

Joint Appraisal report 2019

Country	Uganda
Full JA or JA update	<input checked="" type="checkbox"/> full JA <input type="checkbox"/> JA update
Date and location of Joint Appraisal meeting	4 th - 8 th Nov 2019; Kampala, Uganda
Participants / affiliation	Gavi, WHO, UNICEF, World Bank, CDC, DFID, CHAI, NMS, USAID, AFENET, PATH, JSI, Bill and Melinda Gates Foundation, Living Goods, GoU Ministries (Local government, Education, Gender & Finance), Private sector – PPP coordination office, Civil Society, IDRC/Gavi FCE,
Reporting period	November 2018 – October 2019
Fiscal period	Jul - Jun
Comprehensive Multi Year Plan (cMYP) duration	2016-2020
Gavi transition / co-financing group	Initial self-financing

1. RENEWAL AND EXTENSION REQUESTS

Renewal requests were submitted on the country portal

Vaccine (NVS) renewal request (by 15 May)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Does the vaccine renewal request include a switch request?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>	
HSS renewal request	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	
CCEOP renewal request	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	

2. GAVI GRANT PORTFOLIO

Existing vaccine support

Vaccine	Date	2020 estimated consumption (in m doses)	2020 allocation Gavi quantity (in m doses)	2020 allocation country quantity (in m doses)	Approx. value \$m (Gavi)	Approx. value \$m (country/ UNICEF for Frag)
Penta	2002	4.2	1.4	0.5	1.1	0.4
Penta – Frag	2018	0.1	0.1	0.04	0.08	0.03
PCV	2013	4.3	2.2	0.2	7.4	0.5
PCV – Frag	2018	0.1	0.1	0.4	0.01	0.03
Rota	2018	2.8	2.5	0.2	5.8	0.6
Rota – Frag	2018	0.07	0.08	0.01	0.2	0.02
IPV	2015	1.4	0.8	0	2.2	0
IPV – Frag	2018	0.04	0.05	0	0.1	0
HPV	2015	1.2	1.2	0.06	5.7	0.3

HPV – Frag	2018	0.08	0.06	0.003	0.3	0.01
MR 1 st dose	2019	2.8	0.5	0.4	0.4	0.3
MR 2dose-Frag	2018	0.06	0.07	0.06	0.05	0.04
Total					23.34	Country 1.7 UNICEF 0.13

Existing financial support

Grant	Implementation Period	Cumulative financing status @ August 2019			
		Committed	Approved	Disbursed	Disbursement Rate
CCEOP	2017-2018	6,648,068	6,648,068	6,648,068 (1,994,722 – UNICEF SD)	100%
HSS1	2011-2017	19,242,000	19,242,000	16,343,847	85%
HSS2	2017-2021	30,600,000	13,110,000	12,685,246	97% approved of
Coverage and equity	2020	9,000,000	0	0	0%
Performance based funding	2019	1,400,000	0	0	0

Indicative interest to introduce new vaccines or request Health System Strengthening support from Gavi in the future

Indicative interest to introduce new vaccines or request HSS support from Gavi	Programme	Expected application year	Expected introduction year
	MR2	2020	2021
	Men-Afric (MenA); Follow-up and VIG	2020	2021
	Td booster doses	2021	2022
	Yellow Fever	2020	2021

Grant Performance Framework – latest reporting, for period 2018

Intermediate results indicator	Target	Actual
Insert		
Insert		
Comments		
Not applicable. There were no disbursements in 2018 for program implementation.		

PEF Targeted Country Assistance: Core and Expanded Partners at December 2019.

Partners	Year	Approved	% of total
Total Core	2018	1,969,624	78,4
	2019	1,844,420	81,9
Total Expanded	2018	543,295	21,6
	2019	408,160	19,1
Total Core + Expanded	2018	2,512,919	100
	2019	2,252,580	100

3. RECENT CHANGES IN COUNTRY CONTEXT AND POTENTIAL RISKS FOR NEXT YEAR -

Population growth

Uganda has a population growth rate of 3 percent per annum making it one of the countries with the highest population growth rate globally. Majority of the Ugandan population is young people in reproductive age^{1,2}. Consequently, about 2 million babies will be born next year³ (**Table 1**) and the current population of 40.3 million⁴ is expected to rise to 55.4 million by 2030.

Table 1: Population projection 2018 - 2020⁵

Category	2017	2018	2019	2020
Total population	37,838,900	39,059,000	40,308,000	41,583,600
Birth cohort	1,835,187	1,894,362	1,954,938	2,016,805
Surviving infants	1,627,073	1,679,537	1,733,244	1,788,095
Children Less than 5 years	7,756,975	8,007,095	8,263,140	8,524,638
Girls 10 years	582,719	601,509	620,743	640,387
Women of reproductive age (15-49)	8,702,947	8,983,570	9,270,840	9,564,228
Refugees	1,336,899 ⁶	1,190,922	1,347,360	
Total population (including refugees)	39,175,799	40,249,922	41,655,360	41,583,600

Although the standard practice is to use UBOS figures, the above estimates based on projections of the 2014 census have been observed to be at variance with field reports and administrative coverage which often exceed 100%. There is a potential risk of not knowing the numbers of unimmunised children as well as risk of errors in national forecasts and district estimations of logistics and resource allocation.

Increase in number of Local Governments

The health services are decentralised to local governments whose administrative structures are as follows: districts, counties, sub-counties, parishes and villages. The number of districts and lower local governments and administrative units have been increasing rapidly. The number of districts has increased from 112 to 135 over the last five years (**Table 2**). The creation of new districts stimulate development, improved service delivery at the local level, closer proximity of communities to services and nurtures democracy.

However, creation of new districts requires additional investments, both capital and recurrent costs in cold chain, service delivery, human resource, infrastructure and capacity building in the new districts due to creation of new service points.

Table 2: Administrative structure 2015-2020

Administrative structures	FY 2015/2016	FY 2016/2017	FY 2017/2018 ⁷	FY 2018/2019	FY 2019/2020
Districts	112	116	122	128	135
Counties	193	193	290	304	304
Sub counties	2,321	1,357	1,460	1,973	1,973
Parishes	6,227	6,194	7,038	7,379	7,379
Villages	NA	NA	59,092	66,960	66,960

Health system strengthening

Critical investment decisions at strengthening the immunisation systems and services have been undertaken in the last two years; these include better domestic vaccine financing, better financing of recurrent expenses for routine immunisation, and acquisition of transport, cold chain equipment in addition to infrastructure for staff housing and storage of vaccines and medical supplies in districts⁸.

These investments are largely supported through GAVI and are high risk in terms of sustainability through

¹ Index mundi

² https://photius.com/rankings/2019/population/population_growth_rate_2019_0.html

³ UBOS 2018 statistical abstract

⁴ UBOS population projection 2019

⁵ UBOS, Population Projections 2015-2020

⁶ UNHCR Popstat Demograph

⁷ MoLG report

⁸ Immunization financing Reporting 2019

domestic financing especially those of recurrent nature at local government. In order to avoid reversals of gains in immunization coverage, there are internal efforts within the ministry and local governments to increase sustainable investment such as financing for traditional vaccines, local government investment in cold chain equipment and transportation. In addition, the MoH is strongly advocating for parliament to increase domestic health financing from 7% to 15% as stipulated by the Addis Declaration on Immunization.

Economy

During FY 2018/19, inflation remained relatively subdued. Headline inflation averaged 3.1%, relative to 3.4% in FY 2017/18. Although core inflation edged to 3.8% relative to 2.7% in the previous year, it hovered below the Bank of Uganda (BoU) medium-term target of 5.0%.

The exchange rate in Uganda is market determined, but the Bank of Uganda makes occasional interventions either to purchase foreign exchange for reserve build-up or to stem disruptive volatility in the exchange rate. In FY 2018/19, the Uganda shilling on average depreciated by 2.1%.

Financial management

The Government of Uganda through Ministry of Finance and Economic Development introduced Integrated Financial Management Information System (IFMIS) at all levels (national and district) to improve financial management, utilisation and accountability. This provides a single treasury account held by each district and allows for maximum cash ceiling of 40 million shillings per month for each district. These controls have been found to be too restrictive and time consuming at the point of service delivery especially for expenses that require small amounts of money. Districts are slowly adapting to this change and so this may affect absorption of funding for critical activities.

Cold Chain Equipment investment

Uganda's current total vaccine storage capacity for 2°C to +8°C (positive) at National, district and health facility level is 173,868 litres, 49,221 litres and 128,485 litres respectively with a total of 4808 refrigerators. The total capacity of negative cold storage (-15°C and below) is 11,428 liters, 88,707 litres and 40,334 litres respectively with a total of 475 freezers.

Currently the required total vaccine storage capacity at DVS level is 36,241 litres for 2°C to +8°C. However, among the existing CCE, after considering the planned/proposed procurements, there is need for more CCE in order to have a stable cold chain system. This is because 3068 refrigerators will be out of the system due to sub-optimal conditions (1649), aged and obsolete conditions (1419) needing replacement by 2025.

Through Gavi CCEOP year one, a total of 608 cold chain equipment were procured, distributed and already installed. Of these, 477 were for replacement; 64 for expansion and 67 for extension of new district vaccine stores of Bunyangabu, Butebo, Kagadi, Kakumiro, Kyotera, Pakwach and Namisindwa districts.

The country has embarked on implementation of CCE procurements under CCEOP year two (926) and HSS2 Flexibilities (70) giving a total of 996 CCE currently under procurement. Uganda has also been considered to benefit from second grant of CCEOP II and a proposal of 635 was submitted on 4th September 2019. Under the Coverage and Equity grant Uganda has also applied for 310 CCE.

Maintenance and Repair of CCE

The major objective of the CCEOP project with Gavi support is provision of equipment with improved technology (Grade A) that is recommended for freeze sensitive vaccines. The areas that need support in this regard are training of the installation and maintenance teams and tracking of inventory of all equipment in the system. Currently, Uganda is using Cold Chain Equipment Maintenance (CCEM) tool.

National level: UNEPI has engaged the National Medical Store to enable EPI cold chain technicians utilize the workshop for major equipment repairs.

- Seven national level cold chain technicians oversee cold chain equipment maintenance at district level and also provide supportive supervision and mentorship to all districts on a quarterly basis.
- The national level technicians are experienced and competent to conduct major repairs on vaccine refrigerators, and also develop capacity of the lower level technicians in key maintenance tasks.

- There is an Engineer at NMS who maintains and services the central vaccine store cold chain equipment (cold and freezer rooms)

District level: CCE maintenance is responded to in an escalation approach, with health facilities notifying the respective District Cold Chain Technicians (DCCTs) of any equipment failure. Depending on the nature of failure and status of the health facility, the DCCT will determine whether to wait until their monthly maintenance visits or give immediate attention to resolve the failure. The former choice of action can be prompted if the health facility has an alternative vaccine storage fridge to which vaccines can temporarily be stored. In either case, the DCCT will instruct the EPI focal person at the facility about immediate actions to take including securing the vaccines to a safe place. A job card is provided for documentation of tasks done and spares used to include recommendations.

Ministry of health is committed to strengthening the vaccines and cold chain management system by strengthening the National Medical Stores to: (i) integrate the logistics for vaccines and essential medicines and supplies, (ii) integrating vaccines management with cold chain.

Accordingly, to improve cold chain equipment repairs and maintenance, the technical staff for cold chain and maintenance will be transferred from MoH UNEPI to NMS. This arrangement will build the institutional capacity of the National Medical Stores to procure, store, distribute vaccines and dry supplies, and monitor the performance of fridges, support routine maintenance, collaborate with Regional Referral Hospitals on minor repairs and refer major repairs to the central workshop at the National Medical Stores warehouse. It is envisaged this will provide more collaborative planning, routine maintenance and repair of cold chain equipment in the districts.

Refugees

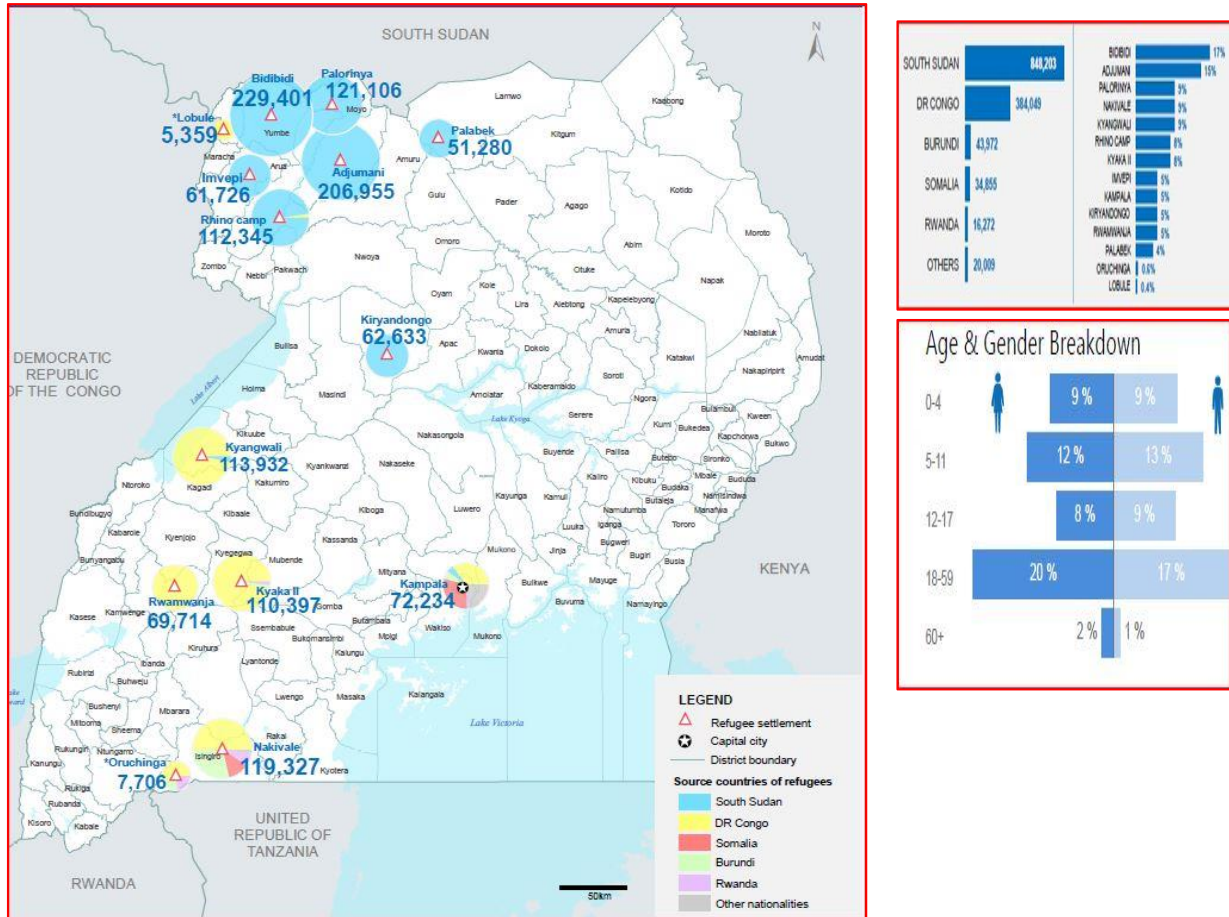
Uganda hosts the largest refugee population in Africa, estimated of 1,347,360⁹ with continuous influx of new arrivals from neighbouring countries with internal conflict. Most of the population are women (51%) and young persons below 18 (60%) in need of immunisations services both at arrival and during routine service delivery (*Figure 1*). In order to mitigate the risk of importation of vaccine-preventable diseases, MoH conducted a multi antigen vaccination catch up campaign in 11 refugee hosting districts with 13 settlements. A total of 228,555 (140 percent) children were immunized with Measles vaccine. Coverage for the 1st, 2nd and 3rd rounds bOPV were 173,404 (100 percent), 175,667 (102 percent) and 217,623 (126 percent) respectively. The coverage was beyond the target due to increased awareness and host community coming in for vaccination. This vaccination campaign has helped to reduce the immunity gap among the refugees and also the host population. In addition to the vaccines on the routine schedule, the Ministry of Health periodically undertakes mass vaccination campaigns against polio, measles, rubella and tetanus diseases which are targeted for elimination; as well as vaccinations against epidemics of cholera, meningitis, yellow fever. Note that this year, with Gavi support, MoH vaccinated over 7,000 frontline health workers against Ebola Virus Disease.

Although annually UNICEF supports vaccine requirements for refugees, the unpredictable trends of refugee influx exerts pressure on traditional vaccines purchased with domestic resources as well as the obligatory financing for Gavi supported vaccines. In light of this issue there is need for additional resources to support buffer for refugee vaccines requirements to ensure immunization of refugee target population.

Besides the vaccine shortages, is the heightened risk of importing otherwise eliminated preventable diseases like Guinea worm, wild Polio virus, cVDPV, Neonatal-Maternal Tetanus into Uganda due to the high population movement across Northern and Western borders.

⁹ Refugee Statistics September 2019

Figure 1: Refugees and Asylum seekers in Uganda as of September 2019



Ebola outbreak:

The ongoing Ebola outbreak since August 2018 in DRC poses a threat to Uganda. Outbreak preparedness and response plan was developed and is being implemented. A total of 5,974 frontline health workers from 14 districts and 1,941 contacts have been vaccinated as of September 4, 2019. The Ebola response activities have strained the human and financial resources at national and district levels. There is need to strengthen national, district and community level responses and resilience by having readily available funding for timely action.

Vaccine Preventable Disease Surveillance

Global Polio Eradication Initiative

In the implementation of the Polio Eradication and Endgame Strategic Plan, Uganda has developed a polio transition plan. The strategies of the plan in ensuring that Uganda’s polio free status is maintained and protected include:

- Maintaining a critical human resource at the national level (surveillance and laboratory)
- Maintaining support for polio program functions (surveillance, laboratory) to continue with contribution towards other public health goals
- Transfer responsibility of assets and essential functions to Government of Uganda or any other implementing partner supporting a related function
- Discontinue polio program functions but retain critical functions
- Discontinue the entire polio program functions and assets but integrate lessons learnt into other public health goals/programs

Anticipated Impact of implementation of Polio Transition Plan

The plan is being prepared for presentation to TCC and ICC for endorsement to initiate resource mobilization. The GPEI has been fully supporting VPD surveillance hence the greatest impact will be on surveillance activities. Therefore, it is important that other global donors and initiatives come in to fill the gap.

