Gavi 2020 multi-stakeholder dialogue: immunisation planning in light of Covid-19

Introduction

Uzbekistan benefited support since Gavi's inception and introduced Hep B, Hib vaccines. The country has not utilized Gavi's cash support such as ISS or HSS in early years. The country introduced PCV, Rota, IPV and most recently HPV (October 2019) with support from Gavi. As the country entered in accelerated transition phase, Uzbekistan applied and was approved for HSS and CCEOP support to strengthen immunization program sustainability. These grants are further strengthened with annual PEF TCA and Transition Grant by aligning the technical assistance with emerging needs, and ongoing HSS, PBF and HSS Additional Support.

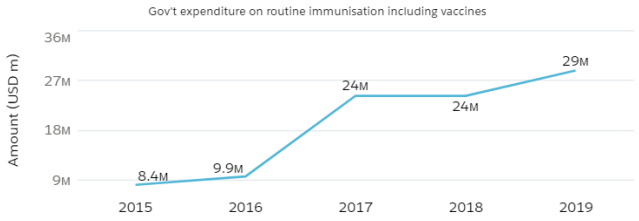
1. Country situation pre-Covid-19, based on information received by Gavi

Contextual Information

PEF Tier: Tier 3	Fragility Status: Non-fragile	3. Accelerated transition

Indicator Name	Year	Source	Value
GNI per capita	2019	World Bank	1,800
Nurses/Midwives per 1000 population	2014	WHO - GHO	113
Population	2020	UNPD	33,469,199
Surviving Infants	2020	UNPD	664,069
Under-5 mortality (per 1000)	2018	UNICEF	21

Health financing (and trends)



1.1. Overview of performance of vaccine support (end of 2019/early 2020; pre-Covid-19)

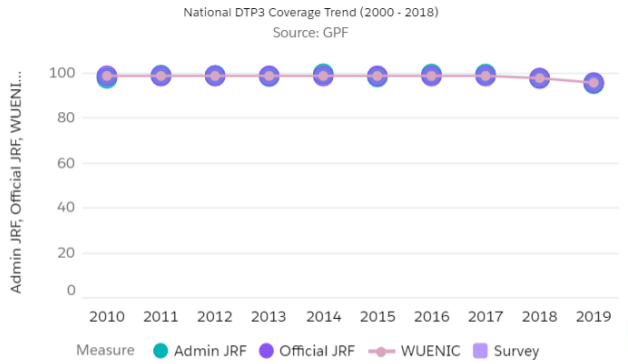
Vaccine	Introduction Date	2017 Coverage (%)	2018 Coverage (%)	2019 Target
PENTA	03-2009	99	98	95
ROTA	06-2014	99	84	-
PNEUMO	11-2015	99	96	95
IPV	04-2018	-	56	95
HPV	10-2019	-	-	-

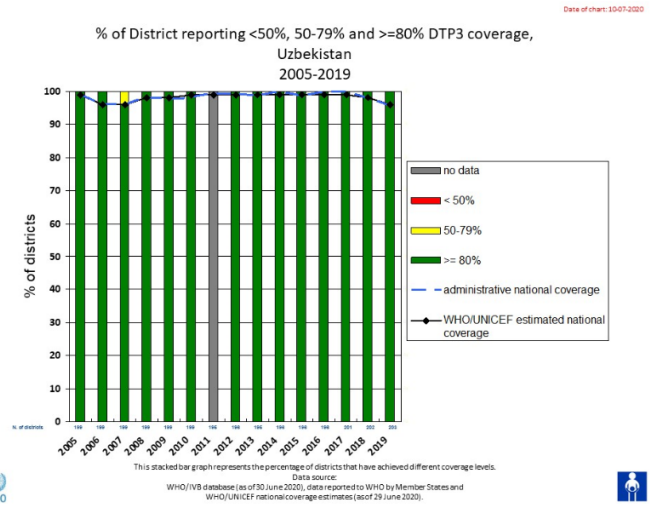
Vaccine Name	Type	Sub-Type	Status	CP Date ↑	Phase
IPV	Campaign	Catch-up	Planned	2021-03-31	NA
MR	Campaign	Follow-up	Forecasted	2021-12-31	NA
HPV	Campaign	MAC	Approved	2024-09-30	NA

Performance against Alliance KPIs

Indicator	Source Name	Year	Value	Previous Value	Trend
Measles containing vaccine (second dose) coverage at the national level (MCV2)	WUENIC	2019	99	99	→
Pentavalent 3 coverage at the national level (Penta 3)	WUENIC	2019	96	98	▼
Drop-out rate between Penta1 and Penta3	WUENIC	2018	1	0	▼
Difference in Penta3 coverage between children of urban and rural residences	Survey	2005	-5.7	0	▲
Difference in Penta3 coverage between the highest and lowest wealth quintiles	Survey	2018	0	0	→
Penta3 coverage difference between the children of educated and uneducated mothers/care-takers	Survey	2018	0	0	→
EVM	EVM	2015	71.7	86.4	▼
# of Underimmunised Children	Calculated	2019	24790.48	12563.3	▼

Trends and district equity





Progress against indicators and targets achievement

	Process Indicators			Intermediate Results		
	Indicator name	**Value**	**Rel. % change**	**Indicator name**	**Value**	**Rel. % change**
OBJ-1	Number of trained immunisation service providers	4295	↑, 25%	Percentage of districts with adequate and functional cold chain capacity	99	NA
	Percentage of PHC facilities using optimized data registration and reporting forms	NA	NA			
OBJ-2	Number of facilities that received documented supportive supervision	1112	↑, 790%	Percentage of supervised facilities with satisfactory performance	84	↑, 5%
	Number of oblast level expert teams trained in AEFI causality assessment and vaccine crisis communication	NA	NA			
OBJ-3	Number of GPs trained in false contraindications and AEFI surveillance	NA	NA	Increase in parents' knowledge about vaccination	NA	NA
	Percent of activities from action plan conducted annually	71	↑, 96%	Percentage of regions having IEC communication plans with material for implementation as per KAP recommendations	7	NA
OBJ-4	Percent of districts' cold chain facilities with installed hardware for vLMIS	0	NA	Percentage of district cold chain stores with improved stock management	0	NA

Relative % change refers to the percentage increase/decrease of the reported value from the year prior.
Value cell color is green if target has been >= 90% met, yellow if 70-90% met, and red < 70% met. There is no color when no target reported in GPF.

1.2. **Overview of HSS grant implementation** (end of 2019/early 2020; pre-Covid-19)

HSS implementation summary (as of October 6, 2020)

Recipient	Grant Amount	Funds Disbursed	Expenditure	Country cash balance
WHO (Core grant)*	3,453,475	3,453,475	1,946,490	1,506,985
UNICEF (Core grant)	12,491,066	11,841,785	9,636,900.21	2,204,884.79
WHO (Additional funds)*	1,594,706	1,594,706	325,304	1,269,402
UNICEF (Additional funds)**	3,456,000	3,456,000	253,628.28	3,202,371.72
Total	20,995,247	20,345,966		

*WHO portion of HSS US$ 70,000 and US$100,000 of HSS Additional Funds reprogrammed for Covid 19 response
** UNICEF portion of US$ 170,000 HSS Additional funds reprogrammed for Covid 19 response

HSS key milestones achieved in 2019

*Structured based on grant objectives or GPF indicators (**graph prepopulated by the CMM team**)*

1.3. Overview of other Gavi support, such as VIGs, OPS, PBF, switch grants, transition grants etc. (as of October 2020)

			In US$				
	Start Date	End Date	Grant Value	Disbursed	Expenditure	Cash balance	Status Update
WHO (PBF2)		31.12.2021	607,974				
UNICEF (PBF1)	20.08.2019	31.12.2021	2,067,698	1,635,698	796,183.14	839,514.86	On-going
WHO (TG)	01.03.2018	31.12.2021	338,410	338,410	257,018	131,392	In progress, 120,000 will be reallocated to next year
UNICEF (TG)	01.03.2018	31.12.2021	217,620	217,620	159,351.58*	42,148.42	On-going, balance will be re-allocated to 2021 to complete activities
VIG HPV (UNICEF)	27.11.2018	31.12.2020	427,580	427,580	427,580	0.00	Completed
VIG HPV (WHO)	01.01.2019	31.12.2020	334,669	334,669	310,217	24,452	Implementation on-going

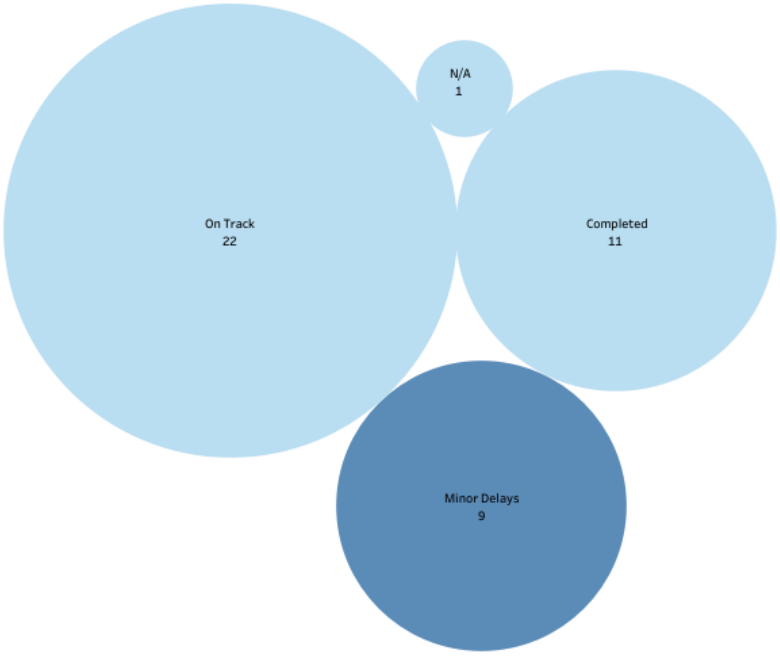
*US$ 32,500 has been reprogrammed and utilized for Covid 19 response.

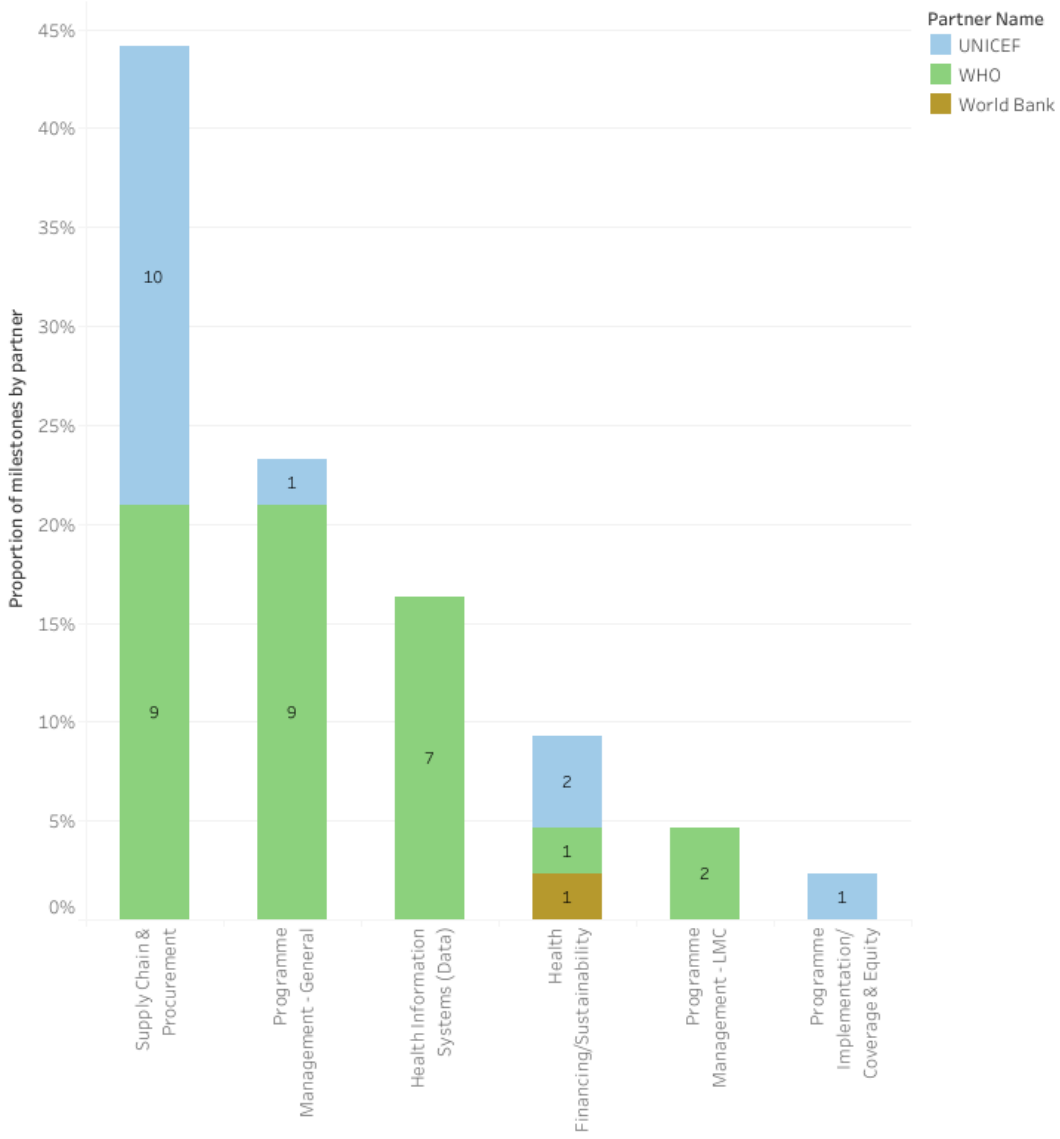
1.4. Compliance, absorption and other fiduciary risk matters

