2 was 99.9%. The national coverage in the first quarter of 2015 for RV1 was 81% and for RV2 was 88%. The decrease in coverage was due to a delay in receipt of the rotavirus vaccine shipment from the manufacturer and the country is catching up with the missed doses. Evaluators noted that the denominator for target vaccination in health facilities is based on the availability of vaccine or the children who came for vaccination during a given month instead of being based on the number of children eligible for vaccination during a given month. Some children were not vaccinated due to false contraindications which is a common problem in the region. Most children seen during vaccination sessions did not have a home-based immunization record. Home-based immunization records are not used in Uzbekistan as routine practice.

Vaccine was being stored at the appropriate temperature at most visited sites and monitoring of vaccine temperatures was taking place. Five (71%) of the provincial centers in the evaluation reported inadequate storage capacity for the rotavirus vaccine at their level or a lower level. Log tags and freeze tags are not used in cold chain at any level. This issue is aimed to be addressed under the HSS as well as the new CCE Platform.

Vaccine transport seems to work well across the country. No sites had any vaccine expirations or vaccines in VVM (vaccine vial monitor) stage III or IV. Most had run out of both rotavirus and pentavalent vaccine, but some sites also had shortages of MMR, DTP and OPV. Procurement related issues are further discussed in the relevant section of this report and technical assistance identified to further improve the procurement related issues.

Vaccine and syringes are not supplied as a bundle for the state-procured vaccines, with the exception of pentavalent vaccine, which is supplied by Gavi. Freeze tags are not used during vaccine transport at any level which should be addressed with utilization of HSS and CCE Platform funds.

All visited district and provincial sites and 97% of visited health facilities during PIE had received a recent supervisory visit and most had received a written site visit report. However, supervisory visits are punitive monitoring visits rather than supportive supervision. There are plans to improve the supportive supervision under the HSS proposal which should be further detailed.

PIE report confirms that there are AEFI protocols and reporting procedures in place and 91% of the visited health facilities had the relevant MoH order. However, no AEFIs were reported for any vaccine since the introduction of rotavirus vaccine. AEFI surveillance system requires update in line with WHO recommendations (legislation; case definitions; reporting forms; case investigation; filtering cases to be reported; expert review committee & causality assessment; data analysis; feedback)

Information materials for parents, including brochures and flyers, were developed and distributed prior to the RV introduction. There was mass media coverage on the RV introduction via television, radio and newspaper. All health facilities visited reported no resistance from the community regarding rotavirus vaccine. There will further strengthening of social mobilization and health worker trainings under the HSS funding.

Table 1. Reported Vaccination Coverage, 2010-2014

Vaccine/coverage	2010 (%)	2011 (%)	2012 (%)	2013 (%)	2014 (%)
BCG	99	99	99	99	99
HepB (birth dose)	99	99	99	99	99
DTP1 (pentavalent 1)	99	99	99	99	99
DTP3 (pentavalent 3)	99	99	99	99	99
Polio3	99	99	99	99	99
MMR 1	98	99	99	97	99
MMR 2	-	99	99	99	99
Rota2	NA	NA	NA	NA	99

Source: WHO vaccine-preventable diseases: monitoring system: 2015 global summary, September 8 2015

Table 2. Reported Vaccine-preventable Diseases

	2014	2013	2012	2011	2010	2000	1990
Diphteria	0	0	-	0	0	4	12
Japanese Encephalitis	-	0	-	0	0	-	-

Measles	8	0	-	476	117	80	3943
Mumps	2336	3256	2300	1160	1418	3949	-
Pertussis	69	42	62	36	33	77	713
Polio	0	0	0	0	0	0	-
Rubella	0	0	-	23	1	454	-
Tetanus (neonatal)	0	0	-	0	0	0	-
Tetanus (total)	0	0	-	0	0	0	-
Yellow Fever	-	0	-	0	0	NA	-

Source: WHO vaccine-preventable diseases: monitoring system: 2015 global summary, September 8 2015

PCV introduction

As indicated the PCV vaccine is scheduled to be introduced in November 2015. The VIG is channelled through UNICEF country office and preparatory activities included an orientation workshop on introduction of PCV vaccine to health staff, cascade trainings from oblast to district level, design and printing of visibility materials (banners, leaflets, posters) and distribution and placement up to the PHC levels

UNICEF country office also worked on facilitation of the custom clearance of the unregistered PCV vaccine (please see the NRA section of this report for details.)

3.1.2. NVS renewal request / Future plans and priorities

Renewal of 2016 doses for Pentavalent, PCV13, Rota Virus vaccines
Postponement of HPV introduction to late 2017 due to cold chain issues as indicated in the relevant sections of this report.

3.2. Health systems strengthening (HSS) support

3.2.1. Grant performance and challenges

Uzbekistan's HSS application approved in 2014 and FMA is conducted in May-June 2014. However the funding is yet to be sent to the country.

HSS budget will need some revisions based on the findings of the FMA and any savings to be made will be used for graduation. However the revision exercise is yet to be completed.

3.2.2. Strategic focus of HSS grant

Uzbekistan GAVI HSS proposal for 17,218 m USD for 5 years was approved in March 2014. The focus of the proposal is outlined in the four objectives:

Objective #1: Increase performance and sustainability of immunization services ($11,084,930)
Work under this objective seeks to address two main bottlenecks. Firstly gaps in the cold chain identified in the EVM assessment and secondly the need to improve vaccination practices and staff skills on immunization (GPs, pediatricians, nurses/vaccinators)

Planned activities for the cold chain include both much needed upgrading the central level storage capacity, maintenance and increased capacity related to introduction of two new vaccines PCV and HPV as well as central procurement of AD syringes. For the human resource part activities include strengthening supportive supervision and modified pre and in service training of GPs as well as pre-certification trainings of nurses/vaccinators.

This objective contributes to reduction in inequity across oblasts as well as improved immunization outcomes generally including through reduced drop-out rates.

A detailed investment plan will be developed based on a thorough needs assessment which will conducted with WHO support prior to launching HSS implementation.

Objective #2: Improve management of PHC services. ($1,873,900)
Focusing on strengthening management and planning skills of staff at PHC facilities as key workforce involved in delivering immunization.

This objective aims to address the bottlenecks related to weak management of performance in PHC facilities, both in terms of management skills of PHC managers and ensuring clinical practices are in line with the latest regulatory requirements. Information exchange activities and study tours.

Objective #3: Increase demand on preventive and MCH services ($911,000)
Work on this objective aims to address bottlenecks related to low demand for immunization/MCH services.

Activities include collection on evidence on immunization coverage in certain hard to reach/low coverage population groups together with social mobilization activities to increase coverage.

This objective is expected to contribute to reduction in socioeconomic inequity and decrease drop-out rates.

Gavi The Vaccine Alliance

Objective #4: Strengthen data collection and reporting for MCH services ($2,423,160)
Reliable information systems are an important requirement for sustaining high immunization coverage. This objective focuses on strengthening this at three levels:

- Vaccine stock management – strengthening IT systems for national management of vaccine stocks as well as pharmaceuticals more broadly.
- Curative and preventive MCH services – development of a birth register as well as electronic register on all children receiving immunization and/or MCH services.
- Surveillance (case based) reporting – Strengthening information systems for SES in particular with regard to case based surveillance of (in addition to existing infectious disease monitoring)

For all the above both hardware software and trainings are envisaged.

Cross cutting elements related to strengthen the corresponding legal base for all objectives above are also planned (except objective 3 focusing on demand) to ensure their financial and operational sustainability and to ensure resources will be allocated towards areas such as supportive supervision.