Laboratory supplies and reagents

The program has faced a challenge of limited testing kits for Measles-rubella since 2017 as a result of the WHO supplied Siemens Health Care Enzygnostic stock of testing kits running out globally. WHO contacted Disorin to extend the window of Siemens production to 2020 including an improvement in the timeliness in distribution. This led to focusing on testing only specimens from suspected Measles outbreaks. Meanwhile an evaluation of Euroimmun Serion/Virion and other kits in search of a reliable replacement kit to recommend to countries is in the final stages by WHO. It is therefore important for MOH to have in place a more sustainable procurement plan of MR kits from WHO recommended suppliers.

Measles/Rubella outbreaks

Measles outbreaks have been unrelenting since April 2016. It has since been confirmed that the country was faced with a double epidemic of measles and rubella. While a total of 56 and 29 districts had confirmed Measles outbreaks in 2018 and 2019 (Jan-Oct) respectively, 21 and 6 districts had confirmed Rubella outbreaks in the same period ([Table 3](#)). To interrupt the outbreaks, MoH with support from Gavi and partners implemented one of the largest immunization campaign for Measles-Rubella and polio (age range 9mth-<15years,0-59mth) respectively in October 2019 with a campaign coverage of 108% and 97% respectively.¹⁰

Table 3: Measles and Rubella outbreaks

Year	2017	2018	2019
Districts with confirmed Measles outbreaks	10	56	29
Districts with confirmed Rubella outbreaks	14	21	6

Potential future issues (risks)

1. Uganda is experiencing a fast-growing population. This requires additional resources to ensure optimal immunisation coverage This needs to be included in the Annual Health Sector Planning for midterm review and UNEPI annual work planning and immunisation vaccine forecasting.
2. There is continued refugee influx from neighbouring countries, majority of whom are not fully vaccinated and therefore requiring vaccination and other health care services. This therefore requires adequate vaccines and logistics to mitigate the risk of vaccine preventable diseases to host communities.
3. There still exists a risk of Polio importation from neighbouring countries with low immunization coverage, as a result of porous borders and high cross boarder movements. There is need to further strengthen the nationwide disease surveillance system and also ensure the existing immunity gap is reduced.
4. Ebola outbreak that started in August 2018 in DRC has persisted through 2019 and is a potential risk and a strain on the health care service delivery. The Government with support from partners embarked on vaccination of front-line health workers and contacts while also strengthening surveillance and detection to mitigate the further risks.
5. The increase in the number of districts translates into increased number of lower level administrative units. In order to ensure optimal health services including immunization in these new administrative units, there is need for additional resources (financial and human).

4. PERFORMANCE OF THE IMMUNISATION PROGRAMME**4.1. Coverage and equity of immunisation****National and sub-national immunisation coverage**

The program observed improvement in the immunisation coverage as seen from the data from Jan-July 2019

¹⁰ MR-OPV 2019 vaccination campaign preliminary results

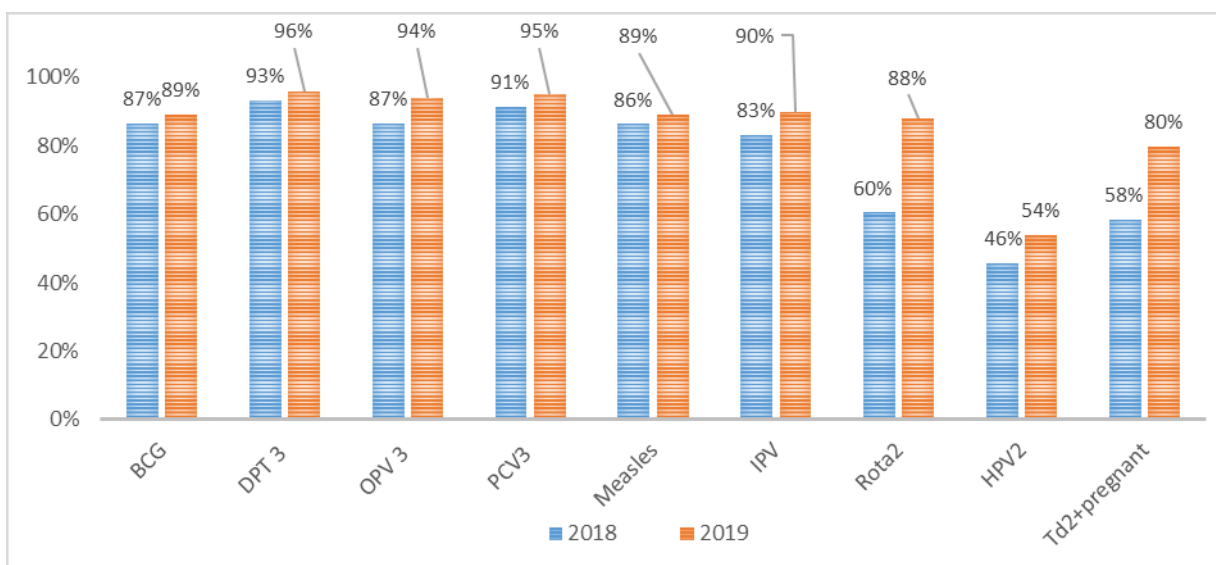
compared to the same period of 2018.

The proportion of districts achieving greater than 90% for DPT3 increased from 51% (65 districts) in Jan – Sep 2018 compared to 66% (85 districts) Jan - Sep 2019. However, for the same period, the number of districts achieving greater than 90% for Measles vaccination remained the same at 31% (40 districts) in Jan-Sep 2018 and 41 (32%) in Jan-Sep 2019. This is attributable among other causes to episodes of stock outs of measles vaccines.

Generally, at national level, the administrative coverage for Jan-Sep 2019 improved compared to the same period in 2018. However, coverage of BCG, Measles, Rota2, HPV2 and Td2+ were below 90% in 2019.

The general improvement is associated with additional investments in immunisation services delivery namely: implementation of RED/REC, LMC support, engagement of non-health stakeholders and enhanced support supervisions and monitoring at the districts level (**Figure 2**). This gain is expected to improve with recent disbursement of funds to districts to support additional vaccination outreaches, district and HSD performance review meetings and engagement of non-health stakeholders in performance reviews to enhance performance monitoring and accountability.

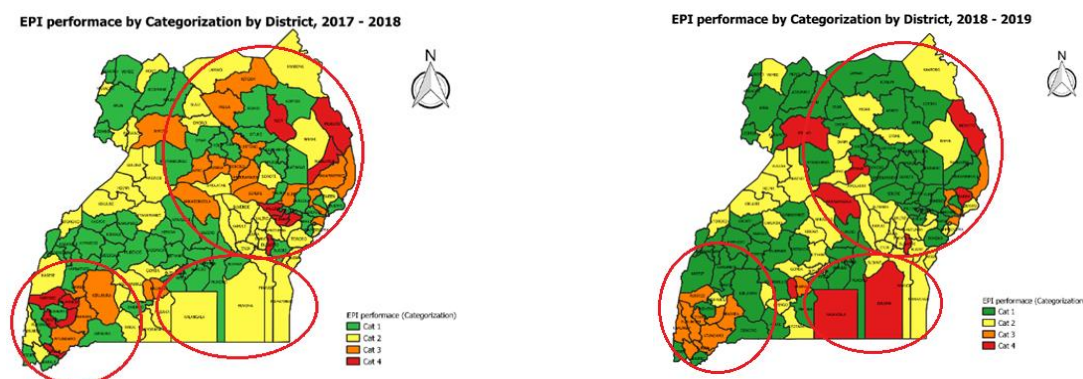
Figure 2: Administrative data coverage 2018 Jan – Sep Vs 2019 Jan - Sep



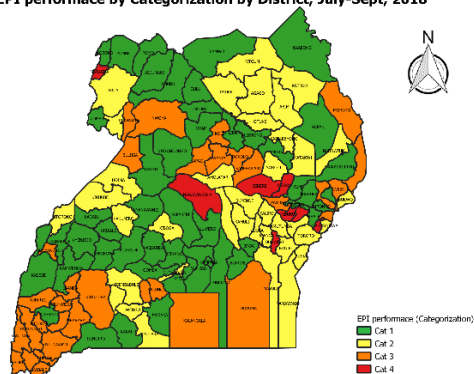
Based on RED categorization, districts continue to improve. Generally, districts continue to shift from category 4 to 3, 3 to 2 as observed in **Figure 3**). However, a few districts such as Buvuma and Kalangala shifted from Category 2 to 4 and Nakasongola shifted from Cat 3 to 4. Clearly, figure 3 below shows that the districts which need further support are in south western, Central, Eastern and Karamoja region. In the new support by UNICEF through the 4 hired consultants, the district with poor performance) have been prioritized for technical assistance.

Performance of districts was also assessed by comparing performance in Jul-Sep 2018 and Jul-Sep 2019. We observe that the number of districts in RED cat1 and cat 2 increased in Jul-Sep 2019 compared to Jul-Sep 2018.

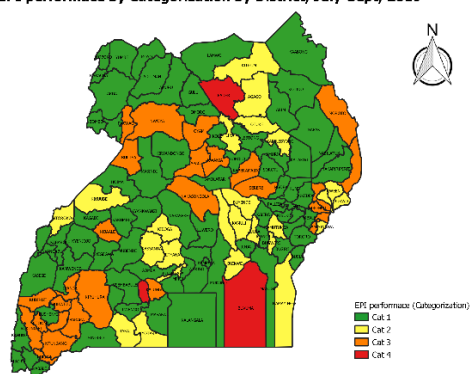
Figure 3: Map showing district performance by category comparing FY2017/18 and FY 2018/19



EPI performance by Categorization by District, July-Sept, 2018



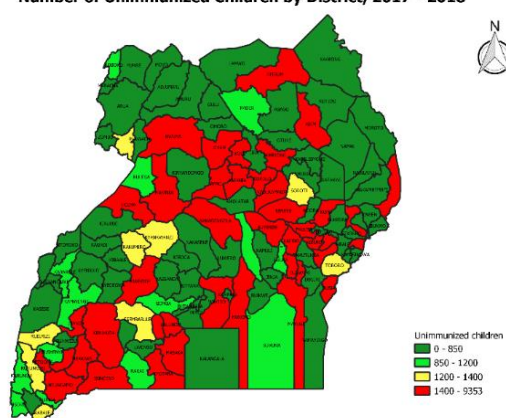
EPI performance by Categorization by District, July-Sept, 2019



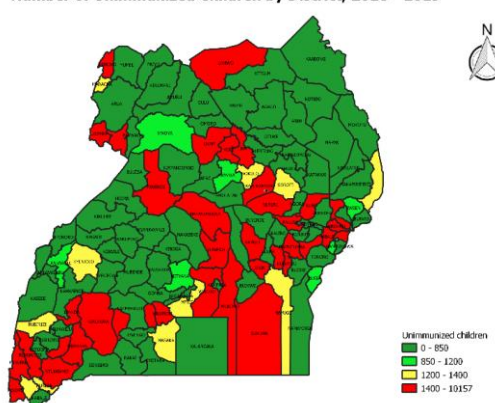
Also, the number of unimmunized children reduced from 143,090 in FY17/18 to 128,501 in FY18/19. The number of districts with unimmunized children lower than 850 increased from 63 in FY17/18 to 72 in FY18/19 (Figure 4). These gains will further be consolidated through new partnerships and strengthening functionalization of regional technical assistance and supervision structures.

Figure 4: Map showing numbers of unimmunized children comparing FY2017/18 and FY 2018/19 by district

Number of Unimmunized Children by District, 2017 - 2018



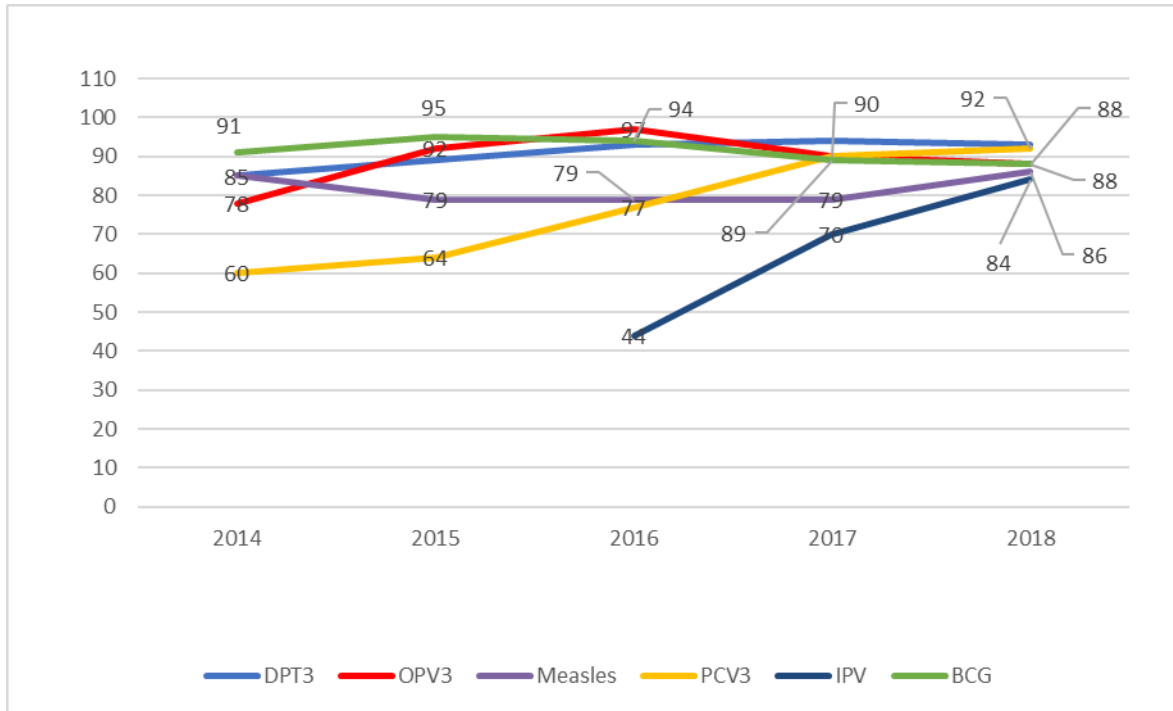
Number of Unimmunized Children by District, 2018 - 2019



The WUENIC data 2018 reflects a gradual decline in OPV3 and BCG from 2016. However, all the childhood antigens remained above 80% nationally. While the cMYP for the country sets a target of 90 percent coverage, only DPT3 and PCV3 achieved the set target (Figure 5). Uganda also experiences high numbers of missed opportunities as highlighted in a study that compared static and outreach immunisation strategies in Uganda in 2019¹¹. The decline in coverage is a result of 1) vaccine stock outs and logistic challenges in 2018 especially measles, bOPV, BCG, gas. In addition to vaccine stock out, weak defaulter tracking mechanisms at the facility and community to ensure completion of the immunisation schedule is partly responsible. Low defaulter tracking is partly attributable to inadequate use and availability of health facility micro plans, child health cards, HF child register, community child register and lack of regular harmonization of the two child registers. Despite high coverage for DPT3, Uganda experiences low measles coverage which does not ensure adequate herd immunity to prevent measles outbreak.

¹¹ Comparing static and outreach immunization strategies and associated factors in Uganda

Figure 5: National Immunisation performance 2014-2018 (WUENIC data)



Coverage and Equity implementation in the districts with inequities

The 22 districts contributed 85,516/267,237 (32%) unimmunized with measles; and 66,632/154,958 (43%) unimmunized DPT3. Also, in the analysis 5 districts (Kampala, Wakiso, Iganga, Amudat and Sheema) from the previous 36 district still had persisting inequities. The 22 districts were supported to update RED micro plans with interventions for reaching high risk communities. The support provided contributed to a reduction of unimmunized children by 16% and improved immunisation coverage in 16 (73%) districts achieving DPT3 coverage above 80 percent (Figure 6)

Figure 6: Performance of the 22 districts identified with inequities in 2018

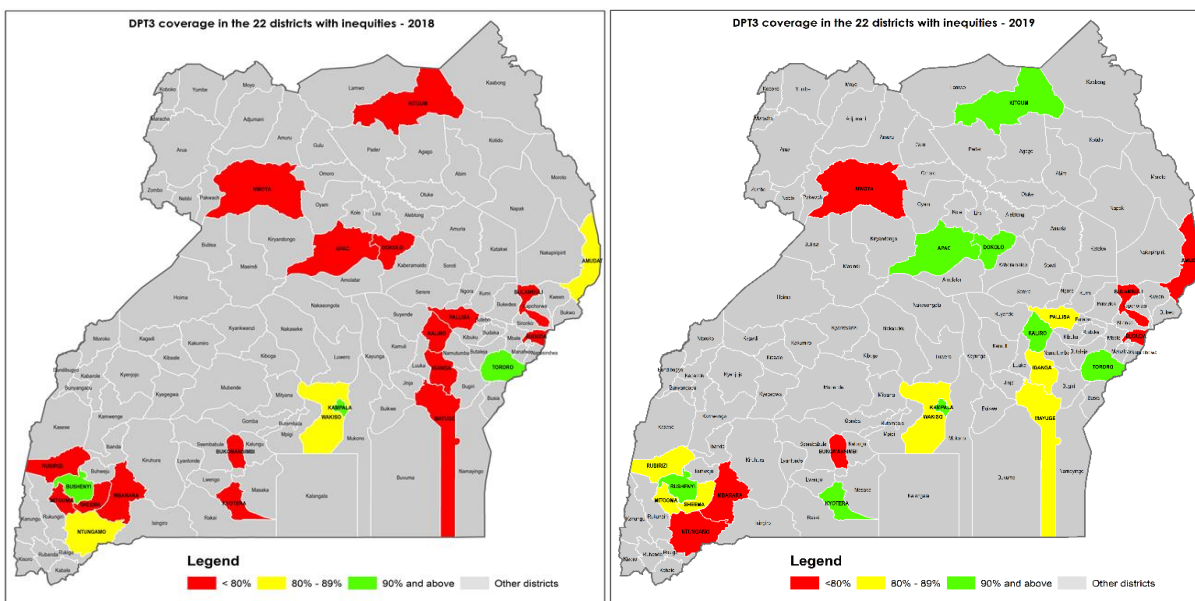


Table 4: Performance of the 22 districts identified with inequities in 2018

Coverage (%)	No. of districts and years	
	2018	2019
<80%	16	6
80-90%	3	7
>90	3	9

Urban Immunization:

Urbanization in Uganda is growing at a fast rate, and along with this growth are the associated challenges to overall immunization and health services delivery. Some of the key aspects include high numbers of urban poor /slum dwellers, homeless populations on streets, unique caregivers work schedules that don't align with the Health Workers' schedules, health services predominantly provided by private facilities that charge for the services. The urban population has characteristics different from the rural population and therefore the need to modify on the strategies for urban vaccination.