- The HSS funding absorption for UNICEF is high. The HSS core funding absorption is more than 80%. HSS Additional funding absorption level for UNICEF looks minimal however, with on going tenders and commitments these funds will be utilised soon.
- For WHO HSS fund absorption has been around 60%. This is due to the delays experienced with training activities and consultancies.
- HPV VIG utilization is 100% for UNICEF and 92% for WHO.
- Transition Grant utilization is about 75% for both UNICEF and WHO.
- PBF1 utilization is about 50% for UNICEF and PBF 2 for WHO is yet to be disbursed.
- The country receives no cash as per Financial Management Assessment outcomes, all cash grants managed by WHO and UNICEF. The country did not have any new financial assessment as they are in the last year of transition period.
- Compliance with programmatic reporting requirements (GPF): Compliant

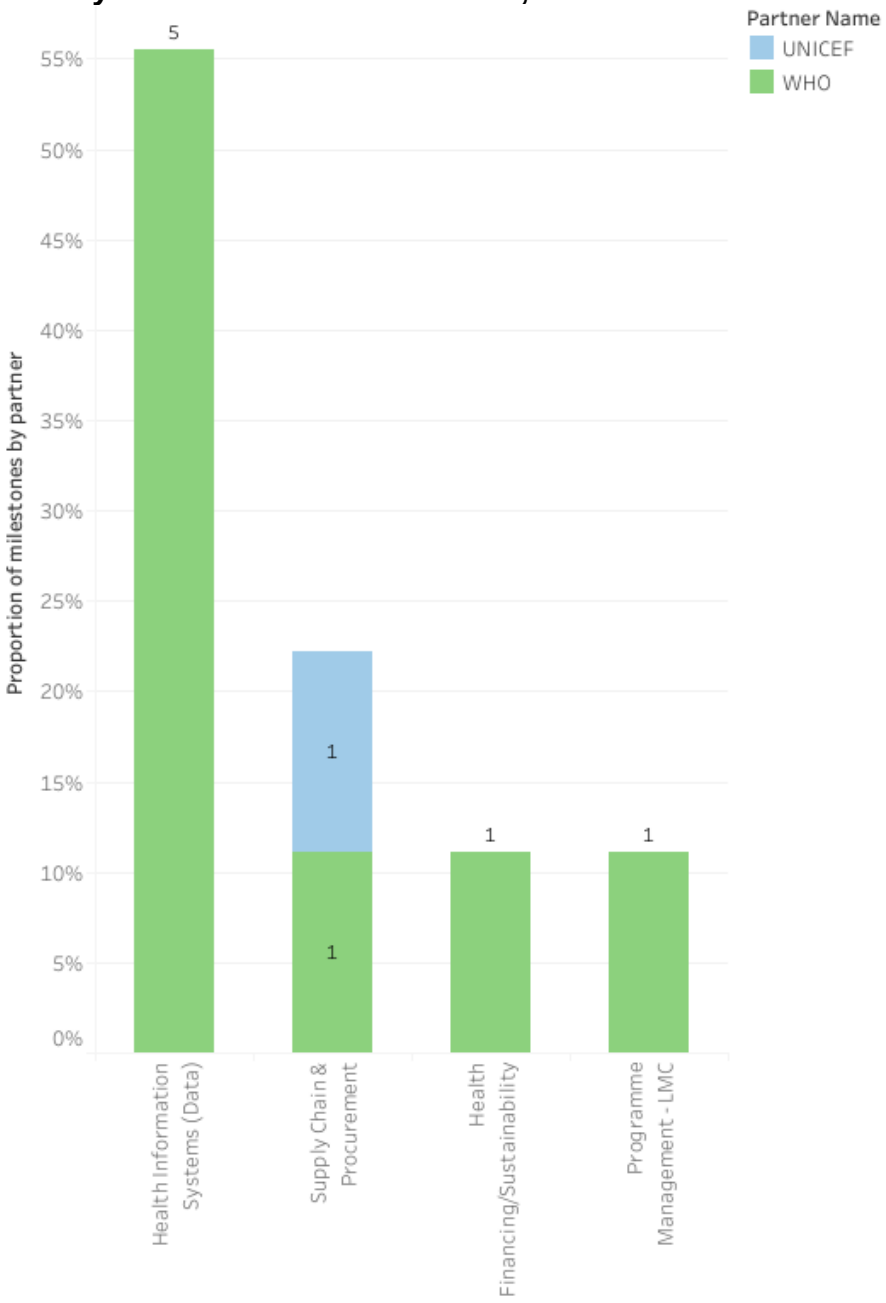
1.5. Overview of PEF TCA progress

Overall milestones for PEF TCA, June 2019 – June 2020





Delayed milestones for PEF TCA, June 2019 – June 2020



Summary of implementation of the TCA plan

WHO

- *Cold chain temperature monitoring study* - completed
- *Temperature mapping study* – On track - Temperature mapping conducted at nine regional stores in UZB during Q3-2019-Q1-2020. Findings and recommendations discussed at a national workshop and national immunization conference. Temperature mapping in 5 more regions to be conducted by the end of 2020, pending completion of the installation of equipment.
- *TA to support implementing computerized remote temperature monitoring systems at national and sub-national vaccine store* -Minor delays- Implementation of the original activity was dependent on

procurement of equipment by UNICEF which has been delayed as there is a dependency to completion of the construction of the national cold store. These are further impacted by Covid 19 restrictions. UNICEF SD and the Country Office are committed to complete the activities when infrastructure is in place.

- *The re-programmed activity*: A system to monitor and respond to temperature alarms at all levels of the immunization supply chain is established with the aim to address the documented widespread exposure of vaccines to unsafe temperatures across various levels of the immunization supply chain, identified during temperature monitoring and mapping studies conducted in Q3 & Q4-2019.
- *TA to support developing technical requirements for the web-based cold chain management system* - On track.
- *Capacity at sub-national level strengthened to improve quality of cold chain system*. Technical requirements for the web-based cold chain management system drafted. Finalization pending results from national tender for ILMS conducted by UNICEF.
- *CCEOP Follow up:* Follow up missions with national counterparts and stakeholders conducted in April and Nov 2019 to review the progress and support planning. Activities delayed due to Covid 19.
- *TA to support AEFI surveillance data management* (minor delays) ToT training was scheduled in May, however completion of the activity is delayed due to Covid-19 pandemic. Reporting against achievement of milestones will be reported in Nov 2020 prior to extended deadline.
- *Support towards implementation of the findings from the data quality review* and *Support better defining the population estimates used for coverage calculation*. These activities are from 2019 TCA and were reprogrammed for measles outbreak support. However, reprogrammed activity could not be implemented in 2020 due to Covid 19. The funding will be returned to the Gavi unless the government to discuss and request for the reprogrammed activity to be re-considered for implementation.
- *Continued support to rotavirus surveillance* – Activity completion is delayed due to Covid-19 pandemic. The sentinel site for rotavirus surveillance in Tashkent suspended cases enrollment in February and resume activities in March, but only for the specimen collection (no epidemiological data collected).
- *Monitoring of Grant Performance and Immunization Programme Performance*: Completion of the activity is delayed due to Covid-19 pandemic.
- *Monitoring, coordination and facilitation of HSS plan implementation*: This includes staff costs for partners. Some of the funds reprogrammed for PPEs to be used for HSS and other activities implementation.
- *Annual update and documentation of vaccine expenditures and vaccine resource requirement projections to be used as an input for continued resource mobilization efforts.* Implementation of TA delayed due to Covid-19 pandemic.

UNICEF

- *Technical support in Operational deployment Plan development and CCEOP implementation*. Completed
- *Development of 3-year budget plan including cold chain equipment maintenance plan based on vaccine procurement budgeting tool*. Partially completed. Budget for vaccines was calculated using vaccine budgeting and forecasting tool by the Ministry of Health, the ASEW and the Ministry of Finance. Final calculations were submitted by the Ministry of Health to the Ministry of Finance for planning of Health budget for 2021.
- *Institutionalization of Supply chain strategy and action plan by established National Logistic Group*: Delayed due to the Covid 19 pandemic. The consultant is on board and will start working with the partners remotely. Country visit will be conducted when it is possible.

- *Institutionalization of Cold Chain maintenance plan through development and endorsement of strategic action plan.* Completed. The general cold chain equipment maintenance plan is endorsed and by the government through development of SOP to include key recommendations.
- *Introduce Supply chain strategy components into medical curricula*. Completed. The Supply and cold chain management training courses were introduced to the in-service medical curricula, the work to be continued in 2020 by introducing these components to the curricula of public health colleges.

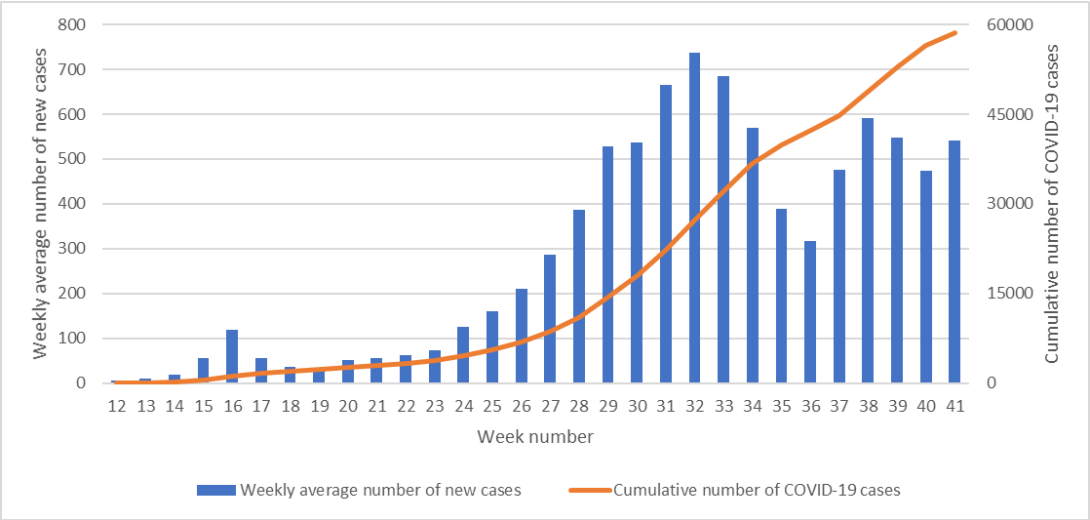
2. Covid-19 impact on immunisation (in 2020): current situation

2.1 Covid-19 cases and deaths (as of October 6, 2020)

By mid-March Europe became the epi-center of the Covid 19 which led to nation-wide interruption of services in Uzbekistan along with other countries. Schools, colleges & universities closed by 15 March and the state of emergency was declared on the 16 March. First Covid-19 case in Uzbekistan was reported officially on the 15 March.