The current cold chain has not been updated and much of the cold chain equipment at the central levels is outdated and the country did not receive any external support in past years for this component of the program. Uzbekistan is eligible for Cold Chain Enhancement (CCE) Platform to further upgrade the cold chain and logistics as the needs are great and the country will need technical assistance for developing the proposal for the CCE Platform.

3.2.3. Request for a new tranche, no-cost extension, re-allocation or reprogramming of HSS funding / Future HSS application plans

After approval of the HSS grant the GAVI secretariat carried out a financial management assessment (FMA) in May –June 2014. However the report is not finalized and Financial Management Requirements (FMR) are yet to be developed (aimed to conclude by the end of 2015). There will be negotiations between the country and the secretariat on the management structures and corresponding budget changes. A lead implementation role is envisaged for partners, UNICEF on procurement and WHO on technical assistance and monitoring for grant implementation with final revision of the budget expected to be completed in early 2016. There might be further revisions to the budget based on detailed assessment of cold chain related expenditures. Any savings from the HSS funds will be allocated for graduation related activities. The country can benefit from the WB HSS technical facility to support the initial stages of the HSS work and budget revisions, as well as procurement planning processes.

There is no reprogramming given the funds have not started flowing.

3.3. Graduation plan implementation *(if relevant)*

Graduation plan is being developed following the graduation assessment conducted between September 14th to September 23rd. Graduation plan will take into consideration of provision of technical assistance through HSS plan and targeted country assistance in 2016 and, will address the technical assistance gap. Graduation action plan is expected to be operational by mid-2016 and reporting on implementation is expected to start by end of 2016.

3.4. Financial management of all cash grants

Uzbekistan received Rotavirus vaccine introduction grant (VIG) in June 2014, and PCV VIG in 2015. VIGs are channelled through the partners. Rotavirus vaccine VIG channelled through WHO and 249,122 USD has been spent in 2014. The PCV funding is channelled through UNICEF and is currently being utilized as the introduction delayed to November 2015. However, summary of expenses by UNICEF are as follows (dd. September 2015)

MoH support PCV implementation through direct cash transfer (cascade orientation meetings up to district level)	65,291.39
MoH on Capacity building (Safe Immunization in-practice trainings for General practitioners and other PHC workers)	35,462.69
MoH awareness raise PCV (printing materials distribution)	38,724.35
CDME Save imunization tranings in Med University / colleges	16,461.76
Technical assistance by UNICEF	2,024.40
Printing materials (certificate "safe imunisation") 8000 psc	1,964.98
IT Equipment for oblast level EPI managers and MoH	
Printer/scannes 15 pcs	12,142.92
Fax machine 15 pcs	3,765.05
PC desktop 15 pcs	16,592.85
PC - laptop4 pcs	4,469.10
Printing materials (certificates) 2000 psc	574.72
Total	198,099.45

3.5. Recommended actions

Following the technical meetings and discussions that took place during the combined Joint Appraisal/Graduation Assessment mission, a number of recommendations were raised and discussed by the mission participants with in-country stakeholders. These observations and recommendations focused on the key priority activities and suggested actions for addressing the challenges identified during the Joint Appraisal, notably with respect to enhanced potential for financial and programmatic sustainability of national immunization programme.

For graduation, a more detailed activity plan, including full list of proposed technical assistance together with proposed costing, will be available following the finalization of the Graduation Assessment Action Plan.

In summary, the key recommended actions for Uzbekistan for coming years, as described in the Executive Summary section above, are:

Actions	**Responsibility** (government, WHO, UNICEF, civil society organisations, other partners, Gavi Secretariat)	**Timeline**	**Potential financial resources needed and source(s) of funding**
Maintain immunization as a priority and stay vigilant to increasing financial requirements in coming years	Government, WHO, UNICEF, Sabin, Gavi Secretariat	2016 - 2018	PEF
Introduce new technologies to supply chain to improve its efficiency and functionality	Government, WHO and UNICEF	2016 - 2018	PEF, HSS and CCE platform
Maintain current procurement modality in accessing to vaccines at affordable prices; begin building of self-procurement capacity	Government with support from WHO and UNICEF	2016 – 2018	Graduation grant
Sustain programme performance level by investing in quality of	Government, WHO	2016-17	PEF, HSS and Graduation grant

services (training, supervision, monitoring)			
Target introduction of computerized immunization data management systems (by developing immunization and vaccine & supplies stock management modules)	Government, WHO	2016-17	PEF, HSS and CCE platform
Conduct data quality review to be accompanied with capacity building on improving target population estimation and other priority issues	WHO	2016-17	PEF

4.1 Current areas of activities and agency responsibilities

WHO and UNICEF Country Offices:

During Jan 2014-Aug 2015, Uzbekistan received technical assistance from the WHO on the following:

1. Preparatory work for rotavirus vaccine introduction: capacity for health managers, health professionals and vaccination nurses at all levels, revision of reporting and recording forms, including training of updated reporting.
2. National conference on rotavirus vaccine introduction with participation of international experts
3. Technical support and provision of supplies to new vaccine (IBD and Rota) surveillances, including peer review visits by surveillance staff from other countries in the network
4. Technical support and provision of supplies for rotavirus vaccine effectiveness study.
5. Rotavirus vaccine post-introduction evaluation (PIE)
6. Workshop on immunization financing and immunization

7. Capacity building activities for NITAG members through participation in regional meetings
8. Participation in regional technical advisory group and program managers meeting, both from EPI and NITAG side
9. Comprehensive cold chain inventory study
10. Monitoring of implementation of prior recommendations
11. Preparatory work for PCV and IPV vaccines introduction
12. Development of the national plan on bOPV switch
13. Sub-regional workshop on vaccine risk management and risk communication
14. EVM assessment and development of improvement plan (planned for November 2015)
15. Work with NRA and MOH on implementation of expedited licensure of pre-qualified vaccines

During the same period, the country received technical assistance from the UNICEF on the following

16. Facilitation of the vaccine forecast and procurement process;
17. Preparatory work for PCV introduction,
18. Adaptation of WHO's Safe Immunization training modules and approving it as official teaching textbook;
19. Printing of the Safe Immunization textbook
20. ToT in 9 medical universities on Safe Immunization textbook
21. In-service training of 1 000 GPs on Safe Immunization
22. Provision of supplies to the offices of province level EPI managers

Sabin Vaccine Institute

1. Support for advocacy effort to achieve sustainable financing: documenting immunization budget planning and execution processes and assessing sources of immunization financing; mapping stakeholders and developing stakeholder-specific messages related to immunization financing
2. Strengthen immunization legislation: reviewing literature on immunization-related laws and regulations; developing minimum set of legislation provisions (in collaboration with WHO); reviewing immunization-related legislation as needed
3. Establish relations with national counterparts in Parliament, MoH and MoF (2015)

4.2 Future needs

The key future priorities for Uzbekistan as reported by the country in the 2014 APR and redefined during the joint appraisal, are:

Short-term (remainder of 2015):

1. IPV vaccine introduction (revision of regulatory documents, development of training and communication and social mobilization materials, conducting national and regional workshops, trainings of HCWs and academic staff) – being implemented in 2015
2. EVM assessment
3. Support for of cold chain equipment and procurement

Medium- to long-term (2016-2017):

4. Proposal development for Gavi's CCE Platform opportunity
5. TA during switch from tOPV to bOPV
6. Conducting PCV PIE – scheduled for Q4 2016
7. Support for financial planning and management for coming years to ensure sustainability
8. Support to MoH for advocacy and resource mobilization for immunization financing
9. Improve NRA functionality, integrate expedited review of WHO pre-qualified vaccines
10. Strengthen NITAG
11. Improve AEFI surveillance
12. Work on improvement of legislation for immunization and vaccine procurement.
13. Assist country for procurement of new cold chain equipment
14. Provide technical assistance to improve the cold chain system and introduction of new technologies to improve its efficiency.
15. Provide further support on quality of services
16. Support MoH in development of comprehensive national plan on cervical cancer prevention and control, including development and costing of national cervical cancer screening strategy, conducting HPV vaccine cost-effectiveness study, and integration of HPV vaccination with other adolescent health intervention.
17. Engage national counterparts in peer-to-peer, inter-institutional work to review and update existing immunization-related legislation (based on the assessment findings)

Based on above (medium-to-long term) priorities and key recommendations, the technical assistance areas and activities listed below have been proposed. Detailed list of activities for the next two years – 2016/2017 – (that require technical assistance), together with intended outcome/s, indication of the implementing agency (potential provider), modality and potential sources of funding, is provided is provided in Annex D.