There have been efforts to understand and mitigate the observed challenges such as work done by UNICEF in Kampala City Council Authority (KCCA) and Wakiso districts shows that they need special attention due to large proportion of children under 1 year 188,595 (11%) of the national target population (1,733,204). In addition, these two districts host the largest numbers of urban unreached (informal settlements, refugees, migrants, gated communities and highly social-economic mobile population). The districts were supported to implement micro plans, registration of target population and financed implementation of activities. Clearly, the numbers of unimmunized children steadily declined over the period 2016-2019 (*Figure 7*). Kampala, however poses a challenge as the denominator may not be reflective of the population that actually receives immunization services in Kampala. This is due to the fact that a sizeable population of those residing in neighboring districts receive health services including immunization in Kampala. This may necessitate that the scope of assessments of Kampala consider metropolitan Kampala (Wakiso, Kampala & Mukono) and would be good to intervene at metropolitan level rather than KCCA only.

Figure 7: Trends of unimmunized children in Metropolitan Kampala 2016, 2017, 2018 and 2019

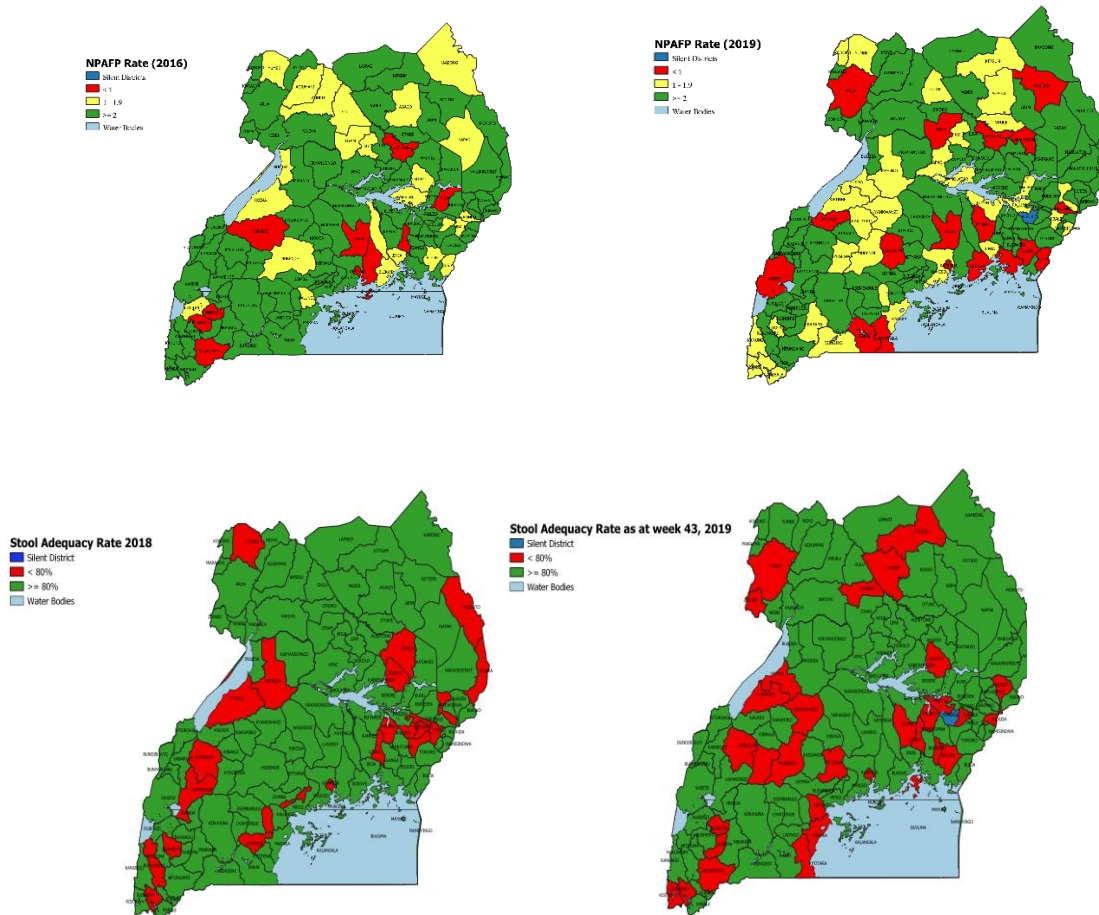
Vaccine preventable disease surveillance Acute Flaccid Paralysis

Ministry of Health and partners continue to use the case-based disease surveillance and Mtrac system for AFP surveillance. In 2018 we had an AFP rate of 2.19/100,000 and stool adequacy rate of 92%. Although the performance at the national level is good, at the sub-national levels there are still districts that are performing sub-optimally.

Figure 9 shows the non-polio acute flaccid paralysis (NPAFP) rate by district. As observed, the districts with rates below 1/100,000 varied across the years between 2017 and 2019. We therefore need to intensify

active search through reorientation of health workers on surveillance and strengthen community surveillance in order to maintain our elimination status.

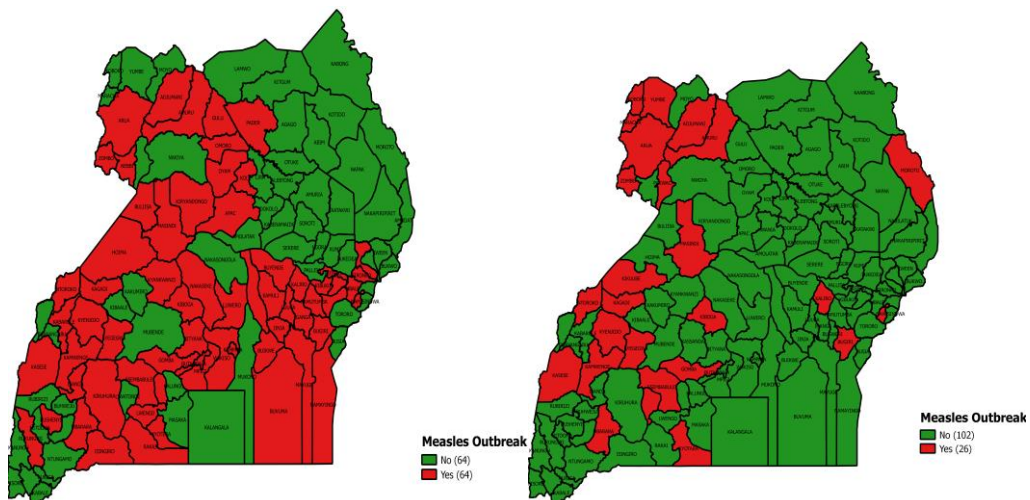
Figure 9: NPAFP surveillance indicators



Measles and Rubella Outbreaks in Uganda

Since 2018, Uganda has registered several outbreaks of measles and rubella disease in at least 60 districts (Figure 10). Outbreaks of immunisable diseases occur mainly as a result of low immunization coverage against the targeted diseases in an area and pose a potential risk of increasing the spread of disease countrywide

Figure 10: Measles outbreaks in Uganda from 2018 to 2019



Maternal and Neonatal Tetanus

Uganda was certified to have eliminated maternal and neonatal tetanus in 2011. The remaining challenges include; maintaining high vaccination coverage, strengthening case-based surveillance to ensure we maintain the elimination status, improve funding for active surveillance at regional and sub-national levels, improve data use, build capacity and develop innovative ways (provide incentives and eIDSR/EWARS).

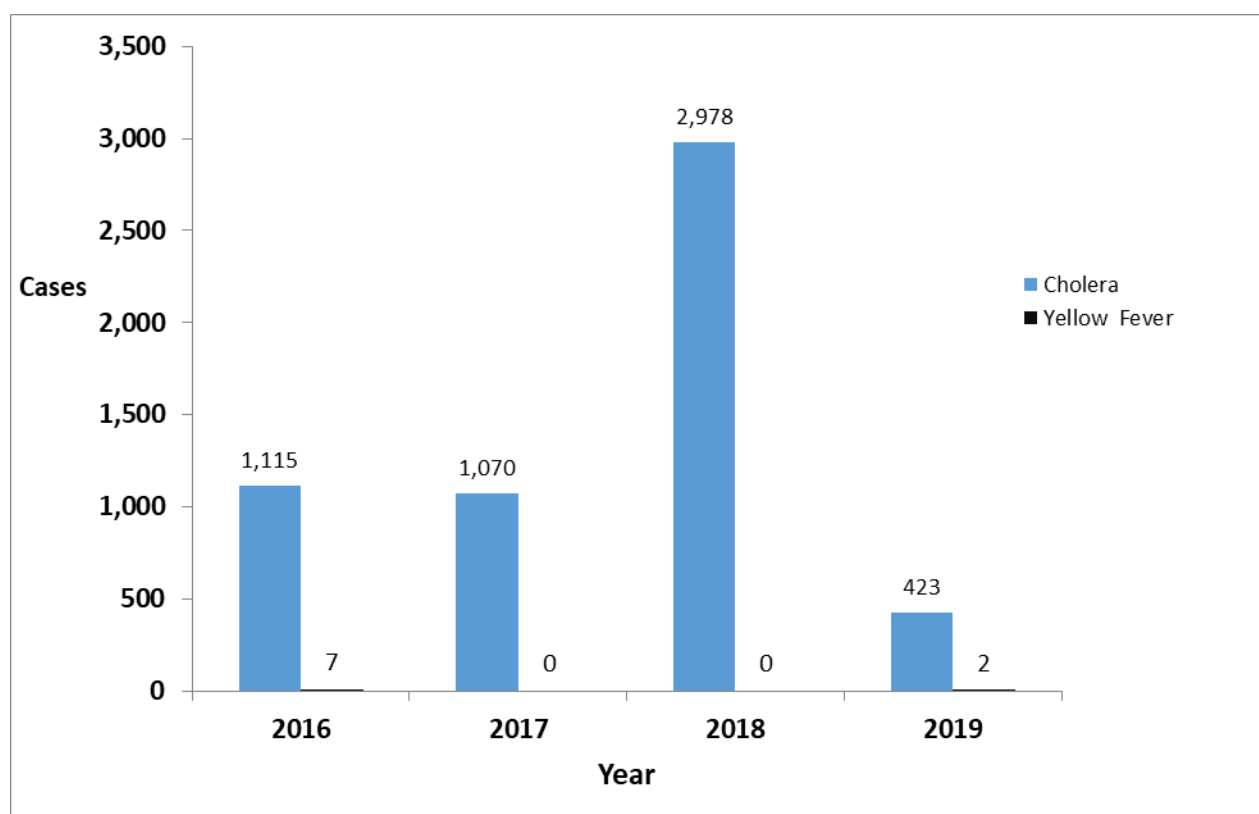
Adverse Event Following Immunisation (AEFI)

2,868 AEFI cases were reported in 2018 through the electronic health management system (eHMIS) compared with 2,887 in 2019. Of the AEFI cases reported in 2018, 8 were through case-based surveillance and among which, 7 were serious. The number and seriousness of AEFI reported through case-based surveillance did not change in 2019. With the increasing number of antigens and public awareness, there is need to strengthen AEFI surveillance through improved communication to the masses, provision of AEFI tools and on-job training.

Yellow Fever

Uganda falls within the Yellow Fever belt. Between 2016 and 2019, nine (9) yellow fever cases have been confirmed with 7 in 2016 and 2 in 2019 (Figure 11). The cases confirmed in 2019 were from Koboko District and Masaka District. The Uganda National Immunisation Technical Advisory Group (UNITAG) in 2017, recommended the introduction of Yellow Fever Vaccine into the routine immunization schedule at 12 months of age. The process of introduction have not yet commenced.

Figure 11: Uganda Disease Burden of Yellow Fever and Cholera in 2016-2019



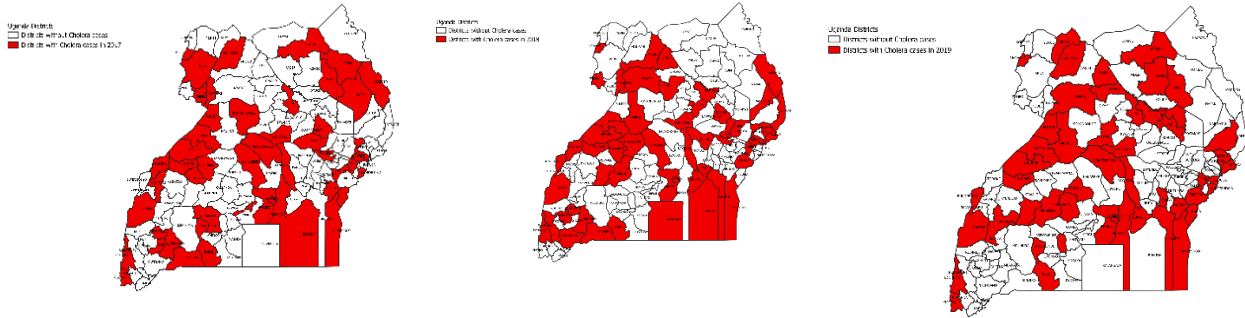
Source: DHIS2 Database 2019 for Cholera and Yellow Fever Case Based Database

Cholera cases

Cholera is a major public health problem in Uganda leading to over 1,000 cases annually. Between 2011 and 2016, a cumulative total of 11,030 cases were reported and in 2019 four (4) districts registered a total of 280 confirmed cases. Ministry of Health (MOH) launched a National Integrated Comprehensive Cholera Prevention and Control Plan for Fiscal Years (2017/18, 2021/22) that aims to reduce the incidence of cholera in Uganda by 50% by the end of fiscal year 2022 and subsequently prepare the country for cholera elimination as per the global roadmap. Included in the Uganda national cholera prevention and control plan is the strategic use of Oral Cholera Vaccine (OCV) to prevent cholera among at-risk populations. Cholera hot

spots are well identified in Uganda and three phases of vaccination campaign are planned to cover 11 districts in Uganda specifically in the hotspots and targeting 3,600,000 people. MOH successfully started with a reactive phase in 2018 in response to an outbreak in Hoima district and the coverage survey showed 91.4% (89.9 – 93.0) of the target population in the first round and 80.5% (78.2 – 82.6) in the second round. The overall two dose coverage was 78.3% (75.9 – 80.6). The second phase targeting five districts was implemented in May 2019 where the OCV coverage was 53% in Buliisa, 102% in Nebbi district, 106% in Pakwach district ,84% in Zombo district and 117% in Bududa district. Second dose will be administered in November 2019. Cholera reporting is good and remains constants. *(Figure 12)*

Figure 12: Distribution of Suspected Cholera cases in Uganda between 2017 and 2019

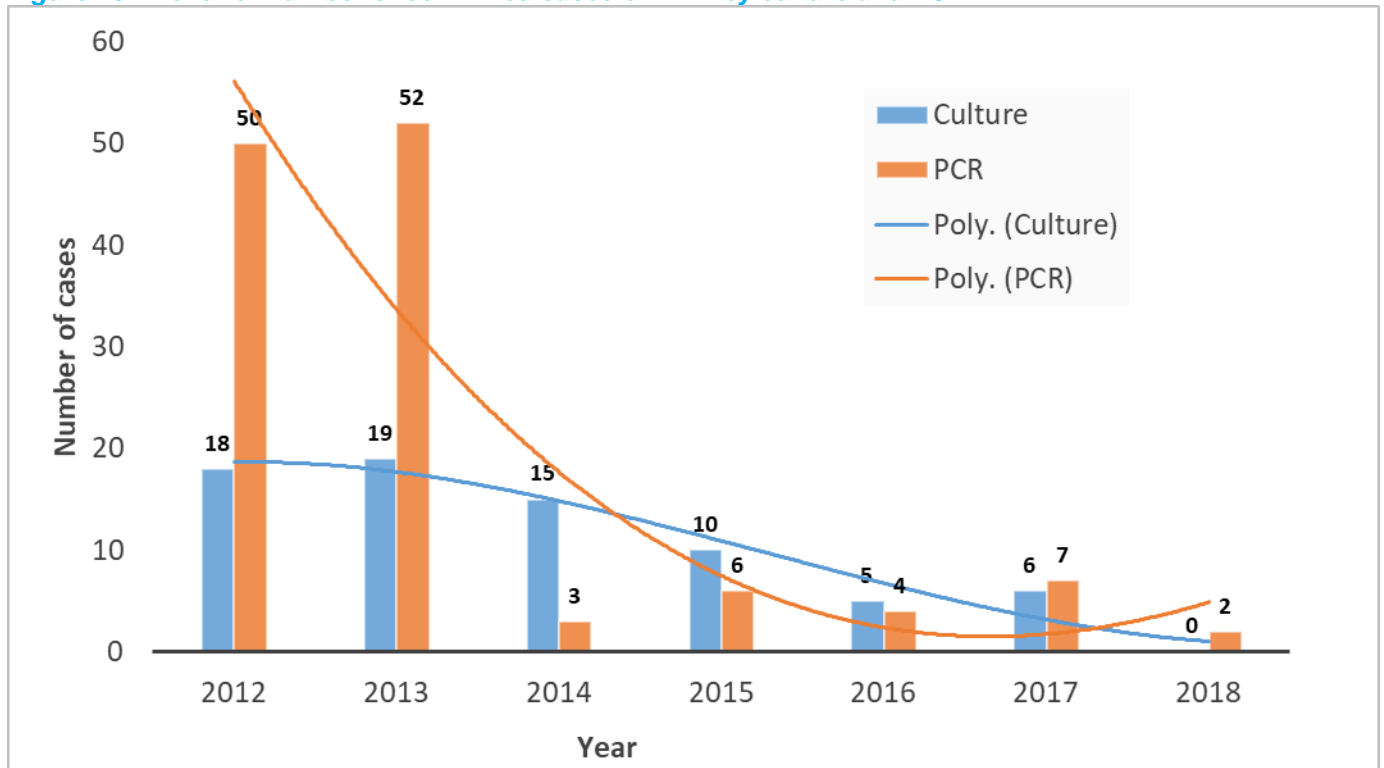


Pneumococcal Bacterial Meningitis (PBM)

Ministry of Health uses sentinel surveillance for monitoring the occurrence of vaccine preventable diseases in the population and also be able to determine trends in a larger population. The cases of pneumococcal bacterial meningitis (PBM) from sentinel sites between 2012 and 2018 were analysed. The graph below shows there was a decline in the number of PBM cases following introduction of PCV vaccine in 2013 *(Figure 13)*.