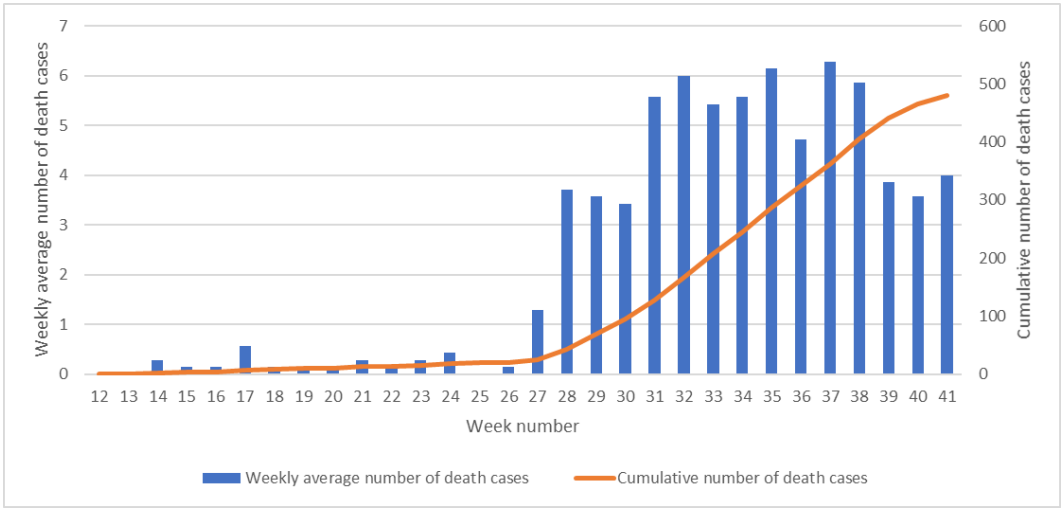
As of October 6, Covid 19 information provided is as follows[1]:

Total Cases: 59,443
Total Recovered: 56,165
Daily new cases: 365
Total Deaths: 489



Graph 1 : Number of Covid-19 cases in Uzbekistan, October 2020 (reported by the country)

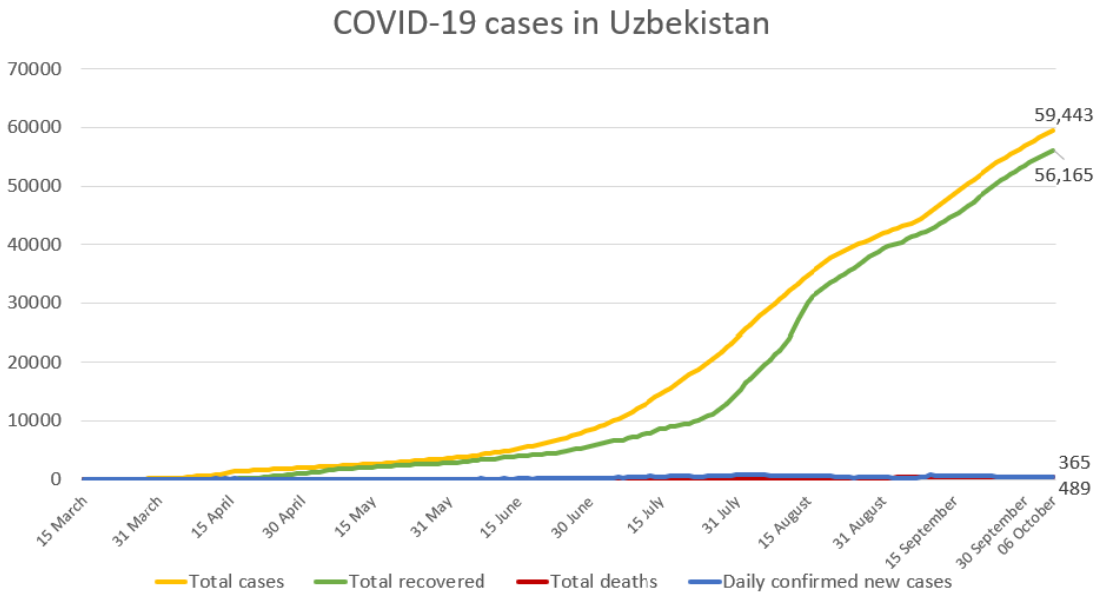
[1] At the time of the MSD discussion the number of cases increased to 69,397 with 591 deaths.



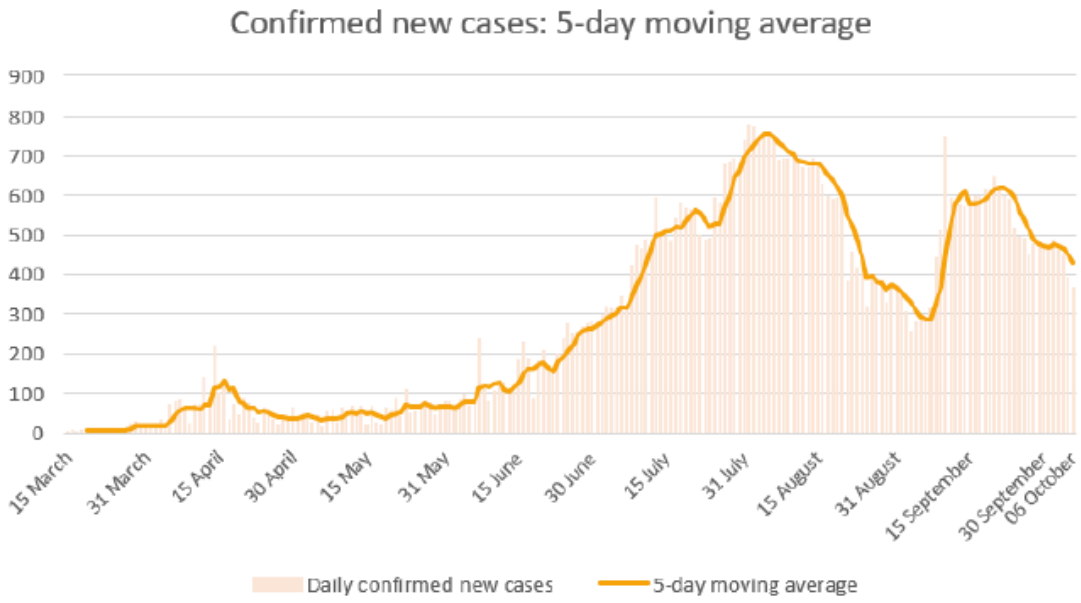
Graph 2: Number of Covid-19 related death cases in Uzbekistan, October 2020 (reported by the country)

Stay-home measures extended by mid-April. These measures had impact on the health service provision including the immunization services.

In the initial days of the pandemic, health service providers were shifted to respond to the pandemic. Health facilities and services suspended in some locations starting from April 2019.

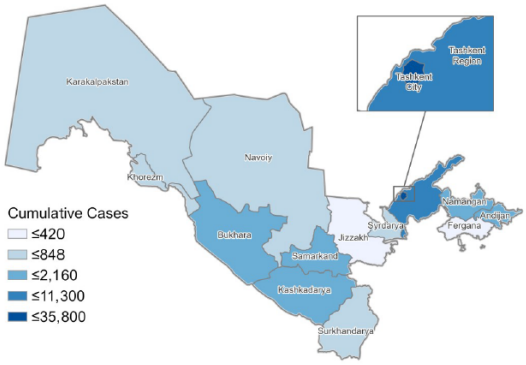


Graph 3: WHO, Sitrep October 6, 2020 (by Month)



Graph 4: WHO, Sitrep October 6, 2020

Cumulative cases by regions as of 6 October:	
Tashkent City: 35,767 (+180)	Syrdarya: 848
Tashkent region: 11,298 (+96)	Surkhandarya: 755 (+6)
Samarkand: 2160	Khorezm: 590
Namangan: 2001 (+30)	Karakalpakstan: 585 (+10)
Andijan: 1621 (+13)	Navoiy: 570 (+5)
Kashkadarya: 1213 (+5)	Fergana: 420 (+5)
Bukhara: 1204	Jizzakh: 411 (+15)

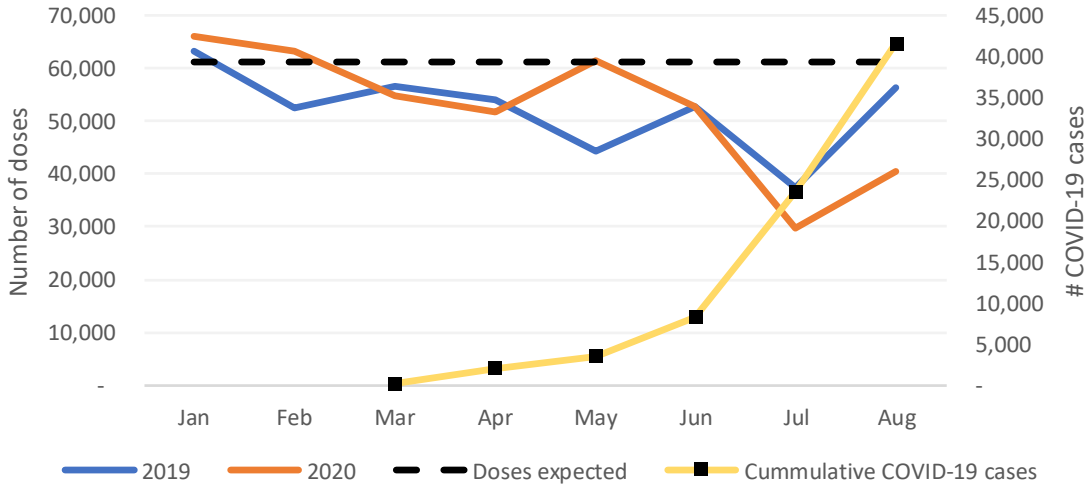


Of the cases confirmed, majority concentrated in Tashkent City, and surrounding Tashkent region where the population density is high. As of October 6, 2,789 cases are being treated in medical institutions whom more than 160 are in critical condition and more than 300 are in serious condition. As the flu season starting, Uzbekistan is purchasing over 1 million doses of influenza vaccines to be provided for risk groups including teachers. To-date 250,000 influenza vaccine doses have been distributed nation-wide.

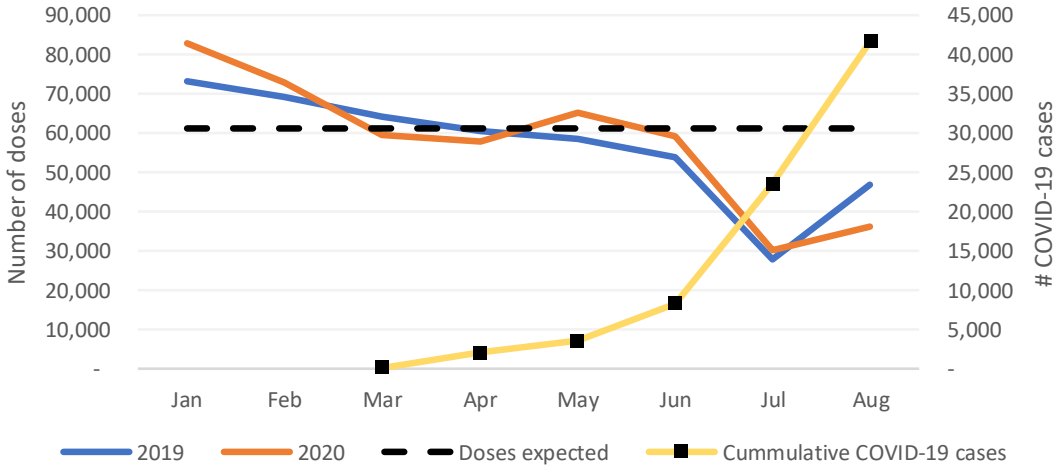
In October, WHO in cooperation with regional and global levels, will organize an orientation exercise for the Joint External Evaluation of the International Health Regulations implementation in Uzbekistan. This exercise will systematically analyze country's readiness and preparedness for future outbreaks like Covid 19.

2.2 Disease Surveillance and Incidence

During the stay-home period DTP1 and DTP3 vaccine implementation decreased, but as the measures lifted in mid-summer the numbers started to increase. Comparison of figures from year 2019 indicate that the impact of Covid-19 to DTP has been minimal and the country is on its way of recovery (pls see Graph 5 and 6). It should be noted that historically summer months immunization services show higher trend due to geographic conditions of the country. Therefore, the impact of Covid 19 in the spring 2020 has been nominal, with growing trend in doses administered in later months.