<table>
<tr><td>Immunization financing & resource mobilization</td><td>WHO:
Training of key staff on immunization financing and monitoring performance on immunization financing
Training staff on resource mobilization and development of a resource mobilization action plan
Develop advocacy materials for resource mobilization (to communicate benefits of immunization, impact of vaccination, etc.)
Monitor implementation of resource mobilization action plan and report on progress achieved
UNICEF:</td></tr>
</table>

	• Follow up to the results of PFM systems analysis, building capacity at system level to produce/secure better outcomes in MCH, nutrition and immunisation **Sabin Vaccine Institute:** • Develop parliamentary network and engage parliamentarians in immunization advocacy, budget oversight and development immunization-related legislation as needed • Engagement of national institutional counterparts (Parliament, MoH and MoF) with local NGOs and think tanks in joint advocacy activities for immunization financing • Conduct peer exchanges and regional workshop on immunization-related legislation to facilitate the collaboration between national counterparts and their international peers
Vaccine procurement	**UNICEF:** • Conduct external review of vaccine procurement practices to identify areas for improvement for efficiency increase • Continued capacity building in (self) procurement • Conduct orientation workshop on procurement procedures with support of UNICEF SD **WHO:** • Develop national guidelines to facilitate and streamline clearance and regulatory procedures for procurement • Review legislation and budgetary procedures to centralize procurement of all vaccines and supplies
Evidence-based decision-making	**WHO:** • Continued capacity building support to NITAG members (participation in regional meetings, visit to other NITAGs to exchange knowledge and experiences) • Expand disciplines engaged in NITAG (including social & behavioural sciences, health economics) • Develop national communication strategy and plan for HPV vaccine introduction • Conduct a HPV vaccine cost effectiveness study • Conduct a study to investigate possibilities to integrate HPV vaccination with other adolescent health interventions • Development of comprehensive national plan for prevention and control of cervical cancer • Conduct IPV PIE and provide technical assistance in switching to b-OPV • Document impact of rotavirus and pneumococcal vaccines • Provide continued technical assistance and supply support to both new vaccine sentinel surveillance networks **UNICEF:** • KAP Study on Nutrition Practices and Demand and coverage for immunization

Gavi The Vaccine Alliance

Programme performance	**WHO:** • Address false contraindications and hesitation to administer vaccines simultaneously through capacity building activities • Conduct MLM training to rayon level and IIP training to facility level staff (in collaboration with UNICEF) • Assess and revise medical and nursing curricula according to needs of the NIP (in collaboration with UNICEF) • Provide support to implementation of quarterly supportive supervision • Review legal provisions on immunization (scattered in current legislative documents) and advocate for introduction of consolidated provisions through the new public health law in the pipeline, if any. • In country immunization/technical officer to support the program management during critical transition processes (can be housed in the MoH or the Country office)
Data quality	**WHO:** • Conduct (external) data quality review to assess areas for improvement • Conduct capacity building in improving target population estimates • External support to review immunization module of the e-health under design • Provide support to development of analytical functions and data visualization by use information technologies. • Provide support to development of vaccine stock management module. • Provide support to implementation of home-based vaccination cards in line with WHO recommendation. • Provide technical support to introduce electronic immunization registries
Communication & social mobilization	**WHO:** • Conduct communications review • Finalize communication strategy and plan • Finalize vaccine safety risk and crisis communication plan • Provide technical assistance in design and software development and restore /improve immunization website (upgrade software) • Support to development and printing of key communication materials • Support in conducting communication activities, including to key staff (including spokespersons) on communications • Provide in-country training on crisis communication • Provide training to media staff • Develop communication strategy and messages for HPV introduction **UNICEF:** • Community mobilization towards acceptance of new vaccines • Support to development and printing of key communication materials Support in conducting communication activities
Vaccine management & logistics	**WHO:** • Provide technical assistance to institutionalize best vaccine management practices • Perform a cold-chain temperature monitoring study in accordance with WHO guidelines • Perform temperature mapping study of cold rooms • Provide technical assistance to strengthen temperature monitoring in vaccine cold chain and procurement of continuous temperature monitoring devices for critical levels • Provide technical assistance to strengthen immunization logistics information system and data management

<table>
<tr><td></td><td>

- Conduct cold chain inventory review and needs assessment (calculation of cold chain storage capacity required to accommodate and deliver vaccines and supplies).
- Provide support to adopt national policy for vaccine stock management, including safety stock at each level of the chain.
- Provide support to development of a quality management policy.
- Upgrade cold chain infrastructure within the HSS framework and support for application to Gavi's CCE platform.
- Provide support to revision and update of multi-dose vial policy for all relevant vaccines.
- Provide support to development of standardized supervisory tools and SOPs for each level.

UNICEF:

- Facilitate the process of procurement of cold chain devices in the framework of HSS implementation (and potentially via CCE platform)

</td></tr>
<tr><td>Vaccine regulations & AEFI surveillance system</td><td>

WHO:

- Introduce market authorization procedures for programme vaccines
- Introduce expedited review procedures for registration of WHO pre-qualified vaccines
- Strengthen national capacity through inter-country platforms (sub-regional workshops)
- Conduct assessment of the AEFI surveillance system;
- Revise AEFI surveillance system in line with assessment recommendations
- Update the national AEFI surveillance guidance and tools according to WHO recommendations (including roles, responsibilities, reporting, definitions, data standards, forms)
- Establish a national independent committee for AEFI causality assessment;
- Familiarize health staff with WHO recommendations on AEFI surveillance system (through a sub-regional workshop)
- Train key field staff on revised procedures
- Provide TA to establish an AEFI electronic database to facilitate notification, access to and use of case based data

UNICEF:

- Advocate for soonest adoption expedited review procedures for registration of WHO pre-qualified vaccines

</td></tr>
</table>

Gavi
The Vaccine Alliance

5. ENDORSEMENT BY ICC, HSCC OR EQUIVALENT & ADDITIONAL COMMENTS

Briefing to MoH took place on 22nd September in Tashkent with participation of mission members (WHO EURO, UNICEF SD, Sabin Institute and Gavi Secretariat) and MoH members, RCSESS, and key members of ICC and chaired by the Deputy Minister of Health. Mission findings were highly appreciated and welcomed by the members. Key discussions revolved around the financial planning and increased co-financing payments coming years, cold chain concerns due to delays of disbursement of HSS funds. The country reiterated their request of sending funds for cold chain equipment under the HSS directly to UNICEF SD (with no intermediary). The country also reiterated their desire to further postpone HPV introduction to 2017 as there is no cold chain capacity to introduce the vaccine. The officials also indicated their desire to apply CCE Platform once the application guidelines are available.
Any additional comments from · Ministry of Health: · Partners: · Gavi Senior Country Manager:

6. ANNEXES

Annex A. Key data

Uzbekistan

Total population (2015)	29,709,932
Birth cohort (2015)	617,148
Surviving Infants (surviving to 1 year per year, 2015)	591,121
Infant mortality rate (deaths < 1 year per 1000 births, 2013)	37/1000
Child mortality rate (deaths < 5 years per 1000 births, 2013)	43/1000
World Bank Index, IDA (2012)	3.36
Gross Nation Income (per capita US$, 2013)	1,880
Co-financing status (2015)	Graduating
No. of districts/territories (2014)	196

Type of support	Approvals 2001-2020 (US$) (30 Jun 2015)	Commitments 2001-2020 (US$) (30 Jun 2015)	Disbursements 2000-2015 (US$) (30 Jun 2015)	% Disbursed (30 Jun 2015)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Health system strengthening (HSS 1)	$7,379,710	$17,218,480																■	■	■	■	■
HepB mono (NVS)	$4,358,659	$4,358,659	$4,358,659	100%	■	■	■	■	■	■	■											
HPV (NVS)		$2,788,000		N/A																■		
Immunisation services support (ISS)				N/A																		
Injection safety support (INS)	$727,012	$727,012	$727,012	100%		■	■	■	■													
IPV (NVS)	$2,472,500	$3,663,000	$1,031,170	42%															■	■	■	
Penta (NVS)	$29,690,057	$29,690,057	$30,607,548	103%									■	■	■	■	■	■	■			
Pneumo (NVS)	$4,845,500	$4,845,500	$8,304,585	171%															■			
Rotavirus (NVS)	$4,809,500	$4,809,500	$4,436,630	92%														■	■			
Vaccine Introduction Grant (VIG)	$2,353,500	$2,353,500	$1,298,500	55%	■							■					■		■			
Total	**$56,636,438**	**$70,453,708**	**$50,764,104**																			

- **Annex B. Status of implementation of the key actions from the last joint appraisal and any additional High Level Review Panel (HLRP) recommendations**

Key actions from the last appraisal or additional HLRP recommendations	Current status of implementation
The Government is encouraged to engage civil society partners in ICC leadership and oversight.	The program management structure, particularly for HSS funds will be reviewed during conclusion of Financial Management Assessment and requirements. This issue will be reviewed. There is very limited involvement of CSOs in the health sector in Uzbekistan, however, MOH consider inviting Save the Children Korea to the ICC/HSCC that works in the urban areas in Uzbekistan.
In light of the new vaccine introductions the country needs to ensure that EVM improvements and logistics improvements indicated in new HSS are implemented in timely fashion.	HSS funds are yet to be disbursed. As indicated in the HSS section of this report, the country is eligible for CCE Platform and will apply for further funding to improve the cold chain and logistics.
A graduation assessment was conducted in September 2013 by GAVI and partners. Below is the summary of findings and recommendations. The graduation plan has been agreed with the country. As per November 2013, GAVI board decision the plan will need to be re-visited and costed in line with the revised GAVI graduation policy.	The new graduation assessment is conducted in conjunction with JA mission and graduation plan information is part of this JA report.

Gavi
The Vaccine Alliance

Annex C. Description of joint appraisal process

Three processes (the Joint Appraisal, as well as GAVI graduation and national regulatory assessment) were conducted jointly and simultaneously, from 14th to 23rd September 2015. Joint Appraisal was built upon information submitted in 2014 APR, financial and other background documentation. In this perspective, the main objective of the mission was to assess the conditions of continuous performance of the Uzbekistan immunization program.

Main institutions and persons visited:

- **Ministry of Health of Uzbekistan** (Deputy Minister of Health, , the national EPI team, Finance - Forecast - Procurement Division)
- **Cabinet of Ministers** (Department of Social Services)
- **Republican Center for State Sanitary Epidemiological Surveillance** (RCSESS)
- **Directorate for Pharmaceuticals and Medical Equipment Quality Control** (NRA)
- **Ministry of Finance of Uzbekistan** (Department of Health Services)
- **Supreme Assembly (Oliy Majlis) of Uzbekistan** (Social Services Committee)
- **UNICEF Country Office**
- **World Bank Country Office**
- **WHO Country Office**

Discussions and technical meeting with people and organisations listed above took place during the combined Joint Appraisal and Graduation Assessment mission. The findings of these discussions, as well as the recommendations and proposed activities to be implemented through the Graduation Action Plan and Joint Appraisal technical assistance, have been presented to the MoH, ICC members, and WHO and UNICEF country representatives. The draft Joint Appraisal report has also been circulated to all relevant stakeholders, and feedback received was incorporated in the final version of the report.

Annex D.
Technical Assistance

Technical Assistance 2016-17					
Programme component (or strategy)	**Activity (that requires TA)**	**Intended outcome/s**	**Provider (potential)**	**Modality**	**Source of funding**
Immunization financing & resource mobilization	Training of key staff on immunization financing and monitoring performance on immunization financing Training staff on resource mobilization and development of a resource mobilization action plan Develop advocacy materials for resource mobilization (to communicate benefits of immunization, impact of vaccination, etc.) Monitor implementation of resource mobilization action plan and report on progress achieved	Increased country capacity Plans to be used for improved immunization financing	WHO	In-country TA	PEF
	Follow up to the results of PFM systems analysis, building capacity at system level to produce/secure better outcomes in MCH, nutrition and immunisation	Increased country capacity for monitoring	UNICEF	In-country TA	PEF

Technical Assistance 2016-17					
Programme component (or strategy)	**Activity (that requires TA)**	**Intended outcome/s**	**Provider (potential)**	**Modality**	**Source of funding**
	Develop parliamentary network and engage parliamentarians in immunization advocacy, budget oversight and development immunization-related legislation as needed Engagement of national institutional counterparts (Parliament, MoH and MoF) with local NGOs and think tanks in joint advocacy activities for immunization financing Conduct peer exchanges and regional workshop on immunization-related legislation to facilitate the collaboration between national counterparts and their international peers	Improved engagement for immunization financing at government levels	Sabin Institute	In country TA and regional meetings	Secretariat funding
Vaccine procurement	Conduct external review of vaccine procurement practices to identify areas for improvement for efficiency increase Continued capacity building in (self) procurement Conduct orientation workshop on procurement	Improved procurement practices and increased country capacity	UNICEF	In-country TA	PEF

Technical Assistance 2016-17					
Programme component (or strategy)	**Activity (that requires TA)**	**Intended outcome/s**	**Provider (potential)**	**Modality**	**Source of funding**
	procedures with support of UNICEF SD				
	Develop national guidelines to facilitate and streamline clearance and regulatory procedures for procurement Review legislation and budgetary procedures to centralize procurement of all vaccines and supplies	Improved procurement processes	WHO	In-country TA	PEF
Evidence-based decision-making	NITAG Support HPV introduction support and studies IPV introduction and switch IPV PIE Rota and PCV impact studies Support for sentinel surveillance	Improved decision making capacity in the country Successful introduction and implementation of HPV vaccine Successful implementation of IPV Improved surveillance and information better decision making	WHO	In-country TA	PEF

Technical Assistance 2016-17					
Programme component (or strategy)	**Activity (that requires TA)**	**Intended outcome/s**	**Provider (potential)**	**Modality**	**Source of funding**
	KAP Study on Nutrition Practices and Demand and coverage for immunization	Information for planning and measuring activities	UNICEF	In-country TA	UNICEF
Programme performance	Address false contraindications and hesitation to administer vaccines simultaneously through capacity building activities Conduct qualitative study to better understand reasons for vaccine refusals and hesitancy and tailor immunization programme according to needs of un- and under-vaccinated Conduct MLM training to rayon level and IIP training to facility level staff Assess and revise medical and nursing curricula according to needs of the NIP Provide support to implementation of quarterly supportive supervision Review legal provisions on immunization (scattered in current legislative documents) and advocate for introduction of consolidated provisions through the new public health law in the pipeline, if any.	Improved in country immunization program capacity Reduces drop-out rates Improved program management capacity Improved immunization data and monitoring Improved legislation and processes for immunization program	WHO	In country TA	PEF/HSS