A similar trend is observed with cases confirmed by culture.

Figure 13: Trend for number of confirmed cases of PBM by culture and PCR



Source: PBM sentinel sites data 2012-2018

Challenges

- Erratic supplies to support surveillance activities
- Limited IT support including frequent computer break downs
- High attrition rate of trained surveillance focal persons

4.2. Key drivers of sustainable coverage and equity

Health Work Force (involvement of teachers and schools Ministry Of Education and Sports)

The human resource for health staffing in the public sector stands at 73%; Disaggregated as follows: HCII (53%), HCIII (80%), and HCIV (84%). The staffing levels have been increasing over the past 10 years but, the health sector still faces critical staff shortage. The disparity affects immunisation service deployment and schedule compliance resulting in missed opportunities for immunisation, long waiting time and discontent in the service delivery. In addition to staff shortages, there is also lack of adequately skilled staff, who are poorly distributed in rural areas compared to urban settings ^{12, 13}.

Supply chain

Uganda immunization supply chain operates in three levels namely national (primary), district (lowest distribution) and service point (health centers). Major success for immunisation program is reliant on a robust and responsive vaccine supply chain and vaccine management. The 2018 Effective Vaccine Management Assessment (EVMA) identified areas of improvement which include:

EVMA 2018

- Documentation of temperature review activities to show causes and actions at district and service levels
- Use of freeze indicators for distribution at district level
- Provision and service of fire extinguishers
- Update of temperature monitoring studies
- Timely recording, updating and archiving of all transactions involving vaccines and supplies ledgers at district and service levels
- Skills development for personnel vaccine management activities such as wastage monitoring and calculations, shake test and stock levels.
- Keeping records of maintenance tasks carried out on equipment and building at district and service levels
- Strengthening of vaccine distribution with timely provision of transport requirement (vehicles, fuel)

To address the above challenges, the vaccine management committee has developed the EVMA improvement plan. In addition, the team has developed the CCEOPII deployment plan to address the remaining cold chain capacity challenges.

Service delivery

Ministry of Health and partners have reviewed and developed a harmonized RED/REC implementation guide and mentorship checklist. The harmonized microplanning guide provides a tool that identifies communities affected by inequities and guides on how to address them. The immunization microplanning process has been linked to the integrated annual workplan process to ensure that the microplanning process feeds into the health sector work planning process. Districts need to be oriented on these key materials as they will be utilized by all stakeholders as guided by the allocation of implementing partners.

Government of Uganda through MoH has applied for additional HSS funding to address the coverage and equity in selected districts.

Identified service delivery pitfalls include:

- Inadequacies in microplanning and implementation of the plans due to lack of funds and inadequate planning skills.
- Irregular outreach and static immunisation services including missing identification of special groups (such as urban unreached, new settlements, migrant populations and refugees), are mainly attributable to poor planning and inadequate financing.

Inadequate supervision and mentorship and of health workers in immunization service delivery

Inadequate training during pre-service training, and at operational level over the last 5 years.

Demand generation

Demand creation for immunisation services is through Village Health Teams (VHTs), local government officials, councillors and health workers. There is need to engage community structure (VHTs/LCI) to conduct a child targeted population registration and follow up as well as mobilization. Uganda has revised the communication strategy to aid demand generation. However, there is inadequate involvement of non-health

¹² Human resources for health audit report 2017/18

¹³ Challenges and Opportunities to Secure Universal Health Coverage in Uganda

stakeholders (religious, civic, political and cultural leaders) except during campaigns. There is need for a systematic process to engage VHTs, religious, civic, political and cultural leaders. There are emerging groups that are hesitant/resistant to immunization and other health services. This needs a sustained and focused engagement of these groups in order to change behaviors and adopt positive practices. This engagement will also include a specific and targeted approach to address the elite and urban communities that are resistant to health interventions. Continued engagement of non-health stakeholders for mobilization of communities will continue to be a key strategy. However, experience from the HPV, MR and polio campaigns showed that teachers and school nurses are not updated on immunization yet a strong school health program is important in improving community health service delivery. Also, schools will be more critical in mobilizing for immunization when the country introduces vaccination in the second year of life. Ministry of Education and Sports needs to be regularly involved in planning, implementation, monitoring and reporting of EPI activities.

There is also need to strengthen interpersonal communication skills of health workers at all levels to create sustained demand.

Gender-related barriers faced by caregivers

Women are primary care takers of family individuals who fall sick or need health care services in the household; the occupation of mothers determine the completion of the vaccination schedule¹⁴. Women in rural areas earn less and therefore depend on financial support/income from the husbands. Though immunization services are free in all Public and PNFP sectors, indirect costs predominantly from transport fares, waiting time, and missed opportunities for income generation affect uptake of immunization services especially for single women, poor families and those living in rural areas.^{15,16}

Data / Information system:

Uganda uses the DHIS2 as the main data entry and data storage system for all routine immunization and surveillance data. In addition, standalone database or spreadsheets are used for entry and storage of:

- case-based surveillance data for Measles, AFP and Yellow Fever at the testing lab (Epi info based)
- Cold chain inventory data (MS access based)
- Vaccine stock data (MS excel spreadsheets)
- VAEMIS for AEFI data (started recently – web based) in few districts

MoH has however revised HMIS tools to allow for collection and reporting on stock and cold chain inventory data through the DHIS2 in the new version.

Since 2014, the Ugandan EPI programme with the support of partners has been implementing the Data Improvement Teams (DITs) Strategy coordinated by CDC/AFENET. The DIT strategy was designed to address the gaps identified in the 2013 National Immunization Data Quality Self-Assessment (DQSA). The objectives of the strategy included improving overall immunization quality, management, and use of data. The district level teams were trained on data improvement modules by UNEPI and Division of Health Information staff followed by rapid data quality assessment and on-the-job mentorship at district and HF levels to address identified gaps. The strategy was conducted in two rounds in all 17 DIT regions nationwide. The first round of DIT covered all 112 districts of Uganda and was completed in April 2016, the second round began in August 2016 and will be completed by April 2020. As of November 2019, implementation of the second round has reached 15 of the 17 targeted regions.

Key DIT Strategy performance monitoring indicators include:

- No. of DITs trained and deployed during each regional deployment
- % of health facilities using standard immunization reporting tools
- % of districts and health facilities that knew their target population <1-year-old
- % of health facilities charting AND displaying immunization coverage data
- % of districts and HFs with documented evidence that routine immunization data are used for action
- Congruence of Penta3/PCV3/measles doses between different recording and reporting sources

Key informants in an evaluation conducted by Gavi FCE in 2018 attributed observed decline in coverage to data cleaning exercises conducted under Data Improvement Teams (DIT) strategy¹⁷. Also, data discrepancy

¹⁴ Bbaale E. Factors influencing childhood immunization in Uganda. *J Health Popul Nutr.* 2013;31(1):118–129.

¹⁵ Gender determinants of vaccination Status in children: evidence from a meta-ethnographic systematic review

¹⁶ Gender and Social inclusion analysis: Uganda 2017

¹⁷ First report of the Gavi Full Country Evaluation 2018

between data tools such as HMIS 105 and DHIS2 has reduced Fig.15-17.

Figure 15: Congruence of penta3 doses between different recording tools & reporting tools Vs DHIS2 between Round 1 and 2 (N=2,427)

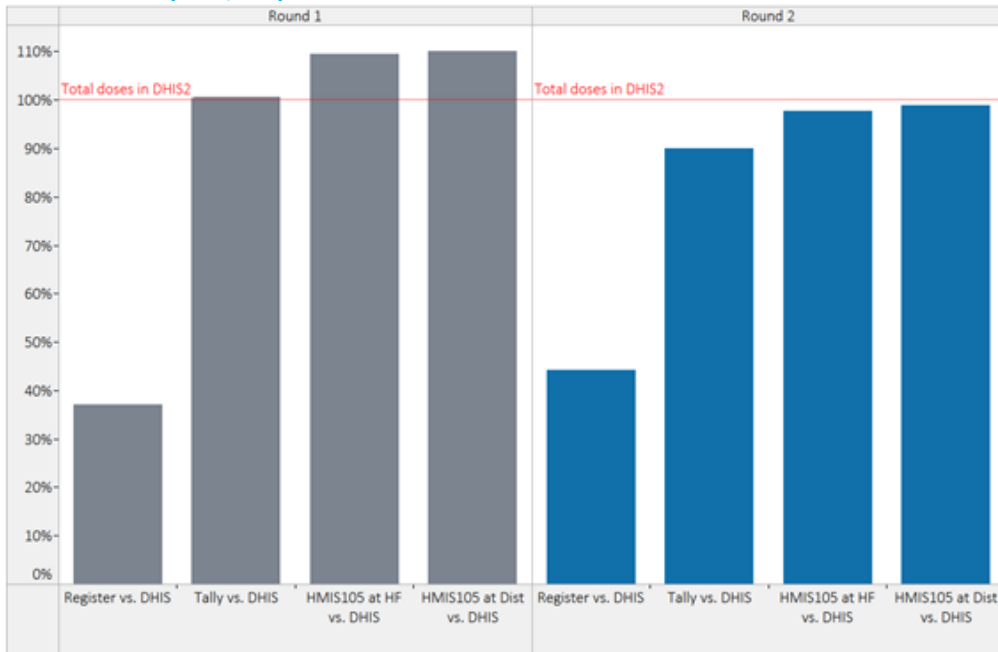


Figure 16: Percentage of HFs with standardized immunisation tools, Round 1 and 2 (N=2,427)

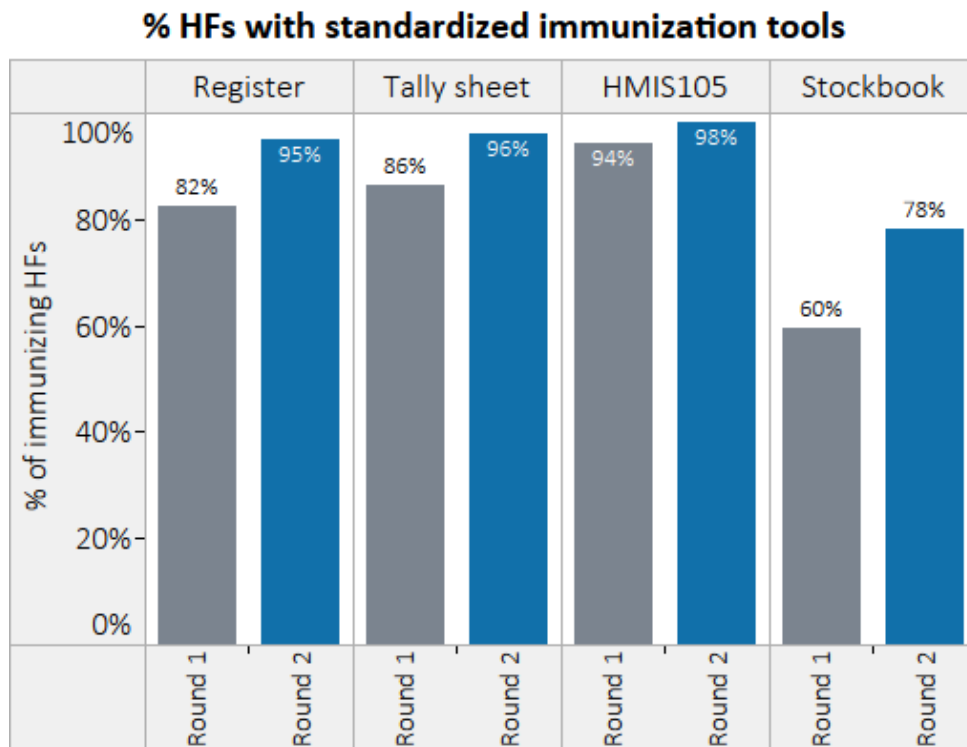
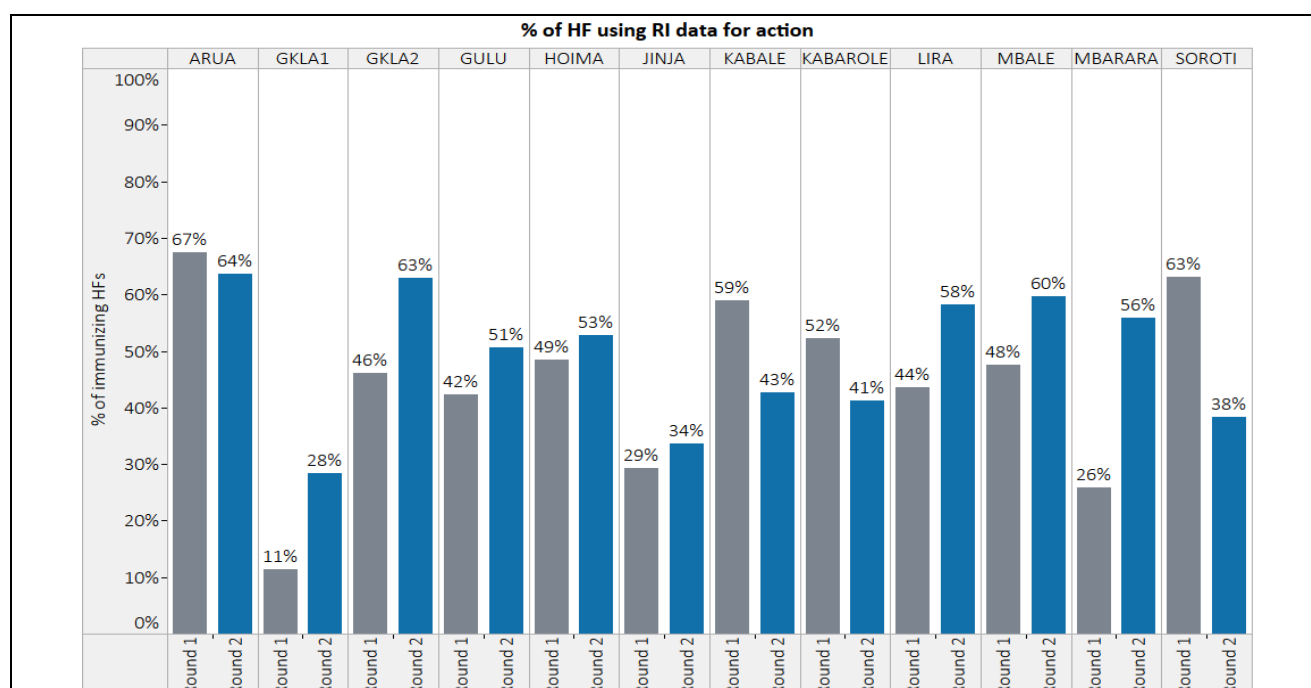


Figure 17: Percentage of HFs using RI data for action in both Round 1 and 2 (N=2,427)



Based on the improvements demonstrated by the DIT Strategy and the findings from the Gavi funded data review in 2018, UNEPI has developed a Strategic Data Improvement Plan (2019-2024) with technical and financial support from WHO. The plan is yet to be presented to MoH structures for endorsement. Clearly, the over reporting in HMIS105 during the first round had reduced by the time the second round was implemented. Among the observations are:

Observations from field assessments and DIP development:

1. Low use of the child register
2. Data transcription with weak harmonization
3. Information systems that are not yet linked to DHIS2 (Vaccine Adverse Events Management Information System - VAEMIS, case-based data)
4. At national level, one M&E officer doubles as a data manager and is overwhelmed.
5. There is no dedicated strategic information officer to manage and use EPI data on a full-time basis.

Lessons learnt

- Regular feedback and follow up reminds health workers on the importance of data and reporting

Recommendation

- Continuous mentorship and training are needed to improve data quality and use, given high staff turnover
- Routine supportive supervision including EPI data quality checks should be considered
- Further studies needed to better understand factors impacting immunization data quality
- Consider e-registry
- Recruit a full time EPI strategic information officer to support the monitoring function

Leadership, management and coordination

Ministry of Health appoints health facility managers based on medical training qualifications and not on any experience or training in leadership and management. This creates gaps in actual practice where persons are in positions of leadership and management but are not oriented, inducted or trained on what they should be doing. There is a need to harmonize a content specific module on LMC for all levels of the health system (e.g. EPI Managers and health facility in charges).

Policy, regulations and enforcement

The current immunization act lacks immunization regulations, this needs to be developed and enforced. In addition, there are current emerging issues that are not catered for in the current act, including implementation of urban immunization strategies addressing coverage and equity gaps and serving refugee and migrant populations. Therefore, future policies and strategies should be flexible enough to allow for the changing and dynamic country immunization and health context.

4.3. Immunisation financing

- To ensure sustainable financing for immunization, the government of Uganda has the following key documents in place: National Health Financing Framework, Health Financing Strategy 2015/16 to 2024/25, Resource mobilization framework, immunization sustainable plan, cMYP 2016-2020, Annual Work Plans and the Grant performance framework. The funding from partners and activities in cMYP and annual work plans are captured in national health budgets, except for the Gavi funding which is channeled directly through partners including funding for non-traditional vaccines. Government needs to have a holistic picture of the total funding needed to sustain the immunization program post Gavi support.
- Government of Uganda has provided funding for traditional vaccines to a tune of US dollars 5,698,779 (21 billion Uganda shillings) for the financial year 2019/20 which is estimated to be adequate to meet the current target population needs.
- Gavi has committed funding for non-traditional vaccines for 2019 to a tune of USD 16,912,990.
- GoU has committed co-financing for new vaccines (DpT-Hep-Hib, PCV, HPV, Rota & MR) worth USD 3,382,598 for 2019. Currently GoU has paid USD 2,068,416 (61%) of the 2019 co-financing and expected to pay up the balance before end of 2019. Government has no co-financing arrears.
- Budgeting – The Gavi budgeting and planning cycle for HSS 2 is aligned to the GoU financial reporting cycle of 1 Jul to 30 Jun.
- Indicative planning figures for 2019/20 were shared with Local Governments to incorporate the Gavi funded activities in the respective district annual budgets and workplans.
- Disbursement of funds to districts – There has been a one and half year's delay from the receipt of the Decision Letter for HSS 2 and the first Disbursement of funds from Gavi due to protracted negotiations between GoU and Gavi on the funding modalities. In addition, there were changes in the management of EPI programme which led to a 3months delay in disbursing funds to the District.
- Lack of timely and accurate data on sub national statistics (Schools, administrative units, general population, refugees, etc.) is negatively affecting forecasting and planning. The MoH should work closely with other government departments like Bureau of statistics, Ministry of Local Governments and Ministry of Education to have updated planning statistics at any one time.