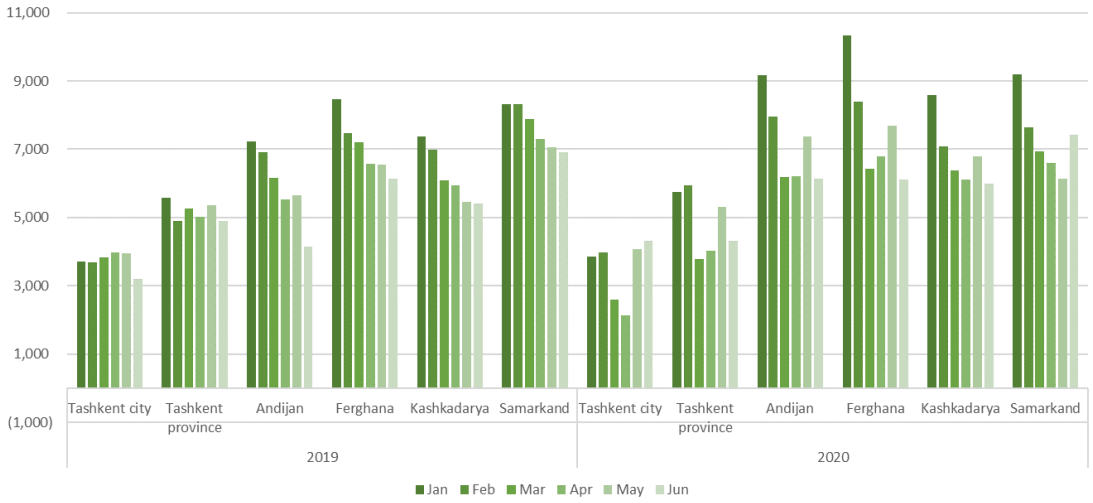


Graph 5: Reported **DTP1** doses administered and Covid-19 cases by month, Uzbekistan, 2019-2020 (Aug), WHO (reported by the country on request)



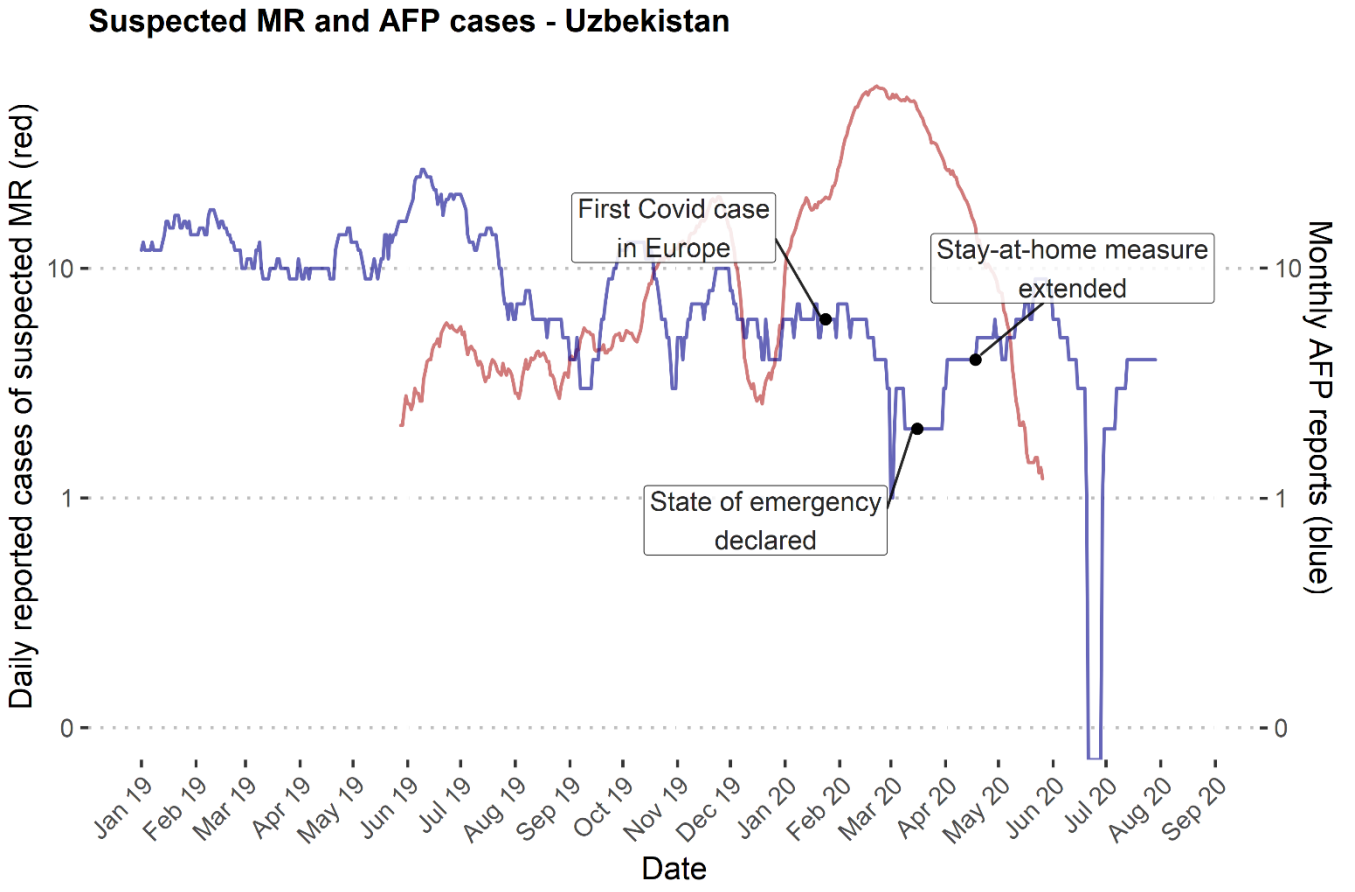
Graph 6: Reported **DTP3** doses administered and Covid-19 cases by month, Uzbekistan, 2019-2020 (Aug), WHO (reported by the country on request)

However, there is impact on bigger cities in terms of DTP dose administration such as Tashkent city, Tashkent province, and Samarkand.



Graph 7: Reported **DTP3** doses administered in selected provinces* by month, Uzbekistan, 2019-2020, WHO (Reported by the country on request)

Similar trends in MR and AFP case surveillance are observed and the case reporting increased in summer months for MR and AFP (see Graph 8).



Graph 8: Suspected MR and AFP cases (country reports)

Historically, routine vaccination coverage with measles and rubella containing vaccines in Uzbekistan is high (see Table 1 below).

Surviving infants		2014	2015	2016	2017	2018	2019
MCV1	Total no. vaccinated	647,078	680,447	702,399	695,765	683,754	697,067
	% coverage (admin)	95.5	95,7	95,9	94,4	94,1	97,5

	% coverage (WUENIC)*	99	99	99	99	96	98
	% coverage (survey)	n/a	n/a	n/a	n/a	n/a	n/a
MCV2	Total no. vaccinated	595,385	598,629	584,602	592,328	620,299	658,907
	% coverage (admin)	94.8	94,5	94,3	95,9	95,9	95,4
	% coverage (WUENIC)*	99	99	99	99	99	99
	% coverage (survey)	n/a	n/a	n/a	n/a	n/a	n/a

Table 1

Measles surveillance data is available from the national case-based surveillance system. Also, Uzbekistan presents annual updates on the status of measles and rubella elimination to the European regional commission for certification of measles and rubella elimination and reports case-based information to the European centralized information system for infectious diseases (CISID).

Surveillance sensitivity and geographic representativeness well beyond the targets (below) predominantly due to low rate of suspected cases with specimens collected for laboratory investigation. Laboratory investigation of suspected measles and rubella cases is being performed in the only one accredited by WHO national laboratory in Tashkent.

Measles surveillance sensitivity and representativeness

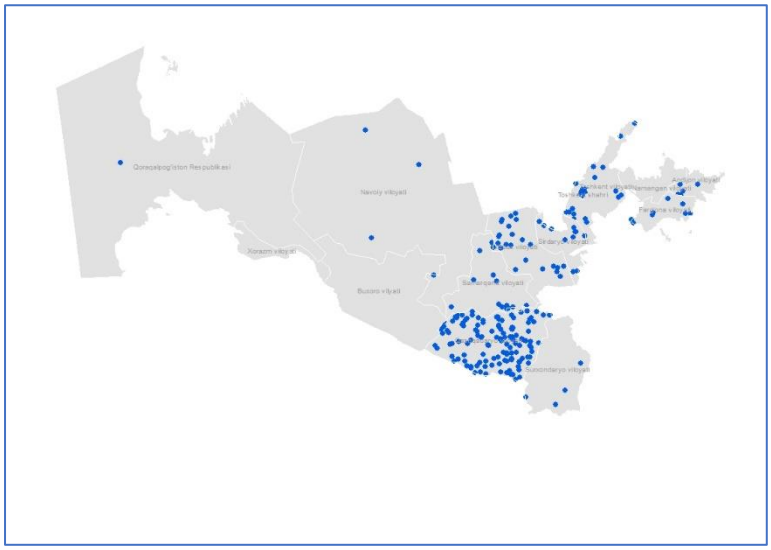
Measles	2015	2016	2017	2018	2019
Surveillance sensitivity*	0.11	0.25	0.5	0.4	1.05
Geographic representativeness**	0.0	0.0	0.0	7.1%	14,3%

Table 2

*Rate of discarded cases: The rate of suspected measles or rubella cases investigated and discarded as non-measles or non-rubella cases using laboratory testing in a proficient laboratory and/or epidemiological linkage to another confirmed disease. Target >2/100 000 population

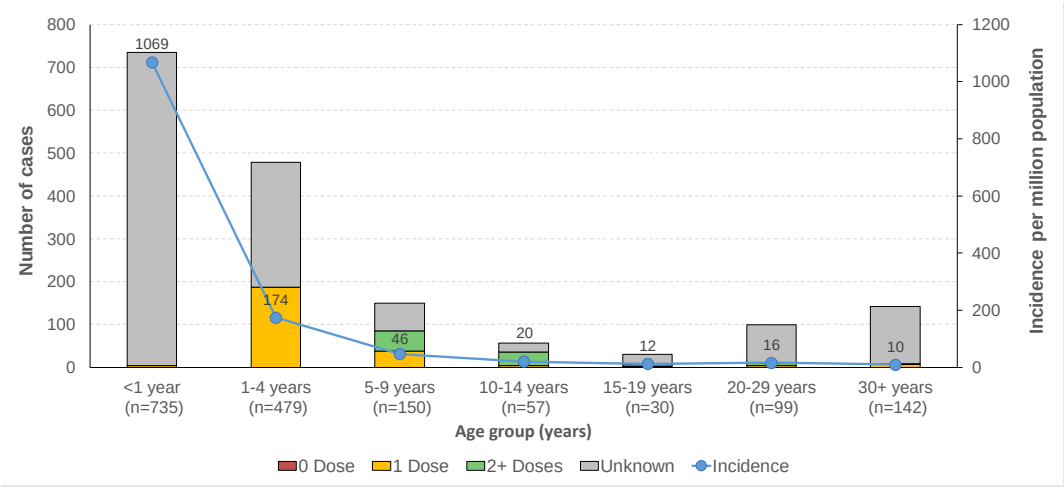
**Representativeness of reporting discarded cases: Percentage of subnational administrative territories (e.g. at the province level or its administrative equivalent) reporting the rate of discarded cases >2/100 000 population per year. Target >80%.

During the first quarter of 2020, the case-based MR surveillance system detected a relative increase in measles cases in all regions of Uzbekistan. However, there was a marked decrease in the rate of case confirmation using laboratory or epidemiological linkage. Increased reliance on clinical case confirmation suggests reduced capacity of the surveillance system to conduct high-quality case investigation.



Uzbekistan did not conduct any measles SIAs since 2011. Along with high coverage and high quality of SIA had long term impact in the country. However, there has been increase of cases particularly in the southern regions where population density and migration are high (including Tashkent City and Region). Most cases of measles reported in 2019 were children less than 12 months of age (n=735, 43,4%), followed by children 1-4 years of age (n=479, 28,3%) and 5-9 years of age (n=150, 8,9). The age-specific incidence rate ranged in this groups from 106,9 (<12 months of age) to 17,4 (1-4 years) and 4,6 (5-9 years) per 100 000 children of

the respective group. Vaccination status for the most of reported cases (80.1%) is unknown, although children <12 months of age supposed to be unvaccinated; in other age groups only one third had a record of one or two doses of MCV.