Technical Assistance 2016-17					
Programme component (or strategy)	**Activity (that requires TA)**	**Intended outcome/s**	**Provider (potential)**	**Modality**	**Source of funding**
	In country immunization/technical officer to support the program management during critical transition processes	Increase country capacity and continuous technical support to day to day implementation			
Data Quality	Conduct (external) data quality review to assess areas for improvement Conduct capacity building in improving target population estimates External support to review immunization module of the e-health under design Provide support to development of analytical functions and data visualization by use information technologies. Provide support to development of vaccine stock management module. Provide support to implementation of home-based vaccination cards in	Data quality improved Improved data quality, forecasting and vaccine management Improved and publicly accessable website for immunization Improved immunization data managements Better vaccine stock management Improved immunization data recording and monitoring	WHO	In country TA	PEF/HSS PEF PEF PEF/HSS PEF/HSS PEF/HSS

Technical Assistance 2016-17					
Programme component (or strategy)	**Activity (that requires TA)**	**Intended outcome/s**	**Provider (potential)**	**Modality**	**Source of funding**
	line with WHO recommendation. Provide technical support to introduce electronic immunization registries	Improved data management			PEF/HSS
Communication & social mobilization	Conduct communications review Finalize communication strategy and plan Finalize vaccine safety risk and crisis communication plan Provide technical assistance in design and software development and restore /improve immunization website (upgrade software) Support to development and printing of key communication materials Support in conducting communication activities, including to key staff (including spokespersons) on communications Provide in-country training on crisis communication	Report on immunization communication Improved communication for immunization program Improved and publicly accessible immunization website Increased country capacity on immunization communication	WHO	In-country TA	PEF PEF PEF PEF/HSS PEF/HSS PEF/HSS

Technical Assistance 2016-17					
Programme component (or strategy)	**Activity (that requires TA)**	**Intended outcome/s**	**Provider (potential)**	**Modality**	**Source of funding**
	Provide training to media staff Develop communication strategy and messages for HPV introduction Community mobilization towards acceptance of new vaccines Support to development and printing of key communication materials Support in conducting communication activities	Successful HPV introduction Improved public awareness and demand for vaccines	UNICEF		PEF HPV VIG PEF PEF/VIG PEF/VIG
Vaccine management & logistics	Provide technical assistance to institutionalize best vaccine management practices Perform a cold-chain temperature monitoring study in accordance with WHO guidelines Perform temperature mapping study of cold rooms Provide technical assistance to	Increased country capacity on vaccine management and logistics Improved cold chain and performance at all levels	WHO	In-country TA	PEF/HSS PEF/HSS PEF/HSS PEF/HSS

Technical Assistance 2016-17					
Programme component (or strategy)	**Activity (that requires TA)**	**Intended outcome/s**	**Provider (potential)**	**Modality**	**Source of funding**
	strengthen temperature monitoring in vaccine cold chain and procurement of continuous temperature monitoring devices for critical levels Provide technical assistance to strengthen immunization logistics information system and data management Conduct cold chain inventory review and needs assessment (calculation of cold chain storage capacity required to accommodate and deliver vaccines and supplies). Provide support to adopt national policy for vaccine stock management, including safety stock at each level of the chain. Provide support to development of a quality management policy. Upgrade cold chain infrastructure within the HSS framework	Improved vaccine stock management at all levels Increased vaccine management capacity in the country Improved cold chain facilities			PEF/HSS PEF/HSS PEF/HSS PEF/HSS PEF/HSS

Technical Assistance 2016-17					
Programme component (or strategy)	**Activity (that requires TA)**	**Intended outcome/s**	**Provider (potential)**	**Modality**	**Source of funding**
	and support for application to Gavi's CCE platform. Provide support to revision and update of multi-dose vial policy for all relevant vaccines. Provide support to development of standardized supervisory tools and SOPs for each level. Facilitate the process of procurement of cold chain devices in the framework of HSS implementation (and potentially via CCE platform)	Successful CCEP application Implementation of open vial policy improved for all vaccines Strengthened vaccine management and logistics performance monitoring Improved procurement capacity and adoption of good procurement practices	UNICEF		PEF PEF/HSS HSS
Vaccine regulations & AEFI surveillance system	Introduce market authorization procedures for programme vaccines Introduce expedited review procedures for registration of WHO pre-qualified vaccines Strengthen national capacity through inter-country platforms (sub-regional workshops)	Introduced efficiencies for vaccine procurement Improved country capacity for vaccine procurement	WHO	In-country TA and regional workshop	PEF/HSS

Technical Assistance 2016-17					
Programme component (or strategy)	**Activity (that requires TA)**	**Intended outcome/s**	**Provider (potential)**	**Modality**	**Source of funding**
	Conduct assessment of the AEFI surveillance system; Revise AEFI surveillance system in line with assessment recommendations Update the national AEFI surveillance guidance and tools according to WHO recommendations (including roles, responsibilities, reporting, definitions, data standards, forms) Establish a national independent committee for AEFI causality assessment; Familiarize health staff with WHO recommendations on AEFI surveillance system (through a sub-regional workshop) Train key field staff on revised procedures Provide TA to establish an AEFI electronic database to facilitate notification, access to and use of case based data	Improved capacity for AEFI surveillance and improved case reporting, monitoring and management			
	Advocate for soonest adoption expedited review procedures for registration of WHO pre-qualified vaccines	Improved vaccine procurement processes	UNICEF	In-country TA	PEF

Annex E. HSS grant overview

General information on the HSS grant - Uzbekistan							
1. HSS grant approval date			28/05/2014				
2. Date of reprogramming approved by IRC, if any			N/A				
3. Total grant amount (US$)			17,218,480				
4. Grant duration			2014 - 2018				
5. Implementation year			month/year – month/year				
(US$)	**2014**	**2015**	**2016**	**2017**	**2018**		
6. Grant approved as per Decision Letter	4,099,880	3,279,830					
7. Disbursement of tranches							
8. Annual expenditure							
9. Delays in implementation (yes/no), with reasons			Yes – the FMA is not concluded				
10. Previous HSS grants (duration and amount approved)			N/A				
11. List HSS grant objectives Objective #1: Increase performance and sustainability of immunization services. Objective #2: Improve management of PHC services. Objective #3: Increase demand on preventive and MCH services. Objective #4: Strengthen data collection and reporting for MCH services.							
12. Amount and scope of reprogramming (if relevant) N/A							

Gavi
The Vaccine Alliance

Annex F. Best practices (OPTIONAL)

Annex G . References

Ahmedov M, Azimov R, Mutalova Z, Huseynov S, Tsoyi E and Rechel B. Uzbekistan: Health System Review. *Health Systems in Transition*, 2014, 16(5):1–137.

World Bank website: http://www.worldbank.org/en/country/uzbekistan/overview

BBC News: http://www.bbc.com/news/world-asia-16218116

Annex G. Graduation Assessment De-briefing Presentation (23 September 2015)

De-briefing on

Graduation assessment and action plan development

14-23 September 2015, Uzbekistan

WHO Europe
UNICEF Supply Division
Sabin Institute
GAVI Secretariat

1 |

Mission Members

Niyazi Cakmak (WHO Europe)
Shahin Huseynov (WHO Europe)
Oleg Benes (WHO Europe)
Maria Skarphedinsdottir (WHO Europe)
Louisa Stuwe (WHO Europe - Consultant)
Allira Attwill (WHO Europe – Consultant)
Aleksandra Krukar (UNICEF Supply Division)
Eka Paatashvili (Sabin Institute)
Nilgun Aydogan (GAVI Secretatriat)

WHO Vaccines Regulation Team
Lahouari Belgharbi (WHO Headquarters)
Alireza Khadem (WHO Headquarters)
Dorina Pirgari (WHO Europe – consultant)
Sergey Glagolev (WHO Headquarters – consultant)

2 |

Gavi The Vaccine Alliance

GAVI Graduating Country Assessment and Action Plan Development

The purpose of the mission is to;

- identify **financial and programmatic challenges** faced in Uzbekistan, due graduation from GAVI support,
- provide **recommendations to sustain immunization program achievements** following graduation from GAVI support and,
- develop an **action plan** (costed and funded) **to implement the provided recommendations**.