5. PERFORMANCE OF GAVI SUPPORT

5.1. Performance of Gavi HSS support (if country is receiving Gavi HSS support)

Uganda is implementing the second cycle of a 5-year Health System Strengthening (HSS2) Grant worth USD 30,600,000, starting in 2017 as indicated in the Decision Letter dated 8th May 2017. However, due to protracted discussions between Ministry of Health and Gavi secretariat on funds flow mechanisms and in particular the need to implement all Grant Management Requirements (GMRs), the first disbursement for program implementation was only completed in July 2019. The table 5 summarizes the disbursements received between June 2018 and 31st October 2019.

Table 5: Disbursement of HSS2 funds between June 2018 and 31st October 2019

Disbursement	Amount (USD)	Comment
1 st disbursement	560,000	Operations and bridging the gap for catalytic activities between HSS1 and HSS2
2 ND disbursement	561,000	Co-financing for CCEOPI to UNICEF supply division
3 rd disbursement	2,091,372	Kick-start key HSS 2 planned activities
4 th disbursement	1,591,850	Co-financing for CCEOPI to UNICEF supply division
5 th disbursement	7,583,419	Procurements under HSS 2 to UNICEF supply division
TOTAL	12,387,640	This equals 94% of the total approved HSS 2 fund for a period of two years (2017-2018)

Of the USD 12,387,640, 92% (11,358,108) has either been utilised or committed for use. The details by objective on implementation status is shown in table `6.

The table below summarises the outputs under the HSS2 grant releases as outlined above. The status of implementation has been categorised as follows;

- I. Implemented: fully executed and technical report may be available.
- II. Committed: Concept notes have been developed, reviewed, and requisitions approved or funds already disbursed to the beneficiaries and waiting for implementation and or final accountability.
- III. Ongoing: Activity is either recurrent or being implemented

Table 6: status of implementation of planned activities under HSS II first two years of disbursement

Objective 1	
Objective of the HSS grant (as per the HSS proposal or PSR)	To enhance equitable access to quality EPI and other priority RMNCAH services by target populations, with emphasis on hard-to-reach populations, so as to increase uptake of EPI and other priority RMNCAH services by December 2021
Priority geographies/population groups or constraints to C&E addressed by the objective	The HSS2 grant was not fully oriented to C&E; a separate C&E grant has been submitted to Gavi.
% activities conducted/budget utilisation	17% (2/12) of planned activities have been implemented and budget utilisation is 2% (USD 137457 of USD 7,566,594 allocated) Total amount of funds committed is 4,412,458 (58%) of the total budget allocated under objective 1.
Major activities implemented & Review of implementation progress including key successes & outcomes/ activities not implemented or delayed/ financial absorption	<p>Activities implemented</p> <ol style="list-style-type: none"> I. 82 central level supervisors oriented and deployed in 71 districts to supervise ICHDs. Expected outcome; increased number of children vaccinated hence reduced number of unimmunised children. II. 65 districts facilitated to implement three additional outreaches per selected health facility. Expected outcome; increased number of children vaccinated hence reduced number of unimmunised children <p>Activities committed to be implemented</p> <ol style="list-style-type: none"> I. Implementation of outreaches in all districts II. Training of 74 TOTs in IIP for 5 days III. Regional level training of 4 DHT members on IIP IV. Procurement of 657 motorcycles V. Procurement of 71 vehicles for districts VI. Print 10,686 copies of immunisation standards
Major activities planned for upcoming period (mention significant changes / budget reallocations and associated changes in technical assistance <small>Errore. Il segnalibro non è definito.</small>)	<ol style="list-style-type: none"> I. Conduct EPI training of DHTs in MLM II. Conduct IIP training for health workers in all districts
Objective 2:	
Objective of the HSS grant (as per the HSS proposal or PSR)	To strengthen the logistics and supply chain management system of UNEPI/NMS in order to improve the quality of stock management as well as efficiency of distribution of these essential commodities at all levels countrywide by December 2021
Priority geographies / population groups or constraints to C&E addressed by the objective	The HSS2 grant was not fully oriented to C&E; a separate C&E grant has been submitted to Gavi.
% activities conducted / budget utilisation	19% (3/16) of planned activities have been implemented and budget utilisation is 16% (USD 909,818 of USD 5,616,064 approved budget for year 1 and 2) Total amount of funds committed for 12 activities is USD 4,315,850 (77%) of the total budget allocated under objective 2.

Joint Appraisal (full JA)

<p>Major activities implemented & Review of implementation progress including key successes & outcomes / activities not implemented or delayed / financial absorption</p>	<p>Activities implemented</p> <ol style="list-style-type: none"> I. 52 districts facilitated and supervised to conduct preventive cold chain maintenance. Expected outcome; Increased number of functional EPI fridges II. 5,000 vaccine carriers and 1,115 cold boxes procured <p>Activities committed to be implemented</p> <ol style="list-style-type: none"> I. Procure and install one drive-in cold room (with 3 sub-partitions, inclusive of racking) with total capacity of 1200 M3 II. Procure one standby generator of 150KVA for central vaccine store and 11 generators for district vaccine stores including one voltage stabilizer for the cold room III. Procure one 10 cubic meter cold room for Kampala and Wakiso IV. Procure fire extinguishers V. Procure 31 Solar Direct Drive (SDD) fridges and 3 electric fridges which are not eligible for purchase under the CCE VI. Contribute 20% of the USD 10,760,228 (US\$ 10,753,430 excl. 20% - 2,150,686) to cater for co-financing of the Cold-chain Equipment Optimization (CCE OPT) budget VII. Procure two refrigerated trucks (1 medium truck & 1 large size truck of volume) for delivery of vaccines and cold-chain depended medicines to sub-national level VIII. Procure 11 medium-size motorized boats (motorboats) for delivery of EPI commodities to Islands IX. Conduct central and regional planned preventive maintenance, logistics distribution and supervision (Regional) X. Facilitate the disposal of obsolete immunisation equipment in the 132 districts country wide XI. Train 132 District (DCCTs) and fourteen Regional Biomedical / Cold Chain Technicians in basic maintenance of the cold chain and other crucial medical equipment in order to ensure sound cold chain integrity in each district. XII. Equip and furnish a central level workshop for repair and maintenance, spare parts storage, hands-on training on cold chain maintenance
<p>Major activities planned for upcoming period (mention significant changes / budget reallocations and associated changes in technical assistance <small>Errore. Il segnalibro non è definito.</small>)</p>	<ol style="list-style-type: none"> I. Facilitate the disposal of immunisation waste in 122 districts country wide
<p>Objective 3:</p>	
<p>Objective of the HSS grant (as per the HSS proposal or PSR)</p>	<p>HMIS/Strategic Information: To strengthen generation and utilization of routine and real time strategic health information (HMIS, IDSR & Surveys) on EPI and other priority health services for responsive management of these services at all levels of the health system by December 2021</p>
<p>Priority geographies / population groups or constraints to C&E addressed by the objective</p>	<p>The HSS2 grant was not fully oriented to C&E; a separate C&E grant has been submitted to Gavi.</p>
<p>% activities conducted / budget utilisation</p>	<p>9% (1/11) of planned activities have been implemented and budget utilisation is 2% (USD 22,474 of USD 958,325 approved budget for year 1 and 2)</p> <p>Total amount of funds committed for 8 activities is USD 562,496(59%) of the total budget allocated under objective 3.</p>

Joint Appraisal (full JA)

<p>Major activities implemented & Review of implementation progress including key successes & outcomes / activities not implemented or delayed / financial absorption</p>	<p>Activities implemented</p> <ol style="list-style-type: none"> I. Support Data Improvement Teams (DITs) to conduct Follow –up Mentorships of Health Workers in data quality improvement (of EPI/HMIS programs) at all levels in districts (implemented by the central team in 26 districts costing USD 22,474. Expected outcome; reduced data inconsistencies between different data tools (tally sheets, child register, HMIS 105, and DHIS2 <p>Activities committed</p> <ol style="list-style-type: none"> I. Support Data Improvement Teams (DITs) to conduct Follow –up Mentorships of Health Workers in data quality improvement (of EPI/HMIS programs) at all levels in districts II. National teams to conduct integrated support supervision in all districts III. Conduct annual support supervision to paediatric Bacterial Meningitis sentinel sites (Mulago, Mbale, Mbarara, Lacor). IV. Procure buffer stocks for PBM sentinel sites laboratories - Targeting Mulago, Mbale, Lacor. V. Print and distribute updated immunisation data collection tools, tally sheets, child health cards, child registers, community HMIS tools for five years including box files to strengthen storage (Funds to be remitted to NMS) VI. Print and distribute immunization 4,000 monitoring white boards and markers for health facilities. VII. Enhance VPD (Vaccine Preventable Diseases) sample transportation through the National Laboratory Sample Transportation System in a selected region to inform the scale up to other districts. VIII. Procurement of ICT equipment to support electronic data management for EPI data: 103 Computers, 103 Internet Modems, annual internet data bundles, 2 Photocopier, 2 Scanners, 103 backup systems, 15 Laptops for UNEPI Staff to allow uptake of electronic systems and utilization of data at both national and district/HF levels.
<p>Major activities planned for upcoming period (mention significant changes / budget reallocations and associated changes in technical assistance</p>	<ol style="list-style-type: none"> I. National teams to conduct focused technical supportive supervision and troubleshooting in selected districts (Emphasis is on Service delivery, Supply chain & logistics and Management & Finance) II. Train 132 District (DCCTs) and fourteen Regional Biomedical / Cold Chain Technicians in basic maintenance of the cold chain and other crucial medical equipment in order to ensure sound cold chain integrity in each district. III. Follow up all laboratory confirmed vaccine preventable diseases especially polio, measles and NNT and Collect samples from disease outbreaks for molecular surveillance.
Objective 4	
<p>Objective of the HSS grant (as per the HSS proposal or PSR)</p>	<p>Health Financing & Stewardship: To institute mechanisms for sustainable immunization financing so as to achieve predictable immunization financing for effective management of the immunization program by December 2021</p>
<p>Priority geographies / population groups or constraints to C&E addressed by the objective</p>	<p>The HSS2 grant was not fully oriented to C&E; a separate C&E grant has been submitted to Gavi.</p>
<p>% activities conducted / budget utilisation</p>	<p>40% (2/5) of planned activities have been implemented and budget utilisation is 59% (USD 24,632 of USD 41,617 approved budget for year 1 and 2)</p> <p>Total amount of funds committed for 1 activity is USD 25,960 (62%) of the total budget allocated under objective 4.</p>

Joint Appraisal (full JA)

Major activities implemented & Review of implementation progress including key successes & outcomes / activities not implemented or delayed / financial absorption	Activities implemented <ol style="list-style-type: none"> I. Publication of GAVI funds national releases and Procurement adverts to strengthen communication, oversight and program visibility. Expected outcome; Improved accountability. II. External Audit of 2018. Expected outcome; Improved accountability. Activities committed <ol style="list-style-type: none"> I. External Audit for 2019
Major activities planned for upcoming period (mention significant changes / budget reallocations and associated changes in technical assistance	<ol style="list-style-type: none"> I. Notify districts on financial disbursements and health system equipment distribution (through the Chief Administrative Officers, area Members of Parliament, finance officer, EPI focal person and Resident District Commissioner and Local Council V chairperson) II. Conduct Internal audits for all running GAVI grants To be reprogrammed <ol style="list-style-type: none"> I. Publication of GAVI funds national releases and Procurement adverts to strengthen communication, oversight and program visibility (routine activity for which the next strategy is being discussed) II. Conduct Immunization Financing Advocacy meetings every four months (thrice a year)
Objective 5	
Objective of the HSS grant (as per the HSS proposal or PSR)	Community Systems Strengthening / Non-State Actors: To Enhance community demand for and uptake of quality EPI and other priority RMNCAH services so as to improve EPI and other health outcomes of the country by December 2021
Priority geographies / population groups or constraints to C&E addressed by the objective	The HSS2 grant was not fully oriented to C&E; a separate C&E grant has been submitted to Gavi.
% activities conducted / budget utilisation	None of the 5 planned activities have been implemented. This has been due to: <ol style="list-style-type: none"> a) These activities were not part of the first disbursement made in June 2018. b) Slow administrative processes in changing access rights to Integrated Financial Management System (IFMIS) Total amount of funds committed for 3 activities is USD 400,433 (27%) of the total budget (USD 1,501,078) allocated under objective 5.
Major activities implemented & Review of implementation progress including key successes & outcomes/ activities not implemented or delayed/ financial absorption	Activities committed <ol style="list-style-type: none"> I. Hold quarterly one day district stakeholder's performance review meeting on EPI targeting: (DHO, ADHO-MCH, DHEO), Chairpersons (LCV and LCIII), Subcounty Chiefs, RDC, DISO. II. Hold Health Sub District Bi- Monthly Performance review meetings; Targeting Subcounty chiefs, HSD in-charges, Health facility in-charges, Health Assistants III. Strengthening the Role of Religious Leaders in Promoting Immunisation
Major activities planned for upcoming period (mention significant changes / budget reallocations and associated changes in technical assistance	<ol style="list-style-type: none"> I. Sensitize communities on the Immunization Act and immunisation services (radio spots, meetings with district leaders and community leaders) II. Facilitate 5 Traditional kingdoms to conduct mobilisation for immunisation services in their respective regions.

Objective 6	
Objective of the HSS grant (as per the HSS proposal or PSR)	To strengthen MoH oversight function so as to enhance effectiveness, efficiency and sustainability of EPI
Priority geographies / population groups or constraints to C&E addressed by the objective	The HSS2 grant was not fully oriented to C&E; a separate C&E grant has been submitted to Gavi.
% activities conducted/budget utilisation	44% (4/9) of planned activities have been implemented and budget utilisation is 25% (USD 443,167 of USD 1,790,257 approved budget for year 1 and 2) Total amount of funds committed for 1 activity is USD 103,363 (6%) of the total budget allocated under objective 6. Total amount of funds for ongoing activities (recurrent cost) is USD 1,030,435 (58%) of the allocated budget under objective 6.
Major activities implemented & Review of implementation progress including key successes & outcomes/ activities not implemented or delayed/ financial absorption	<p>Implemented</p> <ol style="list-style-type: none"> I. Administrative Support (ICC). Expected outcome; Improved accountability II. Staff salaries: Coordinator; M&E Specialist; Project Accountant; Procurement Specialist; cold chain technicians,). III. Top up allowances for UNEPI staff IV. Provide Administrative support (ongoing activity) <p>Ongoing activities</p> <ol style="list-style-type: none"> I. Staff salaries: Coordinator; M&E Specialist; Project Accountant; Procurement Specialist; cold chain technicians,). This is an ongoing activity. II. Provide support to NITAG activities on generating evidence-based recommendations to UNEPI III. Top up allowances for UNEPI staff IV. Provide Administrative support (ongoing activity) <p>Activities committed</p> <ol style="list-style-type: none"> I. Hold a two-day Annual UNEPI stakeholders' meeting
Major activities planned for upcoming period (mention significant changes / budget reallocations and associated changes in technical assistance)	<ol style="list-style-type: none"> I. MOH Top Management to conduct annual oversight visits to all the 14 health regions to provide oversight support to the region and their respective cluster of districts II. Carry out an Asset Verification Exercise to all Districts

5.2. Performance of vaccine support

In the past two years 2018-2019, the programme was able to introduce Rotavirus vaccine into routine immunisation programme; switched from TT vaccine to Td; from PCV10 2-dose vial to PCV10 4-dose vial in 2018, the most recent introduction being MR vaccine on October 16, 2019. The Programme also conducted a multi antigen campaign (MAC) in refugee settlements in 11 refugee hosting districts of Isingiro, Kamwenge, Kyegegwa, Kikuube, Arua, Yumbe, Moyo, Adjumani, Lamwo, Kiryandongo and Kampala.

Multi-Antigen Campaign in refugee hosting districts

Uganda continues to receive influx of refugees from the neighbouring countries mainly South Sudan, DRC, Somalia and other countries. The current total population of the refugees is estimated at 1.4 Million. Sixty percent (60%) of Uganda's refugees are children. In terms of sex, women and girls constitute 51

% of the refugee total population. The refugees arriving in Uganda often are unimmunized and at risk of Vaccine Preventable Disease Outbreaks predisposing the wider host population to outbreaks.

GAVI supported Uganda to conduct three rounds of multi antigen vaccination catch up campaign in 11 refugee hosting districts with 13 settlements in 2018 and 2019. A total of 228,555 (140 percent) children were immunised with Measles vaccine. Coverage for the 1st, 2nd and 3rd rounds bOPV were 173,404

(100 percent), 175,667 (102 percent) and 217,623 (126 percent) respectively. The coverage was beyond the target due to increased awareness and host community coming in for vaccination. This vaccination campaign has helped to reduce the immunity gap among the refugees and also the host population. This is in line with fulfilling the Government's Refugee Health Strategy which focuses on working with districts and implementing partners, to help establish and deliver high quality routine immunization services in refugee camps.

Measles-Rubella

Uganda has reported significant cumulative number of unimmunized children leading to low population immunity and sustained Measles outbreaks coupled with failure to conduct a Measles vaccination campaign in 2018 as guided by WHO. There was a need to interrupt the ongoing Rubella outbreak through a campaign and subsequent introduction of rubella vaccine into the routine immunization schedule to prevent congenital Rubella syndrome, targeting a wide age group (9 months to <15 years). The country successfully conducted a national MR vaccination campaign from 16th – 22nd October 2019. A total of 19,476,110 children in the target population received MR vaccination (108%). A total 20.9 million MR doses were procured for the campaign which were distributed to all districts. Results from the campaign indicated more children were reached than planned leading to consumption of some routine doses.

Polio Campaign

Uganda continues to remain under threat of importation of polio from neighbouring countries with circulating Wild Polio virus and Vaccine Derived Polio virus in the Horn of Africa, South Sudan and DRC backed up by free movement of people via porous borders. Uganda planned and conducted successfully polio vaccination campaign alongside MR campaign, attaining an administrative coverage of 97 % (7,955,597 children immunised).