Graph 9. Measles incidences per age group

About 80% of all measles cases reported in 2018-January 2020 are those who was born after SIA in 2011 (please see above Graph 9). This identifies clearly the age group with insufficient immunity to be addressed by a campaign (12 – 83 months at least), thereby pointing to certain problems with routine immunization performance such as timeliness of vaccination administration, drop outs and missed opportunities due to false contraindications used by the health providers.

Preliminary impact of Covid-19 on immunization services in Uzbekistan was assessed by the WHO via mapping exercise in April 2020. At that time, immunization services were not disrupted and remained ongoing, no vaccine stock-outs reported, and VPD surveillance continued. Some immunization staff only at the national level have been repurposed to Covid-19 response. As indicated previously, a systematic analysis of the impact of pandemic on essential health services is planned and its findings will feed the implementation of SIA activities.

2.3 Impact of Covid-19 on immunisation

As per UN Consolidated Multilateral COVID-19 Socio-Economic Response & Recovery Offer[2], the pandemic has impact to economy. Due to restrictions such as border closures, the remittances fall sharply, affecting low-income households which might increase the poverty in the country. Despite large increase in gold export, there is substantial decline in exports such as gas and tourism which will impact the GDP for 2020. It is anticipated that there will be moderate but higher inflation rates for 2020 and potentially for 2021. However, the Government making efforts to keep the food prices lower which helps the lower income groups in particular.

Measures to contain and eradicate the virus, and provide rapid assistance to firms and households, have led to an unexpected surge in government spending at a time when revenues are low. The disruption in global financial markets has severely constrained the Government's ability to raise financing. The economic impact of the crisis and the cost of anti-crisis measures have created an unanticipated budget financing gap in 2020 and have widened the medium-term deficit. As a result, the budget balance is

[2] UN Consolidated Multilateral COVID-19 Socio-Economic Response & Recovery Offer, developed in cooperation with ADB, EBRD, IFC, IsDB, World Bank, FAO, ILO, IOM, ITC, OHCHR, UNAIDS, UNCTAD, UNDP, UNECE, UNESCAP, UNESCO, UNFPA, UNHCR, UNICEF, UNODC, WHO, May 2020

now projected to be in deficit by 4 percent of GDP. This is 2.7 percentage points of GDP higher than the deficit projected in the approved government budget, and 4.4 percent higher than projected in June 2019. These estimates are based on the COVID-19 containment measures announced so far, but could significantly worsen with further and more prolonged disruption. The post-COVID-19 economic outlook remains vulnerable to downside risks, including deeper and more prolonged (than anticipated) health and economic crises from the COVID-19 outbreak and economic shocks (e.g., from slowdowns in trading partners) impacting domestic economic performance and financial sector stability.

In line with WHO guidance, a range of infection prevention and control measures, including movement restrictions, physical distancing, and disinfection measures, are likely to need to continue over the mid- to longer-term to prevent the uncontrollable spread of infection. This will remain the case while the Eurasian region remains severely affected by the virus. The economic impact might have long term impact for the immunization program and its sustainability which is critical during the last year of Gavi transition.

As part of the Health Reform processes, in 2019, the Republican Surveillance, Epidemiology and Sanitary (RSES) was divided into two entities. There was uncertainty about the governance and organizational structure. The Government approved that SES entity would be responsible for inspections, investigations for public safety and health and function under the authority of the Cabinet of Ministers. The other entity which would be responsible for immunization activities was not clearly named. Government decided to name this functional entity as the Agency for Sanitary Epidemiological Wellbeing (ASEW) and the ASEW works in close collaboration with the Immunization Unit of the MOH and reports to MOH. These administrative changes did not have direct impact to the program and service delivery. However, as part of the reforms, there will be new PHC service points opening which will require additional support and training. Additional sites will also require supervisory activities.

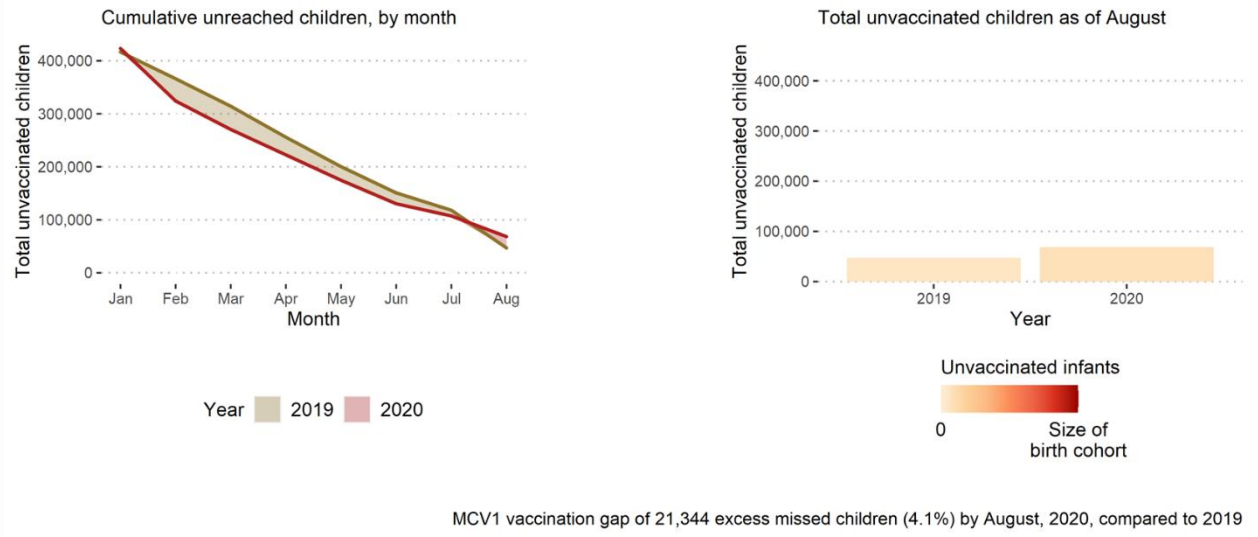
As indicated in section 2.1 of this report the country officially had the first Covid 19 case in April 2020 and stay home measure were introduced. Having said that Covid 19 case progression was relatively low in Uzbekistan in earlier days which meant that health service provision to continue with minimal disruption. Covid caseloads had experienced its peak June 2020 onwards, particularly in the Southern regions of the country where the population density is high. In city and regions such as Tashkent, Bukhara and Samarkand some health service provision points were suspended. This timing coincided with the vaccine demand timing as the weather improves, and majority of vaccine administration happens in summer months. As a result, immunization services had to be mobilized and significant portion of the immunization sessions were conducted in the communities as opposed to the health centres. For example, in Tashkent out of 68 service points 30 were closed which meant organization of immunization sessions in the communities. Community level immunization service provided in Bukhara, Kagan, and Karakul districts in addition to Tashkent.

The Covid 19 impacted the human resources of the health services. As the pandemic progressed, many health workers infected. Approximately 30% of the overall health personnel affected. Many of the qualified personnel were assigned to Covid 19 response which led untrained health personnel to be used for immunization service provision. Some of the HSS and other Gavi funding were reprogrammed for UNICEF to procure much needed PPE for the service providers, particularly for the immunization sessions at the community levels. PPE procurement was completed in June, and immunization services performed subsequently in large scale either at the community levels or health service points where there was no suspension. As a result of the efforts, the coverage remained at the high levels. However, the need for further training on immunization for health workers increased in Uzbekistan, some of these trainings are still on going online or in person where possible. Due to changes in structures or service provision to respond to Covid 19, there is further need to give training to health personnel that are not fully certified to provide immunization services.

During the first 8 months of 2020, reported nationwide coverage for MCV1 was 85.8%, compared to August 2019, when it was 89.9%. In total, 21,344 fewer children were reached with MCV1 during this period compared to the previous year. Most provinces are on similar pace for vaccinating children in 2020, however, there is some sub-national variability; areas that have relatively lower coverage at the province or district level may have experienced a disproportionately greater reduction in immunization coverage after Covid-19, which of course creates conditions for measles outbreak if they are not addressed.

Children unreached with first dose of measles-containing vaccine

As of August 2019			As of August 2020			Immunization gap in 2020	
Doses administered	Coverage	Remaining unvaccinated	Doses administered	Coverage	Remaining unvaccinated	**Unvaccinated children**	**Coverage gap**
419,881	89.9%	46,959	413,626	85.8%	68,303	**21,344**	**-4.1%**



Graph 10

HPV introduction took place in October 2019 in Uzbekistan. HPV 1st dose was implemented successfully with the plans to implement HPV 2nd dose in April. However, due to Covid19 measures, 2nd dose implementation took place at the health service points and communities as opposed to schools following the PPE provision. HPV coverage after the 2nd dose is estimated around 93%.

In terms of vaccine stocks, the major issue was the transportation. Some vaccine arrivals delayed due to Covid-19 and non availability of international flights. Starting from May 2020, vaccines started to arrive. To facilitate and prevent further delays and interruptions to the program, Government of Uzbekistan ensured that extensive custom processes waived upon arrival of vaccines. The government also ensured that air-space and airport to be open for essential drugs, PPEs, vaccines and other vital medical equipment. The costs borne due to these changes covered by the Government. In collaboration with UNICEF, chartered flights were organized for arrival of the vital medicines and equipment including vaccines. Major delays were experienced particularly with Hep B and MMR. For Hep B vaccine, the EPI reallocated vaccines between regions as needed to ensure availability for MMR and Hep B vaccines. PCV vaccine is expected to arrive in October. As there are enough vaccine stocks in the country, therefore no program interruptions experienced due to stocks.

Large scale awareness raising activities on immunization are in progress using various media outlets including social and mass media. In collaboration with WHO and UNICEF offices, MOH and newly formed Agency for Sanitary Epidemiological Wellbeing (ASEW) websites were updated to include

information on Covid 19 and regular updates are provided to the public. IEC materials developed and printed with support of UNICEF and WHO. The information campaigns led to high numbers of parent to come for immunization sessions as soon as stay-home measures lifted.

There were no significant issues around the financing of the immunization program. The program budget implemented as planned except the procurement of rota virus vaccine and immunization supplies (syringes and safety boxes). EPI in close collaboration and communication with Ministry of Finance, managed to receive the funds needed to procure both the rota virus vaccine and immunization supplies in timely manner (approx. US$ 4million). Overall budget of US$ 21million is allocated for the vaccine procurement for 2021.

Gavi Support Update:

HPV Vaccine Introduction: The HPV introduction took place in October 2019, targeting 9 years old girls in a nationwide school-based setting as planned. Following preparation activities are completed:

- Review of immunization and HPV specific communication strategies within EURO and Uzbekistan. WHO provided technical support to the MoH in conducting Formative Research among different key informants to understand enablers, influencers and barriers that affect the girl's decision of being vaccinated. These analyses helped the NIP to identify key messages that were used in communications plan to sensitize and mobilize communities and other relevant audiences about HPV vaccination. This research was done through focus groups, individual interviews, and community survey and assessed the level of knowledge among members of various groups about cervical cancer, how they perceive causes of and risks factors of cervical cancer, benefits and risks of HPV vaccination, and their understanding of who makes decisions regarding vaccination.
- Based on the results of the behavioral analysis the NIP with WHO support conducted a workshop for stakeholders to develop HPV vaccine communication plan, which defined the main target audiences, developed tailored messages and communications material and activities on cervical cancer, HPV infections, and identified the most relevant and sufficient distribution and communications channels.
- WHO and UNICEF provided support to MoH in conducting a Round Table on HPV Vaccine Introduction for Ministry of Health and Ministry of Education officials and stakeholders.
- The MoH implemented extensive communication and social mobilization activities according to HPV vaccine Introduction and Communication Plan. In March 2019, micro-planning started for the introduction in all regions of the country.
- WHO provided support to MoH in conducting a press conference on HPV vaccine introduction was held on 14 March 2019, which included a press-release, presentations on HPV diseases and vaccines, Q&A session, interviews to TV channels, radio, and newspapers.
- The MoH with WHO support conducted a National Conference on HPV Vaccine Introduction in the context of comprehensive prevention and control of cervical cancer. The medical academia, leading experts in oncology and genecology, as well as other health care professionals and immunization programme staff from national and regional levels attended this Conference. WHO arranged participation of exerts from other countries, including the leading obstetrician from Scotland who shared Scotland experience with HPV vaccine implementation and data on HPV vaccine impact. The conference provided an opportunity to present and discuss data on cervical cancer disease burden, safety and effectiveness of HPV vaccines, as well and share other countries experience in HPV vaccine introduction. The national and international experts replied medical workers questions and addressed their concerns to ensure their acceptance of and support to HPV vaccination.