❖ **Jointly conducted with Joint Appraisal & National Regulatory Authority assessment**

3 | World Health Organization

Process for Development of Action Plan

- Assessment conducted in September 2013
- Review of documents, reports and programme data
- Meetings with:
  - Ministry of Health (Directorate for State Sanitary-Epidemiological Surveillance; Finance-Economic)
  - Republican Center for State Sanitary Epidemiological Surveillance (RCSES)
  - Directorate for Pharmaceuticals and Medical Equipment Quality Control (NRA)
  - Ministry of Finance
  - Cabinet of Ministers
  - Supreme Assembly (Parliament - Health Committee)
  - In-country partners (WHO; UNICEF; World Bank)

4 | World Health Organization

The Vaccine Alliance

General Observations - Strengths

- Strong political commitment to and prioritization of the national immunization programme
- Equitable access to vaccines – free of charge vaccinations provided by public services
- Most of essential functions of the NIP are in place and kept centralized
- National Immunization Technical Advisory Group (NITAG) established
- Sustained polio-free status and, significant progress toward measles and rubella elimination goal
- Sustained efficiency through procuring UNICEF (significant savings)
- Successful expansion of the Programme (currently with 11 antigens, soon with PCV and HPV antigens)
- Strong collaboration with partners

5 |

General Observations - Challenges

- Future financial requirements for the Programme require intensified and effective communication to all decision-makers (stakeholders)
- Private immunization services pose a threat to equitable access
- Vaccine management at national, provincial, district and facility level requires significant improvement (prior to introduction of HPV)
- Procurement of supplies (syringes & safety boxes) require full centralization
- Further upgrade and expansion of e-health (disease surveillance) system is required by adding immunization and vaccine & supply stock management module, so benefits to immunization programme are maximized
- Critical operations of the NIP being underfunded and dependent on decreasing donor support (training, supervision, monitoring, surveillance)
- Collaborative procedures (expedited review) for registration of WHO prequalified vaccine is not in place
- ➢ Recommendations will be provided under specific programme components

6 |

Gavi The Vaccine Alliance

Immunization financing & resource mobilization - Strengths

- Separate budget item exists for vaccines & supplies
- Calculation of vaccine resource requirements in place
  - Benefiting from annual updates (vaccines x annual need x estimated price/co-payment)
- Vaccine resource requirements are communicated to budgetary process of MoH (including MTEF process) and earmarked till 2018
  - With significant increase (13,6 B SUM for 2015; 45,9 B SUM for 2018)
- Disbursement of allocated funds is almost timely and complete
- Immunization (and its financing) seen as a priority
  - Increasing share of the MoH budget is allocated for vaccines
    - **0.21** % in 2011; **0.25** % in 2015; **0.59** % in 2018
- All vaccines funded by the Government, except GAVI support

7 | World Health Organization

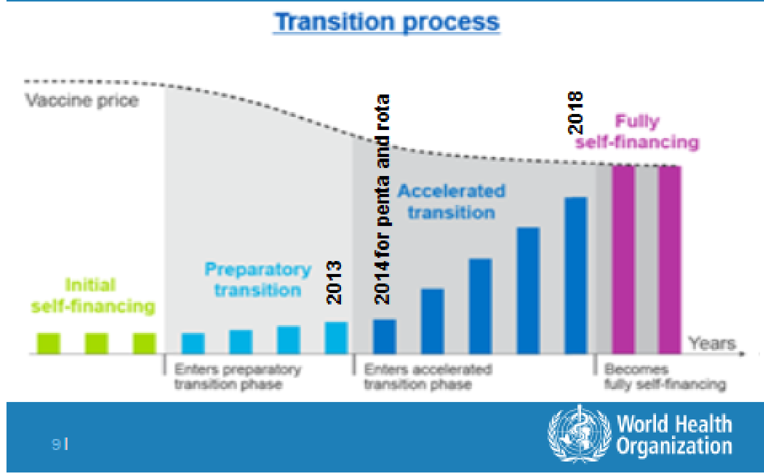
Budget allocated for & expenditures on Vaccines & Supplies (in billion SUM – million $)

Years	Vaccines budget (in SUM – US$)		% of central MoH budget	Central MoH budget (in SUM – US$)	
2011	4.7	$ 2.74	0.21 %	2195.9	$ 1279.6
2012	5.2	$ 2.75	0.19 %	2723.3	$ 1440.5
2013	5.6	$ 2.67	0.16 %	3511.3	$ 1672.6
2014	7.2	$ 3.11	0.17 %	4206.9	$ 1817.4
2015	13.6	$ 5.40	0.25 %	5430.2	$ 2143.1
2016	20.4	$ 7.23	0.31 %	6516.2	$ 2310.2
2017	30.6	$ 9.82	0.39 %	7819.5	$ 2510.0
2018	45.9	$ 13.34	0.59 %	9383.4	$ 2727.1

8 | World Health Organization

Gavi The Vaccine Alliance

Country co-financing throughout Gavi transition process



Immunization financing & resource mob. – Challenges & recommendations - 1

- Lack of common understanding on increasing future country co-financing requirements
  - Informing of and building consensus among decision-makers – (Alliance advocacy)

Years / Vaccines	2015	2016	2017	2018	2019	2020
Penta	$ 0.63 $ 1,292,500	$ 0.78 $ 1,604,500	$ 0.93 $ 1,891,019	$ 1.09 $ 2,182,431	*($ 1.25)	
Rota	$ 0.68 $ 889,500	$ 1.06 $ 1,401,000	$ 1.44 $ 1,790,196	$ 1.82 $ 2,242,701	*($ 2,20)	
PCV	$ 0.20 $ 243,000	$ 0.79 $ 1,583,500	$ 1.38 $ 2,728,058	$ 1.96 $ 3,772,440	$ 2.55 $ 4,848,737	*($ 3,15)
HPV		$ 0.20 $ 123,000	$ 0.95 $ 1,159,124	$ 1.70 $ 2,047,227	$ 2.45 $ 2,945,662	$ 3.20 $ 3,872,730
Total co-financing	$ 2,425,000	$ 4,712,000	$ 7,568,397	$10,244,799	$ 7,794,399	$ 3,872,730

(*) Values in paranthesis are projected prices after graduation. Projected price for HPV is $ 3.95.