New vaccine introduction

The most recent new vaccine introduced into routine immunisation schedule is the combined Measles and rubella vaccine on October 16, 2019 bringing the total of new vaccines introduced since 2002 to six (DPT-HepB-Hib, PCV10, HPV, IPV Rotavirus and MR). The introduction of these vaccines has greatly contributed to the reduced infant mortality and morbidity due to childhood immunisable diseases. All introductions proved to be crowd pullers due to good mobilisation and had different benefits which include strengthening of the cold chain system (procurement of CCE, support maintenance and distribution of vaccines/related supplies), improved skills of health workers in vaccine management, data utilisation and reporting. However, all the new vaccines introduced are:

- 1) injectable vaccines translating into;
 - Multiple injections per single visit which scares/worries the parents/caretakers
 - Need to have trained health workers
 - Need for proper preparations for vaccination sessions
 - Need for proper bundling of vaccines and related supplies
 - Need for updated data collection tools
- 2) Voluminous requiring increased vaccine storage space and improved vaccine handling practices which requires trained and committed DCCT and EPIFP; equipment well designed to hold the so many different vaccines with different temperature sensitivity ranges including the non-EPI vaccines like Oxytocin which is allowed to be stored with the EPI vaccines.
- 3) Except for IPV which GoU doesn't pay for and MR which GoU pays USD 0.66 per dose, GoU co-finances other vaccines (i.e. DPT-HepB-Hib, PCV and HPV) at USD 0.2 per dose. The co-financing by GoU impacts on the budget for the traditional vaccines and routine immunisation operational activities

5.3. Performance of Gavi CCEOP support (if country is receiving Gavi CCEOP support)

CCEOP implementation progress

Uganda submitted CCEOP proposal in 2016 and received a grant of two years (2017-2018) with a total cost of US\$ 8,310,085, spread over the two years. CCEOP1 Year 1, had a budget of US\$ 2,499,657 and year two was US\$ 5,810,428. A total 608 CCE were procured and received in the Country in October 2018 as reported in JA 2018. Distributions, Installations, user trainings, and commissioning were completed by April 2019 with minimal deviations. Of the 608 CCE received and installed, 472 were for replacement; 102 for expansion and 34 for extension to new district vaccine stores of Bunyagabu, Butebo, Kagadi, Kakumiro, Kyotera, Pakwach and Namisindwa districts. The post installation inventory update done in July 2019 indicated a general improvement in vaccine storage capacity

STORAGE CAPACITY CATEGORISATION OF EQUIPMENT RECEIVED UNDER CCEOP1 AT +2°C - +8°C

REFRIGERATOR MODEL	REPLACEMENT			EXPANSION		EXTENSION	
	STORAGE CAPACITY(I)	Num	TOTAL STORAGE	Num	TOTAL STORAGE	NO.	TOTAL STORAGE
VLS054SDD	55.5	167	9268.5	29	1609.5	0	0
VLS094SDD	92	181	16652	14	1288	0	0
VLS200A	60	56	3360	9	540	0	0
VLS300A	98	33	3234	12	1176	0	0
VLS400A	145	2	290	1	145	8	1160
OVERALL CAPACITY		439	32804.5	65	4758.5	8	1160

STORAGE CAPACITY CATEGORISATION OF EQUIPMENT RECEIVED UNDER CCEOP1 BELOW -15°C(Liters)

REFRIGERATOR MODEL	REPLACEMENT			EXPANSION		EXTENSION	
	STORAGE CAPACITY	NO.	TOTAL STORAGE	NO.	TOTAL STORAGE	NO.	TOTAL STORAGE
MF 314	256	0	0	96	24576	0	0
OVERALL CAPACITY		0	0	96	24576	0	0

Post installation inspection (PII)

A global inspection company Baltic Controls was contracted by UNICEF SD to perform the quality inspections of CCE installed in selected sites, undertaking a total of 53 inspections between April and May 2019¹⁸. CCEOP1 Year 2 implementation has commenced with submission of the operational deployment plan (ODP) totaling to 926 CCE. 70 CCE under HSS2 support will also be procured alongside the CCEOP supported procurement bringing the total number of CCE to 996. Purchase order has been placed, awaiting pre-shipment inspection, receipt and installation. A new proposal for CCEOP2 has been submitted to Gavi for consideration.

Lessons Learned/Challenges:

- Most health centers preferred SDD Fridges to AC fridges and freezers in general and hence a challenge during delivery process.
- Distances between facility with ice-line vaccine fridges and facility with freezers are extremely very far. Communities living in areas in between are at risk since it is difficult to transport vaccines in ambient temperatures of +2 to +8 degrees for a longer time. This makes in charges to use ice-line equipment for ice pack precooling.
- Some Health Center Management personnel's switch off vaccine fridges and freezers to reduce electricity bills.
- Project Management Team is paramount to ensure deviations are managed on time.

¹⁸ Post Installation Inspection Report

5.4. Financial management performance

Financial Management System

- The programme uses the Government of Uganda (GoU) Financial Management System. GoU continues to make improvements in the scale up of IFMIS including configuration of reporting for donor funded projects. The Advances Management Module has been activated and the districts with IFMIS are operating a treasury single account.
- There is also a Programme Based Budgeting System (PBS) which is linked to IFMIS.
- The HSS II budget has been aligned to the GoU funding cycle of 1 July to 30 June.
- As part of the Grant Management Requirements, Gavi in consultation with Ministry of Health appointed a Financial Management Agent (Edes and Associates Consultants Limited) to provide fiduciary management support and capacity building to UNEPI.
- The Gavi Financial Management Agent (FMA) enables MoH to comply with Gavi's requirements for sound financial management in accordance with Gavi's Transparency and Accountability Policy (TAP), Gavi's Financial Management and Audit Guidelines, and other Gavi requirements and guidelines.

Updates on HSS I

- The Health System Strengthening Grant phase I (HSSI) of US\$19.2 million came to an end on 30 November 2017.
- In May 2019, MoH submitted the HSSI Grant Closure statement of account reconciled as of 31 March 2019. Based on the Closure Report, Gavi disbursed USD 16.3 Million representing 85% of the approved HSS1 grant.
- As of 31 March 2019, the Program had absorbed 95% of the funds disbursed. The balance of USD 869,605 (5%) was reprogrammed in the HSSII grant.
- In July 2018, the government fully refunded USD \$197,446.32 in questioned expenditure to Gavi and USD \$841,347 in VAT refunds to the programme as determined by the Gavi Program Audit.

Updates on HSS II

- The HSS II budget was reprogrammed and the initial budget of USD 17.5 million was approved for 18 months ending 30 June 2020.
- By Oct 2019, Gavi had disbursed USD 12,041,677 (Ministry of Health-USD 2,651,372; UNICEF-9,390,305) representing 69% of the approved reprogrammed HSS 2 Budget. In addition, GoU had refunded to the programme USD 841,387 relating to VAT. This amount has been approved by Gavi to be used for procurement of incinerators.
- By 31 Oct 2019, a total of USD 12, 613,788 (Disbursement to UNICEF-9. 3M, MoH actual expenditure- USD 0.8M and MOH commitments-USD 2.4M) had been absorbed representing 72% of the approved reprogrammed budget.
- By Oct 2019, the Ministry had absorbed 96% (USD 12,613,788) of the total Gavi approved HSS 2 amount of USD 13,110,000.

Measles Rubella Campaign

- Gavi, through a Decision Letter issued in October 2018, approved a Measles Rubella campaign and New Vaccine introduction grant.
- The operational support for the campaign amounted to USD 12,734,133 and the funds were disbursed through WHO.
- The campaign was implemented from 16-22 October 2019 including an extension of one day for all districts and 2 days for Kampala, Wakiso and Karamoja sub region. The Ministry of Health extended the campaign following the increased demand for the vaccine and the high turn up of clients.
- As at 31 October 2019, USD 10,653,671 representing 84% of the operational budget had been absorbed.
- The Ministry of Health is working with WHO to finalize payments and to obtain accountabilities from Local Governments and Implementing Partners.

External and Internal Audit

- The Gavi funded project is annually audited by the Office of the Auditor General.
- The audit for the financial year ended 31 December 2017 was completed and report issued by the Office on the Auditor General on 28 December 2018.
- The external audit for the 18months ended 30 June 2019 is in process and the final report is expected by 30 November 2019. The current audit is covering 18 months in order to align the project reporting cycle to the GoU reporting cycle.
- Quarterly financial reports for 2018 and the first two quarters of 2019 have been submitted.
- Gavi funds are also inspected and audited by the Internal Auditor General under the Ministry of Finance Planning and Economic Development. MOH is working closely with the Internal Audit Unit to ensure that these reviews are done more frequently.

Status of Implementation of Grant Management Requirements (GMRs)

- A Program Capacity Assessment Monitoring Review was conducted in October 2018 to assess progress of implementation of GMRs. A subsequent Gavi Mission in January 2019 indicated that; nine GMRs had been met, one had been partially met and 3 GMRs had not been met. MoH is working with Gavi to ensure that all GMRs are addressed.

5.5. Transition plan monitoring (applicable if country is in accelerated transition phase)

Uganda is still in the initial self-sustaining stage as per Gavi Transition framework. So, this is not applicable.

5.6. Technical Assistance (TA) (progress on ongoing TCA plan)

A. PROGRAM MANAGEMENT, PLANNING AND FINANCING

UNICEF: Immunization Equity Assessment

Background

In 2016, the immunization equity assessment identified 36 districts with immunization inequities. Technical and financial support by MoH and partners resulted in significant improvements in EPI coverage in 68% (24/36) of the districts. Eight districts including Kampala, Wakiso, Iganga, Amudat, and Sheema did not show significant improvements. Review and documentation of the experiences of the districts that improved and those that did not is critical for districts to adapt the practices that lead to the improvements.

Objectives

- To review the best practices, key constraints, and way forward in reaching children with immunization services in the 36 districts so as to draw lessons for expansion.

Interventions areas and scope

The review comprised of 52 districts of which 36 were earlier identified in 2016 with inequities and additional 16 new districts with poor immunisation indices.

- The districts were Adjumani, Amudat, Amuria, Apac, Arua, Bududa, Bukkwe, Bukomansimbi, Bulambuli, Bushenyi, Butaleja, Buyende, Dokolo, Hoima, Ibanda, Iganga, Isingiro, Jinja, Kaabong, Kaberamaido, Kaliro, Kalungu, Kamuli, Kamwenge, Kapchorwa, Kibaale, Kibuku, Kisoro, Kitgum, Kween, Kyankwanzi, Kyegegwa, Kyenjojo, Kyotera, Manafwa, Masindi, Mayuge, Mbarara, Mitooma, Moyo, Mpigi, Nebbi, Ntungamo, Nwoya, Pallisa, Rakai, Rubirizi, Sheema, Sembabule, Tororo, Wakiso, and Yumbe. The interventions are addressing the five components of immunization systems of service delivery; vaccines supply, quality and logistics; advocacy and communication; Program management; and monitoring and surveillance

Interventions

- Conducted a one-day meeting of ADHO and DCCTs from the 52 districts to share experiences on improving immunization coverage

Results

- 89 participants of which 76 (ADHOs & DCCT/As) from the 52 districts, and 13 from MoH and partners participated in the meeting and shared experiences on what worked and what did not work.
- Best practices and key constraints in improving vaccination coverage were shared among the districts.
- Key actions to be implemented to improve immunization coverage in the districts were identified.

Lessons learned

- Best practices that led to improved performance were: Technical support by District Health Office to health facilities on prioritization and planning for immunization; Regular quarterly supportive supervisions/review/feedback; Political leaders Involvement in promoting immunization; and using immunization indicators for performance appraisal

Next steps

- Continue to support the districts to update and implement micro-plans for sustained immunisation coverage

Recommendations

- Hold regular inter-district review meetings to share experiences amongst the districts on reaching target population with immunization

UNICEF: LMC**Background**

The 2016 immunization equity assessment identified weak management and governance capacity of the health management teams and the expanded program on immunisation supervisors among the key factors contributing to immunisation inequities in districts. To address these gaps at lower levels, UNICEF in collaboration with MOH conducted training of lower level health facilities EPI focal persons on LMC.

Objectives

- To equip EPI focal persons with knowledge and skills in leadership for immunization, supervision, and mentorship so that they can to improve immunization performance.
- To build capacity for EPI focal persons in regularly assessing their performance, identifying underserved areas / high-risk communities so as to design specific interventions to reach un-immunised / under immunised children that can be included in the health facility micro plans.

Intervention area and scope

22 new districts namely Amudat, Apac, Bududa, Bukomansimbi, Bulambuli, Bushenyi, Dokolo, Iganga, Kaliro, Kampala, Kitgum, Kyotera, Mayuge, Mbarara, Mitooma, Ntungamo, Nwoya, Pallisa, Rubirizi, Sheema, Tororo, and Wakiso. It covered all HCIIIs, HCIVs and selected HCIIIs in the districts.

Results

- A total of 298 health workers out of planned number of 312 were trained on leadership and management. The participants are immunization focal persons from 255 HCIIIs and 57 HCIVs from the 22 districts. The cadres of health workers trained included enrolled nurse, enrolled comprehensive nurse, enrolled midwife, nursing officer, health assistants, nursing aides
- Trainees developed key actions to improve leadership, management and immunization performance in their respective health facilities.

Next steps

- Follow up the participants to assess progress of implementation of the action points
- Support the districts with funds to conduct review meetings with the trained health workers at district level which will be attended by UNICEF, Ministry of Health and facilitators from HRHDC Mbale.

WHO

- i. Support the review and roll out of the national planning guidelines that incorporate the adaptation the revised 2017 integrated RED/REC approach to increase coverage and equity in all communities
- ii. Following the regional stakeholders meeting that was held in Nairobi in May 2019 and countries guided on the current global and regional demands to address the issues of Integration and Equity, WHO convened several partner meetings to review the guides in place and agree on one uniform approach, Uganda received technical support from the WHO-IST and UNICEF-ESARO and the team at the national level engaged the top management of the ministry of health and the new planning guide was adapted by the Ministry of health planning unit.

Achievements

- A Job aid on developing annual work plan using the RED approach was developed printed and distributed to all health facilities in Uganda



- National sensitization of the stakeholders and district leaders was conducted in Mbale with financial support from WHO, Unicef financially supported the regional stakeholders meeting of Arua, Gulu and Soroti during which WHO provided training on the RED approach
- WHO established a pool of trainers who supported the RED approach cascade to 52 districts and these ensured that each district developed an annual work plan at each health facility and district level

Lessons learned

- ❖ Annual work plan is the tool that brings together all actors in the district at any level
- ❖ In the district planning should always bring together all partners supporting the districts as often districts have funding for same activities but from different partners
- ❖ Using the RED micro plan as the costing tool made work easy for the development of annual work plans

Next steps

WHO is to implement the MOV strategies in the same districts, to ensure that each facility updates the annual work plan, puts in place the EPI monitoring charts, institutionalize default tracking, conducts sensitization of stakeholders on Home based record retention to both the community and health workers, putting score card system in all health facility.

2. Missed opportunities for Vaccination (MOV) Strategies implementation in 54 districts

iv. **To provide support to ensure functionality and effectiveness of UNITAG**

The Uganda National Immunization Technical Advisory Group (UNITAG) has been operational since November 2014 and as per Global Vaccine Action Plan 2011 – 2020 milestones, is being hosted by the Uganda National Academy of Sciences (UNAS). This functionality is supported by both GAVI HSS funds and TCA funds through WHO. WHO's contribution as part of the TCA is through ensuring that an annual activity plan is developed and for 2019, this is available. The main objective is to develop technical reports that will be advising the Ministry of Health on issues of vaccines and immunization as requested in particular what the government should do to reverse the declining routine immunization performance. In order to achieve this several subcommittee working group sessions and stakeholder workshops are planned to be held to generate the evidence and final technical advice will be disseminated. These findings will feed into the next cMYP 2020/1-2025/6.

CHAIa) **Strengthened national-level oversight of UNEPI program performance**

At the National level, UNEPI/GAVI coordination unit worked with CHAI and WHO to establish the Immunisation Coordination Committee (ICC)/Immunisation Board (IB) in 2018. An inaugural meeting was conducted in November 2018 to orient 10 members on the Terms of Reference. A Technical Coordinating Committee (TCC) was also established to support the ICC in review of the EPI technical components such as work plans, procurements and other immunisation processes. The TCC will conduct regular reviews with the immunisation program and provide recommendations for approval to the ICC/IB. The ICC/IB will provide strategic oversight and guidance on the performance and financial management of the immunisation program including the ensuring compliance with the Immunisation Act, 2017 and operationalizing the immunisation fund. The ICC/IB will review immunisation performance and audit reports and provide recommendations for the immunisation program but also recommendations pertaining the intervention of key institutions represented in the board membership.

CHAI also worked with the immunisation program to develop national and district immunisation work-plans for 2018 and 2019. The national immunisation work plan is a costed, prioritized and time bound operational plan where immunisation activities have been categorized into 7 immunization specific areas/components (ISC). The ISCs include: Program management and financing; New vaccine introduction; Service delivery and training; Supply chain and cold chain logistics management; Advocacy and social mobilization; Disease surveillance; Data management and Monitoring and Evaluation.

Each ISC has a lead person assigned by the Immunisation program manager to ensure effective implementation of activities as per the workplan and coordination with partners throughout the year. With support from CHAI, UNEPI conducted 4 quarterly reviews of the 2018 annual work plan. In 2019, the immunisation program conducted 2 quarterly reviews for the 2019 annual work plan. Reviews in Q3 and Q4 have been overrun by preparation and implementation of the MR campaign. In order to align Leadership management and coordination efforts among partners, the Ministry has reviewed a first draft of the harmonization framework to identify partner synergies.

Partner mapping/Program framework for harmonization of LMC support		
Level	Partner	Key interventions
National Level	CHAI	<ul style="list-style-type: none"> Strengthening national level oversight over immunisation program performance by supporting functionality of ICC/IB and TCC Strengthening UNEPI partner coordination, resource allocation and timely activity execution of immunization activities by supporting annual work planning and quarterly review meetings Supporting continuous integrated reviews of EPI performance by supporting program reviews of EPI dashboard data
	WHO	<ul style="list-style-type: none"> Strengthening strategic planning by supporting functionality and effectiveness of UNITAG

	UNICEF	<ul style="list-style-type: none"> Supporting EPI reviews to assess key
District level	WHO	<ul style="list-style-type: none"> Strengthening leadership coordination and management skills among EPI leaders by supporting the Health Manpower development center (HMDC) to conduct in service training for DHMT
	UNICEF	<ul style="list-style-type: none"> Strengthening leadership coordination and management skills among EPI leaders by conducting trainings for district EPI focal persons
	CHAI	<ul style="list-style-type: none"> Strengthening district partner coordination, resource allocation and timely activity execution of immunisation activities by supporting annual work planning and quarterly review meetings
	JSI	<ul style="list-style-type: none"> Supporting non health stakeholder engagement through quarterly reviews
Health facility level	UNICEF	<ul style="list-style-type: none"> Strengthening leadership coordination and management skills among EPI leaders by conducting trainings for EPI focal persons at health level.

b) Strengthened national-level management of district immunization program performance

At the district level, the immunisation program with support from CHAI, worked with district health teams in 7 focus districts (Yumbe, Moyo, Kalungu, Sheema, Wakiso, Bukomansimbi and Alebtong) to develop district immunisation workplans as the leadership, management and coordination tool to improve immunisation planning, accountability and resource management. In districts where more than one immunisation partner has provide support, eg Kalungu with CHAI and JSI, the immunisation program ensured coordination of activities between the partners to avoid duplication of efforts. For example, the program has ensured joint planning and quarterly review meetings with district health stakeholders in Kalungu in 2018.