- The MoH conducted comprehensive trainings for medical workers, including gynaecologists, oncologists, family doctors, and primary health care physicians at national, regional, and health facility levels. Some of these health care professionals will not administer HPV vaccine but as opinion leaders will influence parents' decisions to vaccinate their children.
- To equip teachers and school-based health providers with accurate information on the HPV vaccine, cervical cancer and communication skills, UNICEF supported MOH to conduct one national TOT and 14 regional TOTs. Nationwide cascade-trainings for teachers and school-based health providers were conducted. As a result of the training, a total of 34,677 people haves been trained including 20,791 teachers and 13,229 school-based health providers, and key influencers at subnational and community levels such as members of local councils.
- Tailored messages for parents and religious leaders, using multiple media channels and endorsement from key influencers, and special media training and sensitization conducted with the technical support from UNICEF play a critical role in achieving the results.
- The country reached high coverage (>90%) with the first and the second doses of HPV vaccine in 9-years old girls. However, there were numerous negative views and disinformation had been spreading across social led to a high number of refusals by parents to vaccinate their daughters in the capital city, Tashkent. A Crisis Communication plan initiated and implemented which included statements from MOH on misconceptions and addressed the concerns of families. Social media as well as mass media channels were engaged to address concerns and inform public about use of HPV vaccine globally. Face-to-face meetings with MoH, SES and UN experts were organized in schools across Tashkent city for parents who had signed refusals to vaccinate their daughters. These measures proved effective and greatly increased the vaccine uptake in the capital city. From 21 October to 30 November 2019 of the HPV vaccination campaign (HPV1), the nation-wide coverage was 96.9% and in Tashkent city – 98%, with the lowest in Tashkent region (93.9%) and the highest in Khorezm region (99%).
- Implementation of the second dose of the HPV was planned for April 2020. However due to the Covid-19 pandemic, subsequent quarantine and isolation measures 2nd dose implementation was re-scheduled for June 2020. As the academic year ends in Uzbekistan in 25 May, the second dose of vaccine was administrated to 9 years old girls in primary healthcare facilities. The social mobilization was focused on promoting HPV vaccination through local communities (mahallas). HPV 2nd dose implementation started on 1 June, the Child Protection Day and was widely covered by the local media. As of 20 June 2020, nationwide coverage by the 2nd dose reached 96.6%. The lower coverage was observed in Navoi region (67%) due to the situation with Covid-19 in this region and restrictions were introduced.
- UNICEF supported the MOH via a careful communication campaign and supportive supervision and monitoring visits. The focus of messages was on the safety of vaccination sessions during the pandemic to ensure that communities are aware that vaccination sites follow all the necessary requirements and precautions. Due to the lockdown and the closure of schools, the training component with teachers and health care providers in schools was withdrawn. Instead, the focus was made on supportive supervision and monitoring visits to vaccination sites in all the regions.
- In October 2020 WHO initiated the Rapid Evaluation of HPV vaccine introduction in Uzbekistan, the qualitative evaluation to develop lessons learned from introduction of the new HPV vaccine, specifically focusing on the development and delivery of communication and training activities. The knowledge gathered will be useful in understanding the experience of introducing the vaccine in Uzbekistan and could also inform HPV vaccine introduction elsewhere in the region and globally.

HSS and HSS additional funds

Objective 1. Increase performance and sustainability of immunization services

This objective focuses on improvement of the cold chain infrastructure including the construction or renovation of cold chain facilities and upgrading the cold chain equipment in 14 regions, 6 districts and at central level. This is the largest component in the project, approx. 75% of the total HSS budget allocated to the following various activities. These activities further complimented with the CCEOP support.

1.1. *Develop a detailed plan for upgrading of infrastructure:* As of October 2020, construction of 16 cold chain facilities completed and handed over to MOH. Due to movement restrictions introduced by the government to stop the Covid-19 spreading, monitoring in the regions was suspended and resumed in August.

1.2. *Renovation and reconstruction of stores:* As of June 2020, construction of three district cold chain facilities was completed and handed over to the Ministry of Health.
Construction of the Central Cold Chain Storage started with delays which was extended due to Covid- 19 measures. The construction was resumed during first week of July 2020. The construction work for this project is expected to be completed by the end of January 2021, including installation and commissioning of needed equipment.

The construction of remained three district and one regional cold chain stores was delayed due to restrictions introduced during Covid-19 and resumed in August-September 2020. Completion of construction in Bukhara region is planned by December 2020, whereas completion of three district cold chain facilities is expected by mid-January 2021.

While construction of national cold chain facilities is on-going, the country is using the two 30 m3 Walk-In-Cold (WIC) rooms and one 20m3 of freezing camera moved from old national storage to Tashkent City facilities. In addition to that, 300 m3 of cold chain storage is contracted to fit extra volume of vaccines at national level until construction of the Central Cold Storage Facility is completed.

The Defects Liability Period (DLP) of 1 year ended in 2020 was successfully completed for all 13 cold chain facilities constructed earlier.

1.3 *Equip stores with backup and security systems:* This activity is completed in 16 regional and district cold chain facilities out of the 21 planned sites. All 16 cold chain storages are equipped with fire-protection and security systems which were tested and approved by relevant government authorities. Remainder of facilities work will be started once construction comes to appropriate stage and will be completed in line with construction work: December 2020 – January 2021.

1.4 *Equip stores with autoloaders and storage handling equipment: A*ll autoloaders and storage handling equipment except autoloaders for national cold chain warehouse was completed and equipment delivered to the regions. The procurement of two autoloaders for the Central cold chain storage will take place following construction of the warehouse.

1.5 Upgrade cold chain equipment: 29 out of 33 (88 %) Walk-In-Cold rooms were installed in newly constructed Cold Chain facilities and put into operation. During installation, representatives of the installing company trained responsible staff how to operate the equipment, respond to emergency situations, and plan for maintenance.

In addition to that, all cold chain facilities were equipped with visual instructions based on Standard Operational Procedures for cold chain facilities and guidelines on use.

More than 6,100 units of cold boxes and vaccine carriers were received and distributed to all regions. To ensure an interrupted supply of electrical power to walk in cold rooms, each cold chain facility was equipped with the generators. Remained generators will be installed once construction is completed. Considering frequent electric power off in the regions, additional UPS are being procured to avoid damage of WIC rooms and stabilizers.

1.6 *Procurement of transport:* Procurement of 17 refrigerated trucks and 206 minivans is completed and vehicles will be supplied to the country by the end of October 2020.

1.7 *Refurbish Sanitary and Epidemiological Stations (SES):* 14 offices of national and regional centres of sanitary and epidemiologic wellbeing were equipped with furniture sets.

1.8 *Strengthening pre- and in-service training of medical staff on immunization issues:* The Tashkent Medical Academy joined the Tashkent Paediatrics Medical Institute and initiated introduction of updates in cold and supply chains to the medical curricula. Issues such as vaccine distribution, storage and transportation were included to medical curricula of epidemiologic, infectious, paediatric, neonatologist and obstetrics and gynaecology faculties. Training module was developed to help teachers of medical universities and colleges to teach students. More than 120 instructors/lecturers of major medical universities across the country were trained on this new module and equipped with new knowledge and skills. The following are the key accomplishments: 1) medical curricula updated to include immunization and vaccines; 2) 120 Trained lecturers/instructors are ready to teach using updated cold and supply chain guidelines.

Knowledge and skills update were scaled up for teachers of medical colleges and both Tashkent Medical Academy and Tashkent Paediatrics Medical Institute are ready to start training in the regions.

Objective 2. Improve management of Public Healthcare Services (PHC)

PCH Capacity Building of Immunization Staff and Facility Managers: Prior to the onset of the Covid-19 pandemic, from February to March 2020, 388 specialists were trained.

Due to quarantine measures, the content of the training course was adjusted, in collaboration with MOH and local consultants, and transformed to make it usable for distance education, including information on Infection Prevention and Control. During May - June 100 PHC managers were covered by distance learning. Further analysis of the effectiveness, quality and accessibility of this approach will be needed noting internet quality in remote areas.

Supportive Supervision: As part of improvement management of program, a National guideline on Supportive supervision was developed and adopted by MoH in 2019 along with instruments needed such as checklists to collect and monitor provision of immunization services. For the period of February- March 2020, first round of supportive supervision visits to all regions of Uzbekistan was organized and 1150 health facilities were visited. Data and information collected from these visits entered to a database developed to track the monitoring processes. Second round of visits are planned for November-December 2020.

Introduction of Home-based Immunization Cards: Part of additional HSS funds are utilized for development, design, test and revise of Home-Based Immunization Cards for introduction in Uzbekistan as per EPI recommendations. The home based cards are part of the efforts to improve immunization data quality and reduce drop-outs and missed opportunities. About 600,000 cards were printed out of 1.5 million planned and will be distributed during forthcoming monitoring visits and the remainder will be made available to the end of 2020 to cover the cohort of children for two years.

Addressing false contraindications used by medical workers: This issue has been continuously addressed in Uzbekistan using HSS funds as well as TCA to ensure program sustainability for long term. However conducting trainings is not the most effective and sustainable method in long term. In 2019, a working group was established to develop a training programme aligned with the National Educational Standard for post-graduation education for general practitioners and narrow specialists, incorporating latest evidence-based recommendations on contradictions to vaccination, and AEFIs. In April 2020, the Guideline was approved by the MOH, printing and distributions of the guidelines will be completed prior to the new training activities.

Improving capacity of Immunization Service Providers (ISPs): During 2020 it was planned to cover 1909 Immunization Service Providers by trainings on the course based on the WHO modules on Immunization in Practice and Mid-level Management of immunization, tailored to the needs of the country.

Due to the pandemic in Uzbekistan these activities suspended. Since June 2020, limited number of activities took place in preparation to resume the trainings. Going forward, the trainings will also include infection prevention and control module as per WHO recommendations. Starting from October the training activities resumed with precautions such as having a smaller number of participants and provision of PPEs. Due to these measures, and progression of Covid 19 in Uzbekistan, it is likely that the activities will expand into 2021.

Objective 3: Increase demand for preventive and MCH services

3.1 *Conduct a household survey:* The Knowledge, Attitude and Practice (KAP) study was planned to be conducted twice during GAVI HSS implementation. The first, aimed at establishment of a baseline, was conducted in 2018 and used for development of the strategic communication plan. Second KAP study is planned in conjunction with MICS and will be conducted in Q1- Q2 of 2021 and will include vaccine hesitancy module. The study will collect information on vaccination coverage, in addition to KAP and reasons for vaccine hesitancy among parents. Findings and recommendations will be forwarded to the government for discussion and developing programs to address the findings. The field work of this study will take place in first half of 2021 dependent on MICS progression in the country.

3.2 *Develop and implement IEC strategies/plans:*
Despite the limitation with Covid 19, in collaboration with MOH And ASEW, UNICEF completed tasks related to dessimination of messages and production of IEC materilas for parents/caregivers and health workers. In this regard following activities took place:

1. Production of communication materials for parents/caregivers, population and health workers to
    - increase knowledge and understanding on importance and benefits of immunization;
    - increase knowledge on vaccine preventable disease;
    - increase responsibility of parents to fulfill the right of children to immunization;
    - enhance knowledge on how to respond to frequently asked questions and answers on immunization (for health workers);

- strengthen interpersonal communication skills (IPC) (for health workers)

Above mentioned communication materials reached to approx. 1,600,000 young mothers/parents and more than 30,000 health workers including patronage nurses received Manuals on immunization communication including addressing concerns and questions of parents. Information on benefits of immunization displayed in 10,000 schools and 3,000 PHC service points.

2. Development and producitonof set of promotion materials on Immunization in both Uzbek and Russian languages.

3. Production of mini master classes on parenting. All issues related to the health and wellbeing of children including immunization related issues are included to the one separate mini master class for parents/caregivers and patronage nurses.

4. World Immunization Week 2020. In view of Covid -19 pandemic in the country, communication materials and mas and social media materials prepared and shared with the focus on safety of vaccination during quarantine in line with global guidence and recommendations.

Objective 4: Strengthen data collection and reporting for Mother and Child Health (MCH) and preventive services

4.1 *Develop functional and user requirements for VMIS*: This activity was completed in 2018 and resulted in the development of a description of Business Function and Performance requirements, Technical specifications, and Testing and Quality Assurance Requirements that contributed to the RFP announced at global and national levels.

4.2 *Develop and deploy software:* The company was successfully selected and has started its work with development and deployment of VMIS. International expert was hired for verification of quality at each stage of implementation.