10 I

World Health Organization

Gavi The Vaccine Alliance

Immunization financing & resource mob. – Challenges & recommendations -2

- Vaccine budget reflected in MTEF for 2016-2018 do not meet full annual need – initial calculations indicate up to 10% deficit (establishment of buffer stock not included)
  - Recalculate needs precisely during cMYP update in late 2015 and reflect the revised figures to budgetary process
  - Increase efficient use of resource through centralization procurement of all vaccines and supplies
  - Improve timely disbursement of funds (in first quarter) to allow timely transfer of funds to UNICEF
- Vaccine budget will require additional funding in case of unexpected currency devaluation (higher currency exchange rate than used) and/or any other changes in inputs (i.e., procurement modality, vaccine prices, etc)
  - Revise budgetary requirements according to changing inputs and communicate revised budgetary figures – (WHO TA)
- Communicated and reflected vaccine resource requirements (and budget) require sustained commitment
  - Train relevant staff for resource mobilization – (WHO TA)
  - Develop resource mobilization plan – (WHO TA)
  - Develop advocacy materials for resource mobilization and advocate for immunization – (WHO TA)
- Operational activities of the Programme is heavily under funded
  - Make use of Health System Strengthening support and graduation grant to fill the gap in the short term
  - Advocate for increased funding for operational activities

11 | World Health Organization

Vaccine procurement - Strengths

- Benefiting from procurement through UNICEF- efficient use of resources (recommendation of 2013 assessment)
- Eligible to access GAVI prices another 5 years after graduation (2019-2023)
- National procurement capacity exists and system functional
  - For purchase of non-Programme vaccines (for epidemiological indications)
- Use of WHO prequalified vaccines is a condition in self-procurement

12 | World Health Organization

Vaccine procurement– Challenges & recommendations

- Government's current commitment to procure vaccines through UNICEF Supply Division may be vulnerable to potential changes
  - Continued advocacy on benefits of procuring through UNICEF to sustain commitment (WHO & UNICEF TA)
- Centralize procurement of all vaccines and supplies to improve efficient use of available resources
  - Revise legislation and budgetary procedures to centralize procurement of vaccines & supplies
- Alignment of national procurement and accounting procedures with of UNICEF's process
  - Increased and continued collaboration with UNICEF to find solutions to problems – (UNICEF TA)
- Lengthy clearance procedures and unnecessary regulatory procedures
  - Develop national guidelines to facilitate and streamline procedures – (WHO & UNICEF TA)
- Self procurement of non-programme vaccines (that are not available in Supply Division's portfolio) require strengthened procurement capacity to improve its efficiency
  - Continue building capacities in procurement, by improving the knowledge on vaccine market dynamics, how vaccine prices evolve, measures that increase procurement efficiency; such as long-term contracting - (UNICEF TA)
  - Review vaccine procurement practices and identify areas for improvement- (WHO TA)

13 I

Evidence-based decision-making - Strengths

- Functional national immunization technical advisory group (NITAG).
  - Established in March 2012 and revised in 2015
  - Chaired and populated with leading and reputable specialists
  - Includes disciplines of epidemiology, pediatrics, immunino logy, virology, infectious diseases, neuropathology, finance & budgeting, vaccines regulation and programme management
  - Members participated to trainings and WHO meetings
  - Meeting at least on quarterly basis
- HPV introduction decision is supported by studies
  - Cost-effectiveness study
  - School vaccination readiness study
- Comprehensive approach in preventing cervical cancer is followed
  - Plan has been developed
- Both rotavirus and invasive bacterial disease surveillance are in place
  - Sentinel sites are functional

14 I

Evidence-based decision-making – Challenges & recommendations

- NITAG members require continuous update on programme policies and strategies
  - Continued WHO support (in disseminating guidance and providing training, participation to WHO meetings, visit to other NITAGs, experts attending to NITAG meetings, twinning) & review of the NITAG performance – WHO TA
- NITAG terms of reference requires further clarification
  - Ministry of Health may wish to consider revising legislative basis in line with WHO recommendations
  - Review of NITAG legislative basis and performance – (WHO TA)
- NITAG composition lacks some disciplines
  - Ministry of Health may wish to consider adding members from communications, social & behavioral sciences, health economics (and regional representation, if neded)
- Sustainability of both new vaccine surveillance systems (after graduation from GAVI support) should be considered
  - Ministry of Health should gradually take over the external financial support provided by WHO

15 I

Programme performance & data quality - Strengths

- Significantly high reported coverage against all vaccines, 99% for all antigens
  - Reported coverage is validated by WHO/UNICEF coverage estimates
  - Vaccine-preventable disease surveillance also validates high vaccination coverage
- Also equitable coverage achieved at district level
  - 196 out of 196 districts with more than 90% coverage with third dose of DTP vaccine
  - 196 out of 196 districts with more than 95% coverage with first dose of MMR vaccine
- Rotavirus vaccine has been successfully introduced in June 2014
  - Annualized coverage for 2014 is at same level with other vaccines
- Similar preparedness is conducted for introduction of PCV
- Surveys show no gender inequity
- Good history of supportive supervision and training activities
- Reporting system is in place and functional
- Computerized disease surveillance reporting system is an opportunity for the Programme, to build upon and add an immunization module

16 I

Programme performance – Challenges & recommendations

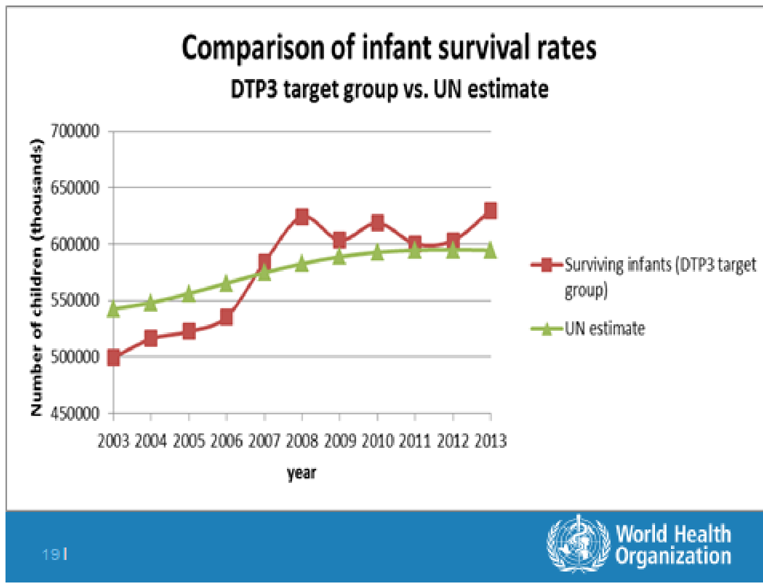
- Remaining challenge is/may be delayed vaccinations (most probably due to false contraindications)
  - Requires further efforts to improve timeliness of vaccinations (by eliminating false contraindications) – (WHO TA)
    - Assessing timeliness of vaccinations and identification of barriers – (WHO TA)
    - Development of guidelines to complete interrupted and delayed vaccinations (for all vaccines) – (WHO TA)
    - Extending trainings to specialists – (WHO TA)
  - Continue providing training to provincial, district and health facility immunization staff
    - Mid-level management training – (WHO TA; +financial support)
    - Immunization in Practice training – (WHO TA; financial support)
  - Further strengthening of supportive supervision through introduction of SOPs (improved guidance) and restructured checklists – (WHO TA)
  - Intensify quarterly supportive supervision with particular emphasis to health facilities – (WHO TA; +financial support)
  - Improve home-based vaccination cards in line with WHO recommendations – (WHO TA; +financial support)
  - Continue working on revision of medical and nursing curricula and provide training materials to medical and nursing schools – (WHO TA)

17 I

Data quality – Challenges & recommendations

- Despite achieved recent improvements, particularly immunization data is still challenged with target population estimates
  - Data quality review in 2016, to assess bottlenecks and areas for improvement – (WHO TA)
  - Technical assistance to improve target population estimates – (WHO TA)
- Programme performance monitoring requires computerization (by building upon current computerization initiatives through HSS support)
  - Develop a software for performance monitoring (form #6) – (WHO TA)
  - Procurement of hardware – (WHO TA)
  - Improve analytical functions and data visualization by use of information technologies – (WHO TA)
  - Development of vaccine stock management module (system design and software development – (WHO TA)
  - Train national, provincial and district level staff – (WHO TA)