The district immunisation workplan provides an intergrated plan for all partners supporting immunisation activities to ensure effective resource allocation, partner coordination and accountability for immunisation outcomes. As a result of the district immunisation workplan, the 7 focus districts have been able to achieve the following

- Improved coordination of immunization activities especially among the DHT members. Involving political and administrative leaders in immunisation planning meetings has resulted in commitment of resources to fill immunisation gaps
- Improved tracking and execution of key immunization activities including partner activities. The immunisation plan is the only tool at district level that provides visibility of immunisation and non immunisation partner commitments
- Prioritization of activities to ensure critical activities are funded and completed
- Accountability among all district stakeholders in immunization service provision to ensure joint responsibility for activities

B. PROGRAMME IMPLEMENTATION / COVERAGE AND EQUITY

Uganda 2016 National equity assessment report 37 districts with immunization inequities constituting 53 per cent of under-immunized children. On job mentoring was recommended to support updating micro plans with interventions for reaching high risk communities. In the period June –December 2017, district specific immunization inequities were identified.

UNICEF

Improve equity and coverage through providing technical and financial support to 32 districts using RED-REC strategy (update micro plans and support implementation to include the marginalized/high risk communities)

Background

UNEPI and UNICEF identified 22 poorly performing districts in routine immunization that contributed 32% (88,396) and 43% (66,632) unimmunized children for Measles and DPT3 respectively in the country in 2018 for technical and financial support to improve routine immunization coverage.

Objectives

- To increase routine immunization coverage and equity in the 22 districts through technical and financial support

Interventions areas and scope.

- 22 districts namely Amudat, Apac, Bududa, Bukomansimbi, Bulambuli, Bushenyi, Dokolo, Iganga,

Kaliro, Kampala, Kitgum, Kyotera, Mayuge, Mbarara, Mitooma, Ntungamo, Nwoya, Pallisa, Rubirizi, Sheema, Tororo, and Wakiso. The interventions cover district, health facility, and community levels all over the districts. The interventions are addressing the five components of immunization systems namely service delivery; vaccines supply, quality and logistics; advocacy and communication; program management; and monitoring and surveillance.

Interventions

- Technical support to the districts to update their health facility and district RED/REC micro-plans including inequities
- Provided financial support to bridge the identified implementation gaps in the RED/REC micro-plans budgets

Results

- 22 districts have updated RED/REC micro-plans
- Additional 10,789 children have been reached with immunization.
- There has been a notable improvement in immunisation coverage in the 22 districts during the period January to July 2019 compared to 2018. 40.9% (9) districts achieved DPT3 coverage above 90% compared to 3 (14%) districts in 2018, similarly only 6 (27.3%) districts had less than 80% DPT3 coverage compared to 16(72.7%) districts in 2018

Lessons learned

- Districts who have included the REC micro plans budgets in the district annual health budget work plan easily access and utilize available funds and external funding from partners for immunisation
- Inequities exist in the communities but are easily missed if districts are not mentored and supervised to institutionalize it in REC micro planning and implementation
- In mountainous regions like Bukwo, Kapchorwa, Bulambuli and some parts of Mbale, mobilization of the community is best done using megaphones due to radio poor network
- Some districts have established good relationship with non-health stakeholder (NHS) and this has improved immunisation service delivery
- Revolving monthly EPI in-charges meetings i.e. in Nwoya has helped in problem sharing and solution finding

Next steps

- Continue to provide technical support in supervision, monitoring, mentorship, implementation of the micro plans and continuous data analysis to identify the locations of the unreached and unimmunized.

Urban hard to reach communities in 3 districts of Kampala, Wakiso and Iganga mapped

Background

The urban districts of Kampala, Wakiso and Iganga constitute a large population comprising of 12% of the national target population of 733,244 surviving infants in 2019. These districts had accumulated a total of 16,930 unimmunized children in 2018.

Objectives

- To map urban underserved populations and link them to services

Scope of Interventions:

- The interventions cover all geographic areas of the 3 districts of Iganga, Kampala, and Wakiso. The interventions are addressing the five components of immunization systems namely service delivery; vaccines supply, quality and logistics; advocacy and communication; program management; and monitoring and surveillance.

Interventions

- Support to the districts to conduct mapping of the urban population that are underserved with immunization services and linking them to service points
- Support to the districts to conduct registration and orientation of VHTs on routine immunization and registration of target populations
- Support to the district to register the target populations using VHTs
- Supported the district to develop detailed costed plan and budget for registration and orientation of village health teams on routine immunization and registration of target population
- Support to the districts to develop and implement vaccination strategies to reach the registered

underserved populations

Results

- Conducted mapping of the urban population that are underserved with immunization services and linking them to service points
- The underserved urban populations include urban poor residing in slums, poor working mothers (including vendors, plantation workers, factory workers), migrant populations including trafficked populations, mobile urban populations, refugees, asylum seekers, gated communities, street children, vaccines hesitant communities, informal settlements, upcoming urban areas.

Next steps

- Registration and orientation of village health teams (VHT) on routine immunization and registration of the target population
- Registration of the target population by the VHT with special focus on areas identified with inequities
- Implement strategies to reach these populations with immunization services

High community	Risk	District
Urban Poor Settlements		Kampala: slums in all division Iganga: Slums in municipality, new upcoming trading centers, urban areas Wakiso: slums in all division and upcoming trading centers
Refugees settlements		Kampala: scattered in all 5 division, high turn up of new migrants Wakiso: mainly in 2 municipalities: Nansana and Kiira municipalities
Migrant populations		Kampala: high turn up of new migrants in the informal settlements Wakiso: high turn up of new migrants in the informal settlements Iganga: Scattered in all sub counties: Sugar cane workers, Factory workers, seasonal cultivators
Religious groups and Sects include:		Iganga: Scattered in all sub counties include; Christian sects (extreme barokole), Injiri sect, some Muslim sects (tabliq), traditionists (witchdoctors)
Rich gated communities		Kampala: in all divisions i.e. Kololo, Nakasero, Mbuya, Naguru, Bugolobi....

PATH

HPV coverage improvement plan in 16 districts in Kabale and Mbarara Regions.

- Technical support to 16 districts in Mbarara and Kabale Regions to develop HPV micro-plans in April 2019. The districts are Kiruhura, Isingiro, Sheema, Buhweju, Bushenyi, Rubirizi, Mitooma, Ibanda, Ntungamo in Mbarara and (Rukungiri, Kabale, Kisoro, Kanungu, Rubanda, Rukiga) in Kabale Region
- Technical support to assess progress of implementation of the HPV CIP in six districts (Mbarara, Kiruhura, Sheema, Buhweju, Bushenyi, and Kabale. Nine health facilities and 9 schools were reached to assess implementation of HPV CIP.

Observations

Good practices

- Schools have designated focal persons for HPV vaccination
- Involvement of education department in HPV vaccination

Challenges

- School HPV vaccination not yet fully integrated into RI outreach programs – still considered an integrated child health days (ICHDs) activity.
- HPV registers and cards stockouts in all six districts visited

Lessons Learned

- Multi-sectoral approach to HPV vaccination in schools has contributed to significant reduction of vaccines hesitancy

- Routine school HPV immunization program has increased the number of outreach posts requiring realignment of outreach program and rational decision making (schools can be distributed across a period of 2 or 3 months)

Urban HPV-Coverage improvement (Kampala and Wakiso Districts)

PATH supported all the 5 divisions of Kampala to conduct multi-sectoral stakeholders' meetings for urban HPV Coverage improvement. These meetings brought together political and religious Leaders, District Education Officers (DEOs), District Medical Officers (DMOs) and Ministry representatives who agreed that improving HPV immunization coverage is a shared responsibility. As a result, health workers have managed to immunize children in majority of the schools.

In an effort to contribute to the MoH;s "reach every child strategy", PATH supported micro-planning, mapping and assigning of schools to respective health facilities. This has helped the health facilities to know their target population and an opportunity to track progress of HPV immunization in terms of coverage, under-immunized and unimmunized children.

Supported urban HPV-CIP support supervision in Kampala and Wakiso to assess the progress of the intervention and take action where necessary. As a result, 641 children from 23 schools were immunized in a one-week activity conducted by 11 health facilities.

Negative observations

- Knowledge gap among teachers about HPV which makes it hard for them to promote it among parents
- Sluggish adjustment of HPV immunization program from integrated child days-only program to routine school outreach by majority of Health workers
- A condition to have parents' consent by some schools before the children are immunized
- Denying health workers access to school and children by some schools especially international schools.
- Health facilities not analyzing HPV data for decision-making

Lessons learned

- Even in urban settings, multi-sectoral approach is very important in promoting health services uptake especially vaccines which have a history of de-campaigners.
- Over 65% of health facilities providing immunization services in Kampala and Wakiso are private and as a result affect routine school-HPV immunization outreach program because owners usually want health workers to stay at the station. Opportunity cost of conducting an outreach is much higher when staff pay is based on attendance.
- Routine School HPV immunization outreach program has increased outreach posts calling for realignment of operations and rational decision-making (you don't have to visit same school every week).
- Significant progress has been made in reducing immunization hesitancy but more needs to be done
- With MoH's current interventions especially CIP, immunization Act, awareness raising, capacity building, regular support supervision as well as counterfactual response to misinformation, the success of HPV intervention is becoming more realistic than ever.

CDC and AFENET contribution

Immunization capacity building

Data quality: Implemented in collaboration with Ministry of Health (MOH), WHO & AFENET. The National Data Quality Self-assessment (DQSA) 2013 found suboptimal subnational administrative immunization data. The Data Improvement Team (DIT) strategy was developed to implement recommendations from the DQSA by the Uganda Ministry of Health (Resource Center and UNEPI) with support from WHO, UNICEF, CDC and GAVI. The goal is to provide a framework to improve the quality of immunization data- data management and use in immunization service provision. Round 1 (2014-2016) reached 89% of health facilities, and Round 2 (2017-2019) implemented in 60 districts reaching more than 95% of health facilities in these districts. Lessons learned from the DIT Strategy resulted in development of the Uganda Immunization Multi-year Data Quality Improvement Plan (DQIP) 2019 -2023.

Measles/Rubella-b OPB mass vaccination campaign

CDC HQ had two technical staff support SIA planning and preparation in September 2019 of the Measles/Rubella-b OPB mass campaign. They also conducted SIA readiness assessments in several

districts, identified and addressed important areas of concern with SIA planning and preparation. They shared key recommendations with local government and WHO country staff. In addition, a CDC HQ seconded to the WHO AFRO IST-SE provided technical assistance for SIA preparation in Uganda remotely from Zimbabwe, Harare.

AFENET staff participated as central supervisors in the implementation of the measles/Rubella and b OPV mass campaign in October 2019. This involved oversight of training of district and sub county health staff, distribution of vaccines and logistics and socio mobilization initiatives in Sembabule district.

Vaccine introduction: In collaboration with MOH, WHO, IDI and AFENET, CDC is conducting formative research and information gathering to inform introduction of Hepatitis B birth dose and DTP booster doses
Operational research.

CDC is providing technical assistance to determine the cost effectiveness of different approaches to DTP booster dose introduction; school-based delivery, facility-based delivery, single cohort approach, and multiple cohort approach. The purpose of this evaluation is to provide economic evidence to inform decision-making by the Government of Uganda about implementing the UNITAG recommendation to introduce three WHO-recommended booster doses of DTaP in Uganda. Part of this decision-making process will include determining the timing and content of any future Gavi application to support introduction of three DTaP booster doses in Uganda. More broadly, this evaluation will also contribute a country-level perspective about the cost effectiveness of the introduction of DTaP to the global investment case for MNTE and global evidence informing DTaP booster dose introduction.

This activity is a collaboration between WHO Uganda, WHO HQ, WHO IST ESA, UNSW and CDC ATL. There have been minor delays in implementation due to personnel changes at WHO Uganda and unforeseen delays with contracting mechanisms.

In summary, the status of the development of economic evidence to inform introduction of DTP booster dose in Uganda is as follows:

- o Finalizing submission to a Ugandan IRB (per MoH requirements) in collaboration with WHO Uganda – aim to submit by Dec 2019;
- o Costing consultant is being hired and expected to be on board by November 2019;
- o Modelling expert is being hired to support development of a model for the CEA is in progress with WHO HQ (this is being done at a global level), to be finalized in early 2020.

Polio Outbreak response and Surveillance project

- AFENET with CDC support is implementing the Polio outbreak response project to strengthen surveillance for Acute Flaccid Paralysis (AFP)/Polio events in high-risk districts of Uganda through engaging the FETP program. These are mainly the districts bordering the Democratic Republic of Congo (DRC) and South Sudan. Implementation began in November 2018 with training 48 officers comprising graduates of both the Uganda FETP and Makerere University School of Public Health, Ministry of Health staff and district surveillance officers in Vaccine Preventable Diseases surveillance with a focus on polio, measles and neonatal tetanus. The officers constitute the National Stop Transmission of Polio (NSTOP) teams.
- There were four monthly deployments of NSTOP teams in 65 districts between November 2018 and March 2019. The teams conducted AFP active case search, detected and investigated 32 AFP cases, verified 18 AFP cases with zero OPV doses, implemented 60 days follow up exam of 5 late AFP cases including one polio compatible case in Kyenjojo district. They also provided support supervision for EPI services management and data analysis at district and health facility level. Findings were reported using the ODK platform.
- In July 2019 with additional funding, the project is working to strengthen AFP/polio events surveillance in settlements (districts) hosting Somali and Congolese refugees. A partners' advocacy meeting was conducted in August and a mapping of settlements and districts of Somalis & Congolese migrants was done. The districts include Kampala, Wakiso, Isingiro, Kyenjojo, Hoima and Kikuube. Partners' implementing Polio eradication efforts and IDSR in these districts were also mapped. A Sensitization meeting for community informers and leaders of Somalis & Congolese refugees living in Kampala was conducted in August to increase knowledge of basics about Polio, outbreak prone VPDs and getting them to detect and notify AFP at community level. AFENET has effected two deployments of NSTOP teams to the six focus districts where they conducted active

search for AFP in the months of September and October 2019.

Vaccine Preventable Disease (VPD) surveillance: CDC in collaboration with WHO and AFENET is providing support for strengthening Vaccine Preventable Disease (VPD) and Adverse Events Following Immunization (AEFI) surveillance systems.

Workforce development: In collaboration with WHO, UNICEF & AFENET, CDC hosted the STOP training in May 2019. This important training conducted annually prepares consultants to support immunization programs across the world. In Uganda, STOP and NSTOP consultants support districts and health facilities, surveillance and immunization system strengthening

Operational research:

- CDC in collaboration with WHO, AFENET and Infectious Disease Institute (IDI) is conducting a Randomized Control Trial of two fractional doses of Yellow Fever vaccine compared to a full dose in children 9 – 23 months. The protocols have been approved, study teams trained, and enrollment has begun at the three study sites. The study includes component on Adverse Events Following Immunization (AEFIs) monitoring. Enrollment is ongoing and to be completed in 2020.
- In collaboration with WHO, AFENET and MOH, CDC is evaluating the preparation, administration and communication practices in the delivery of more than one vaccine to a single child at a single immunization visit.

National Ebola preparedness & response: In partnership with MOH and WHO, CDC provided technical assistance to implement EVD vaccination of health care and frontline workers in high risk districts bordering DRC including: protocol development; training of vaccination teams; mentoring and supervision of field activities.