4.3 *Procure and install hardware:* The company selected for the development and deployment of software has started developing a list of equipment for procurement. Procurement and installation of equipment will start in last quarter of 2020.

4.4 *Training of medical and managerial staff on the new Health Management Information System (HMIS) &* 4.5 *Training of high-level specialists in analysis and reporting*: The training of medical and managerial staff on how to work with new VMIS is planned for Q2 - 2021. Training programme is developed and endorsed by the MOH for implementation (pilot and scaling up).

4.6 *Conducting data validation visits*: Selected company along with UNICEF will support the AWES to form the group of technical specialists will conduct data validation visits along with specialist from the company implementing this software.

4.7 *Establish a fully functional intranet for SES:* The first round of tender was unsuccessful; therefore, UNICEF had to re-announce the tender for second time. The software development is expected by Q2 of 2021.

Objective 5: Programme management

Monitoring visits: The project team regularly monitored field activities, including on-going construction, equipment procurement and installations, capacity building and communication activities and

introduction of updated medical curricula into medical universities and colleges. However, starting from March no in-person visits took place due to Covid-19 restrictions. The monitoring and regular follow up conducted remotely until September, when regular monitoring resumed.

Objective 6: Address delayed vaccinations

6.1. *Use social media to change attitude toward timeliness of vaccination.* In view of situation with COVID -19 pandemic in the country, communication materials and posts in social media for the World Immunization Week 2020 were prepared with the focus on safety of vaccination procedures during quarantine in accordance with global guidance and recommendations shared by UNICEF Regional Office. Making sure that the government has taken relevant measures in policlinics (vaccination points) to continue routine immunization, animation videos in two parts in both languages (Uzbek and Russian) were produced with messages to parents and caregivers on how to continue vaccination during the quarantine. Social media tools are used for communication focusing on importance of timely vaccination and following the immunization schedule for children.

6.2. Delivery MCH/Immunization services to remote areas mobile teams in 28 districts: Procurement of 12 vehicles is at final process. Vehicles will be supplied to the partners by the end of 2020.

6.3. Printing of job aids for patronage nurses on childcare including immunization: content and design of job aids for patronage nurses was agreed with the Ministry of Health. Printing of this material is in the process. At the end of 2020, 53 340 of job aids will reach each patronage nurse at primary level.

6.4. *Printing of handbooks for patronage nurses on childcare including immunization:* after approval of handbook by the Ministry of Health, the material was given for printing. As a result, 53,340 patronage nurses received handbooks.

6.5. Introduction of updated integrated MCH guidelines for training of home visiting nurses in pre-and post-service: Curriculum updated based on integrated MCH guidelines for training of home visiting nurses. Training guidelines developed to include updates from handbooks and job aids and were apprved by the MOH. UNICEF jointly with MoH will start training of patronage nurses in the regions by using cascade training methodology. Team of trainers will be established in each region in 2021 and new trainers will train nurses in their own region based on training plan approved by MoH.

6.6. Increase the capacity for training of chief nurses on supporting supervision: Supportive supervision guideline developed and approved by MoH. ToT for national team conducted. Cascade training plan was approved by the MOH and establishment of team of trainers is expected by the end of 2020. The training for chief nurses is planned in QI-QII of 2021 nationwide.

6.7. *Software development:* It complements the activity 4.2 above and will be completed at the same time.

6.8. *Hardware and rolling out:* It complements the activity 4.2 above and will be completed at the same time.

6.9. Training of the facility managers in using immunization performance data It complements the activity 4.2 above and will be completed at the same time.

6.10. *MICS Implementation:* Portion of Gavi HSS grant compliments to MICS implementation. Approval was obtained from the Government for the implementation of the MICS and agreement reached for governance of the MICS process and coordination of implementation plans. MICS questionnaires developed and instruments are put in place. A total of 726 mahallas with 14,520 households identified as a sample size for the Uzbekistan MICS. The pre-test of questionnaires and manuals was conducted and completed in August 2020. The recruitment process of 14 MICS teams and 18 mapping and listing teams consisting of several stages was completed. Due to restrictions in place, MICS activities for pre-testing shifted to September. Currently, MICS questionnaires are being revised based on pre-test outcomes. The preparation for training of surveyors and pilot activities are on-going. These activities will be conducted in early December. The equipment needed for data collection are being procured. Field implementation are planned for Q2-Q3 of 2021 . Data processing, analysis and discussion with the partners and stakeholders are expected in Q3-Q4 of 2021. As result of all the efforts, final report is expected by the end of 2021.

Objective 7: Improve vaccine management practices (HSS Additional Funds and PBF 1 and 2)

7.1 Procurement and installation of cold chain equipment. In addition to CCEOP equipment, 1236 refrigerators for primary health level were ordered and under distribution and installation. Completion of delivery and installation of refrigerators at primary level is expected by middle of 2021. Procurement of 14 vehicles for improvement monitoring capacity of regional EPI managers is on-going and will be completed by the end of 2020.

7.2 Contribute to the development and deployment of the vaccine logistics MIS. Procurement of computerized T-monitoring system was initiated through UNICEF SD, detailed plan with locations and installation was developed but due to Covid-19, actual procurement had been postponed until QIII of 2020. The procurement of the system is delayed due to high workload in UNICEF SD related to Covid-19.

PBF 1 & 2

- Spare parts kits for existing and newly installed refrigerators at district and primary level are received and stored at national level for future demand as per recommendations from WHO and UNICEF stipulated in Effective Vaccine Management and CCEOP application.

- Freeze tags were received and ready for distribution.

- Additional funds were allocated to procure 1,236 units of refrigerators (see point 7.1). Equipment arrived in the country along with equipment procured under CCEOP and being distributed and installed at primary level.

- To address maintenance issues, a technical maintenance company was contracted and started servicing cold chain equipment. Along with technical maintenance, the representatives of the company train local specialist to refresh their knowledge and skills or teach newly recruited staff on how to take care about equipment.

- Considering that national vaccine storage is under construction, it was strongly recommended during Joint Appraisal meeting in 2019 to outsource and rent a cold chain storage until construction is completed. In order to strengthen the ownership of the government over the programme, UNICEF supported the ASEW with development of TOR and announcement of the

tender. More than 300 m3 of cold chain facility are available for contracting by the ASEW when needed.

- Hep B Sero survey activity will continue in 2021. Delayed.

CCEOP

- The first phase of CCEOP in the country was completed in 2019 and as result of it, 558 refrigerators and 206 freezers were installed and successfully used at the district centers of sanitary and epidemiologic wellbeing. With support of UNICEF SD 2,078 refrigerators for primary healthcare level were purchased and delivered to the country in March 2020. Due to Covid restrictions and absence of key government partners, clearance of containers delayed. Recently, all the refrigerators are cleared through customs and being delivered to the primary health level for installation.

- Project Management Team (PMT) formed of the logistic and procurement specialists of the Ministry of Health, the ASEW, local representatives of Haier, and UNICEF project staff, meet regularly to discuss the progress, challenges and further steps in implementation. For better coordination of the efforts, an action plan for delivery and installation in the regions developed and shared with the regional EPI managers who are appointed as the focal points.

Transition Plan

- *Support to implementation of advocacy activities for increased domestic funding* are partially completed and pending due to Covid 19. Remainder of activities to be completed in 2021.

- *Support to building capacities in procurement*. Partially completed due to Covid 19, to be completed in 2021.

- *Support to improve use of supply chain data.* The work is on-going. Due to the pandemic work was delayed and will be completed in 2021. US$ 30,000 of this activity reprogrammed for Covid 19 response.

- *Support to development of resource mobilization plan and implementation*: Due to late start of the Transition Grant activities the capacity building activities (including development of the resource mobilization plan) has been conducted in 2017 using other funding sources. Resource mobilization activities will be implemented before end of TP period (2019-2020).

- *Building capacity of NITAG:* 2018 NITAG funds were planned to be utilized to support participation of Uzbekistan NITAG Chair, members and representatives of NITAG Secretariat in WHO Regional Programme Managers Meeting and in a meeting of European Technical Advisory Group. However, these meeting were postponed until 2019. In 2019, deputy Head of the Uzbekistan NITAG participated in ETAGE meeting. The participation provided an opportunity to learn experience from other NITAGs in applying knowledge and skills obtained at Regional NITAG trainings in NITAGs routine practice. In 2020 WHO Europe initiated joint project with Robert Koch Institute (RKI) on NITAG strengthening in the WHO European Region which Uzbekistan is included. As part of the process, an evaluation of the NITAG conducted. The evaluation provided an opportunity to review the NITAG structure, composition, modes of functioning, the process of developing recommendations, and collaboration and communication with the MoH. The international experts provided recommendations on NITAG straightening, which included in an Improvement Plan. Uzbekistan NITAG participated in WHO regional webinar on Preparedness

for Covid-19 Vaccination was held on 9 October 2020. At this webinar NITAG received information about guidelines of the SAGE on Covid-19 vaccination objectives and target groups; learned experiences from other NITAGs in developing recommendations on Covid-19 vaccination; and had an opportunity to request WHO and partners support in defining national vaccination strategy.

- *Technical Support to design and printing home-based vaccination cards*. Development of home-based vaccination cards is finalized and completed. PBF-1 funds are used for printing of HBV cards to be distributed to the newborns starting June 2020. Additional funds from PBF2 requested to print 5 years of stock of cards.

- *Support to upgrade immunization website.* In January 2019, the domain "privivki.uz" has been obtained and services of a professional company obtained. The website developed and handed over to the MOH. This activity is completed.

- *Support to introduction of collaborative agreement procedures for registration of WHO prequalified vaccines.* Issues faced by country go beyond the registration procedure, so it is important to make sure that the proposed intervention will address the existing issues and bottlenecks. Activity re-scheduled for 2021. Planning and preparations for in-country mission to assess the problem ongoing.

Two activities planned for 2019, namely Support to implementation of the data quality review and provision of technical assistance to improve target population estimates were planned for Q2 of 2020. However, due to the Covid-19 outbreak were postponed.

2.4 Already agreed budget reallocations of HSS grant for Covid-19 response

	Covid-19 activity	Amount reallocated	Status of implementation
1	Risk communication and community engagement	20,000	Completed. The following was done: 1. Series of video messages to support children and parents during the lockdown. Shared via social media platform and National TV channels in Russian and Uzbek languages. 2. Messages to support immunization services continuation during the pandemic. Messages were incorporated into posters and videos on precautions parents and health workers should follow in health care facilities, during the communication vaccination sessions. 3. Video messages for adults and children leveling with HIV. Videos in two Russian and Uzbek languages were disseminated via social media platforms. 4. TV and Radio programs with health-related issues (breastfeeding, Immunization) during the pandemic 5. Social media posts and articles related to COVID -19 (Immunization; psycho-social support of children and parents; support provided on PPE for health workers)
2	Training on infection prevention and control for EPI staff	5,000	Under the process of consultants hiring
3	National and regional trainings on infection prevention and control for EPI staff	225,000	Obtained permission for organization of trainings from MoH, Measures are being taken to prepare the organization of on-site trainings

4	Procurement of PPE equipment for vaccinators and EPI staff	750,000	Procurement of PPE equipment was conducted at local and offshore level. Local tender resulted in cheaper prices comparing to planned, therefore additional PPE was procured using balance. There is US$120,262.80 is preliminary calculated balance as of October 6th.

2.5 Already agreed modifications in Technical Assistance (if applicable)

	Covid-19 activity	Amount reallocated	Status of implementation
1	Procurement of PPE equipment for vaccinators and EPI staff	32,500	Completed*.

*UNICEF completed all PPE procurement utilizing funds from HSS (US$ 170,000) TCA (US$32,500) and Transition Grant (US$15,000).

2.6 Unspent funds and savings from Gavi support, available for re-allocation

UNICEF Transition Plan. There is unspent budget of approximately $42,000, which have been not used due to Covid-19. Considering uncertainty with situation in 2021, it is unclear if planned activities for advocacy and strengthening of procurement skills can be implemented. Therefore, it is proposed to re-programme remained amount for further capacity building of partners on budgeting and planning for vaccines' procurement including cold chain equipment maintenance using updated in 2020 tool.

TCA WHO. *Support towards implementation of the findings from the data quality review* and *Support better defining the population estimates used for coverage calculation*. These activities are from 2019 TCA and were reprogrammed for measles outbreak support. However, the reprogrammed activity could not be implemented in 2020 due to Covid 19. The funding will be returned to the Gavi Secretariat, unless the Government requests for the reprogrammed activity to be re-considered for implementation.