18 I



Communications & social mobilization - Strengths

- Communication is seen as a critical function in informing related stakeholders
- Communication plans have been developed for new vaccines introduced
- Crisis communication plan exists
- Key programme staff received training on communications
- Ministry of Health immunization webpage exists

20 | World Health Organization

Gavi
The Vaccine Alliance

Communications & social mobilization – Challenges & recommendations

- Immunization Programme lacks a communications plan
  - Conduct communications review – WHO TA
  - Provide technical assistance in development of communication plan – WHO TA
  - Conduct further (in-country) trainings to key staff (including spokespersons) on communications – WHO TA
- Media staff requires better understanding on immunization
  - Provide training to media staff (WHO TA)
- Programme requires additional support to enable continuity of key communication materials and communication activities
  - Supporting the Programme in developing and printing key communication materials (WHO TA)
  - Support the Programme (financially) in conducting communication activities (WHO TA)
- Immunization website requires further improvement
  - Provide technical assistance in design and software support – (UNICEF/WHO TA)

21 I

Vaccine management & logistics - Strengths

- Effective Vaccine Management (EVM) assessment conducted in 2012, with an improvement plan
- Comprehensive cold chain inventory (defining needs) conducted
- Vaccine stock level data collected through monthly immunization reports
- Service agreements with private pharmaceutical companies to address cold chain capacity, in case needed
- Supportive supervision in place, with defined frequency of visits and supervisory tools (from national to district level)
- Cold chain infrastructure needs are included to GAVI Health System Strengthening plan
- GAVI Cold Chain Enhancement Platform is another future opportunity for further strengthening the cold chain capacity

22 I

Vaccine management & logistics – Challenges & recommendations (1)

- Cold chain storage capacity is not sufficient due to recently introduced new vaccines (more to come)
  - Calculate the cold chain storage capacity (including equipment and vehicles) required to accommodate and deliver vaccines and supplies (including the ones to be introduced – (WHO TA)
  - Update the cold chain requirements listed in the HSS plan (based on cold chain inventory and upcoming EVM assessment in Nov 2015 – (WHO TA)
  - Develop a proposal for GAVI Cold Chain Enhancement Platform to address further needs (particularly at delivery level) – (WHO TA)
- Stock management needs further improvement (particularly due to limited capacity)
  - Adopt national policy for vaccine stock management, including safety stock at each level of the chain – (WHO TA)
- Lack of established quality management system
  - Develop a quality management policy (defining responsibilities and tasks and, providing guidance through adoption of SOPs for each level) – (WHO TA)
- Cold chain maintenance mechanism has not been established yet
  - Develop a feasible, efficient and functional cold chain maintenance and repair mechanism – (WHO TA)

23 |

Vaccine management & logistics – Challenges & recommendations (2)

- Continuous temperature monitoring is not implemented
  - Purchase and install electronic computerized temperature monitoring devices – (UNICEF TA)
  - Train staff to implement continuous temperature monitoring at national, provincial and district levels (if possible extend its use to critical health facilities) (WHO TA)
- Frequent power cuts at district and facility level and extreme temperatures in summer time
  - Purchase and install continuous power supply sources equipment – (UNICEF TA)
  - Purchase supply chain equipment using solar energy for sites systematically affected – (UNICEF)
- WHO multi-dose vial policy has limited in-country implementation (in maternity clinics)
  - Revise and update multi-dose vial policy in line with WHO recommendations (legislative documents and training materials) and apply to all relevant vaccines – (WHO TA)
- Lack of institutionalized training programme on immunization and vaccine management
  - Develop a national training programme on vaccine management. (WHO TA)
  - Train staff involved in vaccine management, particularly district and facility staff – (WHO TA)
- Lack of standardized supervisory tools and guidance
  - Develop standardized supervisory tools and SOPs for each level – (WHO TA)

24 |

Gavi
The Vaccine Alliance

AEFI surveillance system – Strengths

- AEFI surveillance system is in place
  - Legislative basis exists
  - Reporting forms in place
  - Case investigations conducted
  - Notification (immediate & routine) system is in place
- Adverse events are reported to the national level (mild adverse events reported each year, but no serious cases)
- NRA assessment is conducted currently (from 21 to 23 September) to validate self-assessment conducted in October 2013
  - Further findings and recommendations expected in the upcoming institutional development plan

25 |

World Health Organization

AEFI surveillance system – Challenges & recommendations

- AEFI surveillance system requires update in line with WHO recommendations (legislation; case definitions; reporting forms; case investigation; filtering cases to be reported; expert review committee & causality assessment; data analysis; feedback)
  - Familiarize staff to WHO recommendations on AEFI surveillance system by participate to the sub-regional workshop - (WHO TA)
  - Conduct AEFI surveillance system assessment to identify areas that require further improvement - (WHO TA)
  - Revise the AEFI surveillance system in line with the findings & recommendations of the assessment - (WHO TA)
  - Train key field staff on revised procedures (make use of upcoming MLM and IIP trainings)
  - Establish and train expert review committee members on causality assessment - (WHO TA)
  - Engage NRA to the AEFI surveillance system (data analysis and feedback functions)
  - Introduce collaborative procedures (expedited review) for registration of WHO prequalified vaccines - (WHO TA)

26 |

World Health Organization

Gavi The Vaccine Alliance

Summary of key considerations & recommendations

- Sustain equitable access to vaccines through free of charge public services
- Stay vigilant to increasing financial requirements in coming years, due to increasing country co-payment for vaccines
- Maintain current procurement modality in accessing to vaccines at affordable prices
- Centralize procurement of all vaccines and supplies to increase efficient use of resource through increased economies of scale
- Introduce new technologies to supply chain to improve its efficiency and functionality – make use of opportunities
- Facilitate registration of vaccine (through introduction of collaborative procedures for registration of prequalified vaccines, but till introduction use waiver mechanism)
- Do not miss opportunity of introducing HPV (local evidence for disease burden & cost-effectiveness, operational readiness)

27 I

Next Steps

1. The graduation action plan (2016-2018) will be finalized in line with the recommendations provided and shared with the MoH following ongoing NRA assessment (21-23 September).
2. Endorsement of the Plan required by the ICC and an official communication should be sent to GAVI Secretariat by the MoH requesting funding for the Plan.
3. Graduation grant will be channeled through WHO and UNICEF country offices to support implementation of activities. (Partnership Framework Agreement is already signed). Technical assistance will be provided by partners in implementing the action plan.
4. Implementation of the plan will be monitored on semi-annual basis (by in-country partners, WHO Regional Office and GAVI Secretariat) and aligned with joint appraisals (on annual basis), where the plan could be updated, if required.

28 I

We (as the Mission Team) would like to extend our appreciation and thanks to all the people who have dedicated their time to meet and work with us.

The experience has been very informative and we hope we have reflected today the considered views and opinions expressed to us by your staff.

We all look forward to working with you in the future to achieving our mutual goals.

Uzbekistan Graduation Action Plan (2016 – 2018)

Areas of work:

1. Immunization financing & resource mobilization (financial sustainability)
2. Vaccine procurement
3. Evidence-based decision-making
4. Programme performance (coverage & equity)
5. Data quality
6. Communications & social mobilization
7. Vaccine management & logistics (supply chain)
8. Vaccines regulation & AEFI surveillance

Gavi The Vaccine Alliance

Uzbekistan Graduation Action Plan (2016 – 2018)

Structure:

- Areas of work – Strategies – Activities (to operationalize recommendations)
- Year and cost of activity
- Implementation: responsible agency – supportive agency
- Deliverables and deadlines for each activity
- External support, if required
- Funding source: Government; Programme Partners' Business Plan; Graduation Grant; Health System Strengthening support; (+Supply Chain Enhancement Platform).

31 | World Health Organization