3. Discussions on priorities, action plan and technical assistance needs; Roadmap for further re-allocation/planning

Government of Uzbekistan initiated series of measures in the face of Covid 19. As initial response, the Government of Uzbekistan instructed increasing in-patient capacity in Tashkent, Surkhandarya, Namangan and Navoi regions. The Government also expedited processes to procure PPEs, rapid test kits and ventilators as well as speedy manufacturing of masks. As flu season fast approaching, MOH is procuring seasonal influenza vaccines for risk groups. As of 14 October only 38,842 doses of 3-valent influenza vaccine was procured from state budget to vaccine disabled people, elder and children in care homes. Vaccination of teachers and medical workers are strongly recommended by MoH but not yet funded. Needs assessment showed that additional 1,273, 600 doses of vaccine required to vaccinate teachers and medical workers. About 250,000 doses of vaccines from Russia is supplied by mid-October. Some of the schools and healthcare facilities are locally financing vaccination of their staff members.

In addition to health measures to respond to the pandemic, there are economic and social protection initiatives introduced. Economic and social plans and projections of the government extend to families with low income, elderly, unemployed and migrants. There are on-going efforts to assess the potential impact of Covid 19 to these groups. Management of public safety measures, inspections are given to SES and SES has some plans to upgrade and improve its capacity both national and subnational levels. Some funding is to be provided by the Government, however majority of the funding for improve effectiveness and efficiency of SES are requested from the international financing institutions such as the World Bank and Asian Development Bank. Most of these improvements are for vehicles,

infrastructure and equipment. The government has introduced social protection initiatives for health workers, facilities management, ambulatory services and provision of PPEs and ventilators for Covid 19 pandemic. However, there are not comprehensive official plans for recovery or maintenance of services for maternal child care including immunization.

As indicated in the Section 2.2 and 2.3 of this report there has not been major impact to the coverage to the routine vaccine implementation. However, as indicated in 2.1. of this report, the sustainability of the program might have impact due to changing economic indicators of Uzbekistan. The donor community is working closely with the Government of Uzbekistan to assist the country and reduce vulnerabilities.

In medium and long term, there is commitment from donor community to ensure ongoing technical assistance for strengthening the health care system through a continuation of training of health care workers, procurement essential health items (e.g., PPE, vaccines, essential drugs, and other equipment), and adequate surveillance systems of infectious disease and laboratory capacity. Ensuring the 'Joint External Evaluation' (JEE) of the International Health Regulation (IHR) implementation (under the Cabinet of Ministers and led by the Ministry of Health) which will allow the country to identify system weaknesses to be better prepared and have increased capacity to prevent and control future outbreaks.

The country considers vaccination against Covid 19 and opportunity to participate to phase III of vaccine trials. In addition, the country joined global Covax Facility for development and distribution of the Covid 19 vaccine. The Government allocated 1.7 billion Soms (approx. US$ 1,6 million) and raised US$ 194.5 million from the international financial institutions. Uzbekistan is also part of the ADB's regional financing facility which will to help its members access vaccines for the coronavirus disease (COVID-19) and establish systems to enable equitable and efficient vaccine distribution. The additional resources will allow ADB to support countries to undertake urgent actions, including vaccine system assessments and vaccine deployment strategies, to ensure vaccines are delivered efficiently and fairly. In addition, as part of the global efforts, there will be additional funding for Covid 19 vaccine implementation via the World Bank.

As part of the short and medium term, in agreement with the Gavi Secretariat portions of HSS, TCA and Transition Support were reprogrammed and funds were utilized for procurement of PPEs which complimented to the immunization service provision in health clinics and at the community levels in July and August. These activities aimed to complete the vaccinations of children as per national immunization schedule including implementation of HPV 2nd dose after the academic year which ensured successful introduction of HPV in Uzbekistan with high coverage.

The country did not experienced financial issues in terms of procurement of vaccines but there were minor delays delivery of vaccines to the country due to Covid 19 pandemic and unavailability of flights which were addressed with close collaboration of MOH and UNICEF by organizing chartered flights to bring medical equipment, essential medicines, and vaccines to the country.

Despite efforts, some delays could not be avoided during the implementation of HSS, TCA and Transition activities due to Covid 19 and subsequent restrictions as detailed in relevant sections.

Short/medium-term activities to maintain/restore routine immunisation

Uzbekistan is in its last year of from Gavi, with extension granted Uzbekistan is eligible to continue to complete its planned activities in 2021 for HSS, CCEOP, Transition Plan. The country is also granted

another year of PEF TCA. Therefore, the report focused on priority short term activities to maintain immunization services and existing high coverage.

Under the existing PEF TCA efforts to sustain coverage will continue by continuing support to NITAG for decision making, program financing (macro and micro level financial planning) to ensure uninterrupted immunization services and vaccine procurement, looking into transition activities to assist the country for post transition.

Improving equity aspect in immunization service provision. Under the HSS, WHO has been implementing set of trainings for staff providing immunization services and managers. Despite country's overall high coverage, measles outbreak and sub-national data during Covid-19 pandemic indicates that there are locations with lower immunization coverage. WHO proposes the following to ensure that program sustainability and resilience in coming years:

- To review and analyse the coverage data to identify the areas where there are gaps in coverage.
- To further tailor existing HSS activities for the health staff in these areas to improve timeliness of vaccinations, reduce drop outs, and missed opportunities.

WHO proposes to use the existing approved funding to cover these activities. This does not require change of existing objectives set under the HSS plans.

Under HSS, UNICEF allocated and committed the funds for all existing efforts which don't provide much space for reprogramming. In addition, cold chain efforts are major components for future sustainability of the immunization program in Uzbekistan.

Covid-19 Impact Assessment and Plan. Uzbekistan does not have an official immunization recovery plan in place. The country stakeholders are proposing to conduct an assessment to identify system issues Covid-19 might have impacted. Assessment might provide recommendations for the MOH to consider which might be beneficial for Covid 19 vaccine implementation. (TCA 2021 - WHO)

Covid-19 Vaccine Introduction Support. Uzbekistan will require support for the vaccine introduction plan for the potential new Covid 19 vaccine introduction. Proposed Covid 19 Impact Assessment can provide guidance for the Covid-19 vaccine introduction plan. (TCA 2021 – WHO & UNICEF)

Review of Cold Chain Capacity for potential Covid-19 vaccine (TCA 2021- WHO or UNICEF)

It should be noted that Covid 19 related efforts has a lot of dependency to characteristics of potential vaccines that are becoming available. These efforts will be further defined based on the characteristics of vaccines (i.e. presentation, supply availability, and cold chain requirements). The efforts to support countries will be aligned with the ADB and the WB funding for deployment and implementation of the Covid 19 vaccine.

Sustaining the coverage for newly introduced HPV vaccine. As the HPV vaccine recently introduced during the Covid 19 pandemic, further support will be needed in the 2nd year of the introduction using the outcomes of the rapid assessment conducted. Following activities are proposed: 1) Evaluation of the new delivery system for HPV vaccine to ensure high vaccine uptake and accurate coverage estimates. b) Revision of HPV vaccine communication and social mobilization plan based on results of ongoing evaluation to ensure high vaccine uptake among main target groups and multiple age cohorts. (WHO TCA 2021)

Technical assistance for the Measles and Rubella surveillance. (TCA WHO 2021) Uzbekistan is recommended to implement a high quality supplementary immunization campaign as there are gaps in the immunity as per epidemiological data (please see 2.1 of the report where measles data is presented). The country cannot sustain sufficiently high population immunity for measles through routine vaccination due to multiple reasons (i.e. drop outs, missed opportunities, false contraindications) in addition to Covid 19 related limitations. In order to stay on track with measles elimination in Uzbekistan, the country needs to continue to strengthen the routine immunization and sustain existing achievements. To eliminate the immunity gaps, Uzbekistan needs to conduct SIAs every 4-5 years. To support the country in these efforts, MR surveillance practices needs to be improved and appropriate ICP measure should be established.

To support Uzbekistan following are suggested for TCA but further prioritization and discussion needed with all stakeholders. Some of the critical activities for measles elimination agenda might be supported using newly available PBF3 funding for Uzbekistan which is noted in the emerging issues section of the report.

- Review/update of the national guidelines, printing and dissemination to district levels
- Job-aid (1 page) development, printing and dissemination (two versions – one for clinicians and one for epidemiologists)
- Support for transportation of specimens to accredited laboratory
- Diagnostic test-kits (for measles and rubella)
- IT support (e-reporting, database, analysis from oblast level)
- Online training

Continuation of Rota Surveillance. It is proposed to resume activities in 2021, when the hospital and the laboratory are expected to be able to reinitiate activities with required quality. Continuing rotavirus surveillance in 2021 would be useful to support the monitoring of the impact of rotavirus introduction, as well as detect if disruptions in immunization activities could have caused an increase in the proportion of severe diarrhea cases being related to rotavirus (TCA 2021 – WHO)

Continuing support to NITAG in implementing Improvement Plan, which will be developed in 2020 based on results of NITAG evaluation. In addition, there is a need to have additional technical assistance to strengthen the involvement of NITAG to Covid vaccine planning. The NITAG should be informed about global and regional engagement as well as the vaccine development. It is planned that NITAG should be well informed in order to provide scientific recommendations to MOH for vaccine implementation and deployment. (TCA WHO 2021)

Immunization financing. Update documentation of vaccines and supplies expenditures and identify financial requirements for 2022-23 to support financial sustainability of the immunization program.

The above is in addition to the proposed reprogrammed activity of UNICEF utilizing unspent funds from the Transition plan which focuses on capacity building of partners on budgeting and planning for vaccines' procurement including cold chain equipment maintenance using updated in 2020 tool.

Continuation of the CCEOP implementation at primary level. Due to Covid-19 restrictions containers with refrigerators arrived later and distribution for installation has been started late September 2020. Considering limitations due to pandemic as well as distances, there might be delays in implementation. However, monitoring and coordination from UNICEF is crucial to ensure all guidance is followed to secure the installations and warranty requirements for the equipment provided. (TCA UNICEF 2021)

Establishment of cold chain maintenance and inventory system in the ASEW by development the guidelines and instructions on how these two processes are conducted at all levels and endorsement by the government through relevant normative documents. This activity is planned to support CCEOP and HSS investments and was discussed and recommended during 2019 JA discussions and make maintenance a priority item for MOH to ensure cold chain investments to serve long-term. (TCA 2021 – UNICEF)

Introduction of Inter-Personal Communication (IPC) module to the pre- and in-service curricula to sustain communication component in immunization. The activity is proposed as continuation to the activities completed from previous TCA investments to incorporate immunization into curricula and reduce training needs in the future. (TCA 2021 – UNICEF)

Issues emerged during the MSD meeting:

As indicated above the Government of Uzbekistan is part of the global Covid-19 efforts which requires increased coordination among development partners, particularly working with the WB and ADB in order to benefit financial instruments made available globally and regionally to battle Covid 19. These efforts will be utilized along with the Covid 19 vaccine support. The support should be tailored not only address Covid but also further strengthen the routine immunization services to sustain coverage in the long term and increase preparedness for future outbreaks.

During the MSD discussions, the country and partners requested no-cost extension for 2020 TCA as activities delayed due to the pandemic.

The country benefits from additional funds from Gavi. Currently, there is PBF2 funding which is yet to be disbursed to WHO. In addition, the country is eligible for additional US$ 1,6 million under the PBF3 which requires planning as the country needs to utilize these additional funds by the end of 2021. It has been indicated that the funds might be useful for supporting the new PHC sites for immunization delivery, and provision of power supply and water sanitation support for various service provisions sites as well as newly planned PHCs service sites. The funding can also be used for training of health staff in these sites on immunization. The country needs to develop plans for utilization of PBF3 as soon as possible.

The country is also eligible for multi-age HPV support to vaccinate the missed cohorts from the previous years. For this Uzbekistan is requested to send Expression of Interest to Gavi. It is possible for the country to receive supply starting from Q4 of 2021.

In addition to the HPV, the country is planning for IPV catch up for the missed cohorts as well as Measles Campaign with Gavi support which requires planning for implementation.

It was noted that completing all these activities within 2021 is a daunting task as Covid 19 pandemic is far from being over. As the vaccine becomes available, implementation of Covid 19 vaccine will take precedence. Completion of all these activities within 2021 along with existing HSS, TCA and CCEOP activities might be challenging due to limitations of resources and the MOH and Immunization Program staffing capacity.