Health Information Systems

WHO

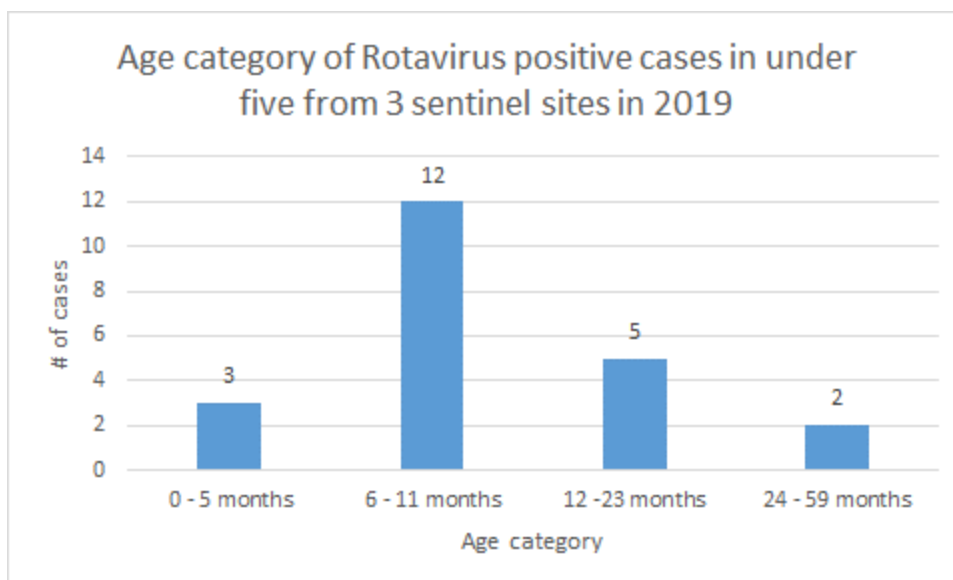
i) **Support 14 Regional Referral Hospitals to conduct Quality and timely supportive supervision to districts within their catchment area:**

MoH and WHO have agreed to increase the quality of support supervision to districts, in an effort to counter poor health service delivery. In order to strengthen routine immunization activities, public health specialists, 14 RRHs of Masaka, Jinja, Arua, Gulu, Hoima, Kabale, Kaborole, Lira, Mbale, Mbarara, Moroto, Mubende, Naguru and Soroti were supported to conduct supervision for EPI at the district level, health facility and community levels for routine immunization services. The specific objective of the activity was to Support regional support supervision strategy activities through routine supervision and participation in district quarterly review meetings to ensure immunization service delivery at the district, health facility and community levels conforms to the two-year revitalization plan and cMYP. A total of 112 Public health specialists of 14 RRHs were supported to conduct routine supervision immunization service delivery in 128 districts.

ii) **Support new vaccine sentinel surveillance sites to produce data that will monitor and evaluate new vaccine introductions (Penta, PCV, Rota):**

WHO has continued to provide technical oversight of three new vaccine sentinel surveillance sites (Mulago National Referral hospital, St. Mary's hospital Lacor and Mbale Regional Referral hospital) so that quality surveillance data is produced to monitor trends of bacterial meningitis diseases and severe pneumococcal disease; data is used by decision makers for planned new vaccine introduction including their future use in routine immunization program. High quality surveillance activities mainly monthly coordination meetings and external quality assurance are closely monitored in close collaboration with MOH, CPHL and the respective hospital administration. During the period under review a total of 123 suspected bacterial meningitis cases were detected of which 112 (91%) had a lumbar puncture done; of the 112 CSF, only 8 specimens were probable bacterial meningitis and none of the 8 CSF samples had an HI or SP isolated. This is a clear indication that Uganda is moving towards elimination of HiB and SP. All the quality surveillance performance indicators were met by the three sites. Regarding Rotavirus vaccine introduction, with support from CDC, an evaluation to determine the potential impact of a rotavirus vaccine on rotavirus and all-cause diarrhea

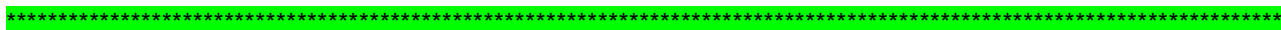
morbidity following introduction into the national immunization program was initiated on July 1, 2018 in three new vaccine sentinel surveillance sites (Mulago national referral hospital, Naguru China Friendship hospital and Lubaga hospital). This evaluation will serve to strengthen support for the continued procurement of vaccine for Uganda and documents changes in circulating strains over pre and post vaccine introduction. Data collection is ongoing and so far a total of 171 specimens have been collected in 2019 of which only 13 have tested positive for rotavirus.



iii) **Capacity building and mentorship of all health facilities on vaccine pharmacovigilance**

Over the past years Uganda’s Adverse Events After Immunization (AEFIs) surveillance system has been suboptimal and is one of the countries that is contributing to the highest birth cohorts in the African Region in addition to the high numbers annual number of vaccine doses administered. With an increasing coverage, the number of cases with AEFIs is also expected to increase. However, the current reporting in Uganda is still low and therefore it was recommended that a country wide capacity building session for health workers in all health facilities be conducted. This effort was started by WHO in close collaboration with MOH and NDA whereby a master TOT was established and trained by WHO/AFRO/HQ to roll out the skills building efforts at the health facility level. The sessions are being conducted at the health facility level bringing together a set of health facilities with a must attend the in charge of the health facility, in charge of OPD and surveillance focal person for AEFI at that level. These efforts were started with districts with the highest number of surviving infants namely Kampala, Wakiso, Arua and later Kassanda. Skills and knowledge on detecting and reporting of AEFIs have been impacted on 3364 health workers in 1793 (34%) health facilities. The next steps is to transfer the remaining skills development to Mbale HRDI. Discussions have started and fortunately key focal points from Mbale were part of the initial training sessions.

- Establishing of ehealth system – eChild register
- Strengthening of HIS and establishing of robust and sustainable integrated systems focusing on implementation of tools and building capacity of better quality and use of immunization data – immunization data analysis, data quality Apps and Scorecards built on DHIS2



Cold Chain and logistics

UNICEF

Support to the CCEOP Program Management Team to monitor and supervise 1st phase installations and 2nd phase CCEOP implementation in 2019

Phase I, year one of implementation of CCEOP initiative in Uganda was completed in April 2019, after the successful delivery, installation and commissioning of 608 Cold Chain Equipment units in health facilities throughout the country. The implementation was contracted to Vestfrost, manufacturer of the equipment, who partnered with LM engineering as the local service provider for the delivery and installation component (and who in turn worked with a Blink Logistics, a local firm for the logistics services). Following ODP, COP

and Cost Estimate issuance the actual equipment arrived in Uganda in September 2018, with installations starting in November 2018.

UNICEF Uganda supported the initiative from the onset, by:

- Providing guidance to the MoH UNEPI on the key milestones during the CCEOP cycle, i.e. Operational Development Plan development and health facility readiness assessment, consolidation of country specific requirements, review of Costed Operational Plan, clarification on options available, coordination of Cost Estimates and facilitation of the transfer of funds for the country co-investment portion.
- Participation in the actual tender evaluation for the service bundle component, considering the requirements set forth by the PMT.
- Following up on the ordering, international shipment and customs clearance of the equipment
- Clarifying service level definition with the local service provider in charge of delivery and installation, and escalating matters through Supply Division when required, in order to ensure quick resolution of bottlenecks.
- Field monitoring of installations, as part of regular UNICEF programme monitoring trips.
- Coordinating the Post Installation Inspections exercise through Baltic Control, the inspectorate firm appointed by UNICEF Supply Division to undertake the sampling and inspection of installations conducted.
- Actively participating in the Project Management Team (PMT) as the main coordination and monitoring forum for the project. The PMT was established as a subcommittee to the Vaccines Management Committee where all the main partners in EPI (MoH UNEPI, National Medical Stores, UNICEF, CHAI, PATH) are represented. The PMT met as required, more frequently during the periods of high CCEOP activity, but always maintaining a standing agenda item in the monthly VMC meetings.

Detailed reports available on the CCEOP phase one include: Detailed implementation report from LM Engineering, including annexes on progress reports, staff trained; Post Installation Inspection Report from Baltic Control; and Detailed inventory of CCE units installed.

Phase I, year 2 of the CCEOP implementation in Uganda has progressed well following similar processes. The ODP and the Costed Operational Plan (COP) and funds transfer procedures have all been completed. For year 2, 926 CCE will be procured. Contracting is ongoing currently.

Implementation and monitoring the 2018 EVM improvement plan at national, district and health facility levels

The last EVM assessment in Uganda conducted in October 2018, identified key strengths, weaknesses, and areas of improvement in effective vaccines management. EVM improvement plan 2018 - 2022 was developed and is currently being implemented.

UNICEF Uganda supported the EVM improvement plan through

- Supported monthly meeting of the vaccines and logistics management committee. Key issues discussed during the meetings include implementation and monitoring of the EVM improvement plan at national, district and health facilities levels.

The following components of the EVM plan have been implemented:

- Replace all non- CFC free cold chain equipment – using CCEOP1, replaced 472 equipment with CFC free equipment in health facilities and DVS.
- Provide voltage regulators to equipment that do not have - NMS distributed 365 voltage regulators to health facilities and DVS in 70 districts.
- To provide continuous temperature recorders to lacking health facilities and have an emergency stock at NMS - UNICEF procured 3,826 fridge tags. A total of 3,768 were distributed to 94% of total health facilities fridges as replacements for the expired fridge tags, the balance is emergency stock at NMS.
- Build capacity for Effective vaccine management and CCE maintenance teams (Chain team)
- Supported RCMTs to conduct mentorships to DCCTs and health workers in health facilities on EVM to build the capacity of the DCCTs and health workers

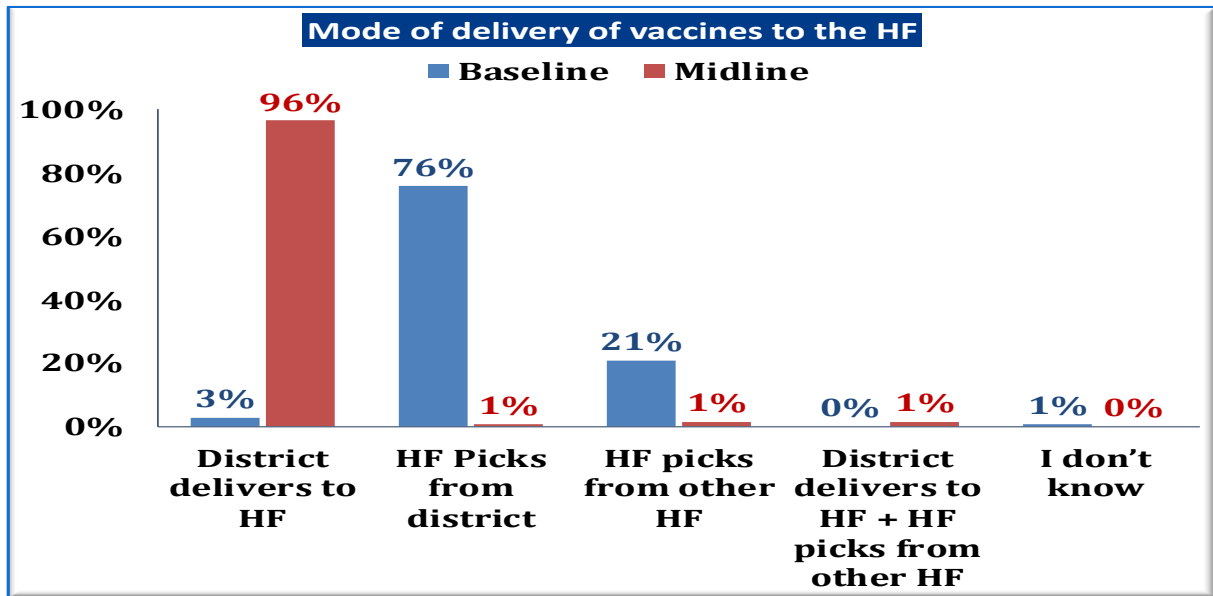
CHAI

1. Supporting project coordination and evaluation of the Last Mile Delivery pilot

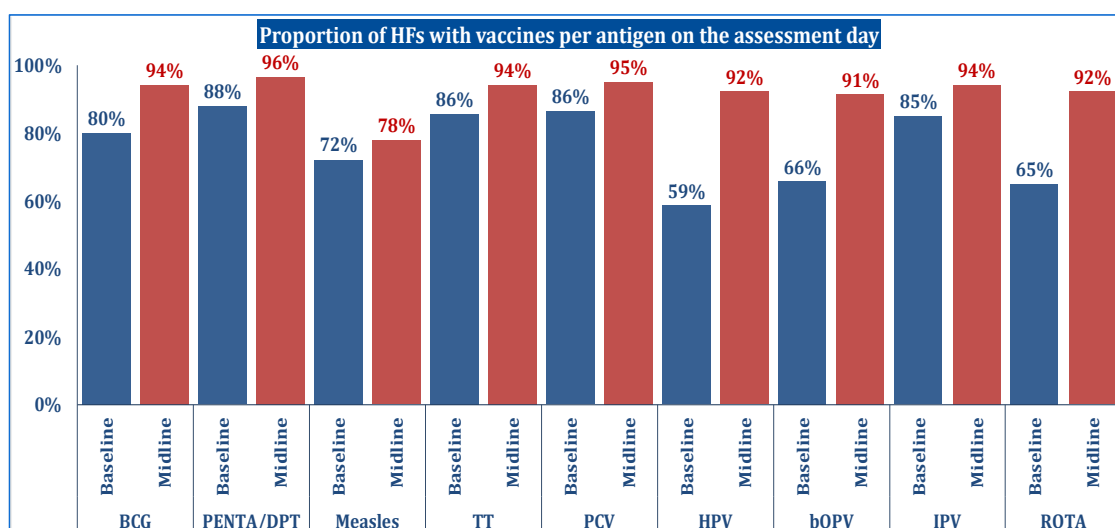
The Uganda National Expanded Program on Immunization (UNEPI), in collaboration with National Medical Stores (NMS) commissioned an 18-month vaccines Last Mile Delivery (vLMD) pilot with funding from GAVI in 3 districts. The pilot commenced in June 2018 and was implemented by Freight-In-Time in partnership with United Postal Services (UPS). CHAI was contracted by GAVI to provide support for program coordination and evaluation and costing. The pilot is currently running and is expected to wrap up in December 2019.

Findings from the midline assessment showed promising trends with stock availability at health facility level, for details refer to the LMD summary presentation on midline findings.

- I. *A reduction of HFs picking vaccines from the DVS to the health facility from 76% at baseline to 1% at midline*



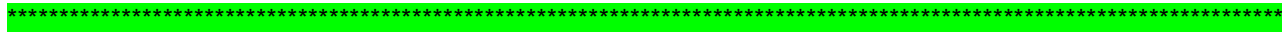
- II. *An improvement in stock availability of all vaccines at health facility level*



Demand promotion and ACSM (Cold Chain team)

WHO

- i) **Implement strategies to reduce missed opportunities for vaccination (MOV):** Following the national missed opportunities assessment that was conducted in November 2018, Uganda developed a concept note on the implementation of MOV strategies in the country. WHO has recruited a consultant to lead in the implementation of this activity and who will work closely with Human resources for health development institute to conduct this activity in 54/135 districts before end of 2019. The remaining districts will be supported in the next Gavi TCA as the resources are inadequate to cover all the districts. The key mile stones are to ensure that MOV question are part of the ODK support supervision tool and development of guidance and capacity of both EPI staff and non-staff on screening for immunization.



UNICEF

- i) **Dissemination of the updated EPI communication strategy and HPV communication plan to guide the stake holders for generation demand**
 - **Community mobilization and engagement through interpersonal communication using established community structures (Local Council (LC1), VHTs, Women Councils, religious leaders, school-teachers and opinion leaders).**

Community dialogue meetings with the high-risk communities, key socio – cultural groups that influence community attitudes and behaviors in their areas were among the priority approaches recommended by the Harvard Opinion Poll Research study on immunization in Uganda, 2016, and the immunization equity assessment of 2017.

Non-health stakeholders are key partners in advocacy, communication and education for immunization uptake. They were oriented on communication skill with the communities on immunization, identification of the gaps hindering the uptake of immunization services, contents of EPI communication package and effective strategies to increase immunization services in the communities.

The engagement covered 15 districts namely Bugiri, Bugweri, Butambala, Buyende, Iganga, Jinja, Kaliro, Kalungu, Kamuli, Luuka, Mayuge, Namayingo, Namutumba, Rakai, Sembabule. The districts were prioritized because of persistent poor EPI performance, groups resisting immunization and Measles outbreaks. The stakeholders engaged who are important players in immunisation mobilisation and advocacy were Chief Administrative Officers, Resident District Commissioners, LC5 chairpersons, district planners, Secretaries for Health, district and subcounty councilors and community development officers, village health teams.

Objectives

- To build the capacity of the stakeholders to mobilise parents, caretakers and their communities for EPI service
- To establish sustainable advocacy and social mobilisation interventions the through use of existing community structures

Results

- A total of 30 national trainers were trained to support district engagement meetings
- A total, 405 political leaders, 210 religious leaders and 8,025 community workers were oriented on:
- The key recommendations and action points to advocate and mobilize the community for routine immunization services were developed.
- The action points included - LCV chairmen pledged to rally the district local political leadership for mobilisation for EPI activities; Community Development Officers to include EPI mobilisation in their routine activities; District Health Educators to liaise with key stakeholders frequently. The need to engage Kingdoms & cultural leaders was emphasized. Religious, cultural & political leaders pledged to utilize their different platforms and opportunities to mobilize communities for immunisation and other health services.
- District communication action plans were developed

Next steps

- To develop a follow up plan to the districts and follow up on implementation of district communication action plans and lower level micro plans
- Develop a scale up plan for EPI communication engagement intervention to other cluster of districts with inequities based on the lessons learnt from the previous district meetings
- Document best practices/lessons learned in advocacy and community mobilization for EPI services

ii) *Airing of comprehensive media campaign for routine and HPV immunisation covering 2 quarters including April and October*

The communication guidelines for HPV were completed and disseminated, these were used during the HPV coverage improvement plan implementation. A nationwide radio campaign for HPV and routine immunisation using radio spots, adverts, talk shows done and is ongoing. Social media platforms (WhatsApp, Face book, SMS) are being used to transmit information to parents and caregivers.

Vaccine Specific support***WHO***

Establish and strengthen the second year of life (2YL) immunization platform for introduction of vaccines in the second year of life (MR and booster doses)

Health Financing / sustainability***WHO***

- To undertake an assessment efficiency in use of immunization resources, identify bottlenecks and develop strategies to be undertaken to address them: the first milestone assigned to WHO was to develop a study protocol shared with TCC for approval. The draft study protocol is available however discussions are ongoing to ensure that the study does not focus on only immunization, but it is a cross programmatic Efficiency analysis for Uganda. This activity delayed due to the focal point having been transferred to another country office. However, it will be finalized by June 2020.
- To undertake targeted advocacy for domestic resources for immunization among key stakeholders as part of strengthening country ownership of immunization (ADI):*** The initial milestone thought about at the time of developing the 2019 TCA was strategies for financial sustainability/resource mobilization disseminated to with ICC/Immunisation board to empower them to mobilize domestic resources". However, it was realized that for effective implementation of the immunization ACT, provision 26 of the ACT mandates the Minister by statutory instrument to make regulations. WHO in close collaboration with PATH has developed a concept note and TORs to identify a consultant who will lead the process of developing the immunization ACT regulations and these will be disseminated to all stakeholders. These regulations will then support all players to advocate for domestic resources including the next milestone of having a meeting with parliamentary forum on immunisation to advocate for immunization financing/operationalizing the immunization trust fund to generate and sustain political commitment for immunisation in line with ADI"

6. UPDATE OF FINDINGS FROM PREVIOUS JOINT APPRAISAL

Prioritised actions from previous Joint Appraisal	Current status
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Prioritised actions from previous Joint Appraisal	Current status
<p>Program management, planning and financing</p> <p>Scale up of LMC to training of all EPI focal persons (UNICEF/WHO/CHAI)</p>	<p>WHO Supported the revitalization assessment of <i>HMDC</i> a final report was presented to the different structures of MOH in May 2019</p> <p>UNICEF LMC trainings conducted for 22 new districts with immunisation inequities comprised of a total 345 participants (298 EPI Focal Persons and 47 officers from MoH-UNEPI and health partners)</p>
<p>Regular review meetings at all levels involving local leaders and providing feedback and sharing best practices. Conduct exchange learning visits within and outside of the districts (UNICEF/WHO/CHAI)</p>	<p>UNICEF EPI review workshop conducted comprised of 89 participants (76 from the districts and 13 MoH and national health development partners)</p>
<p>Strengthen the functions of UNITAG/TCC/ICC (WHO/CHAI)</p>	<p>WHO Supported the development of UNITAG 2019 annual activity plan</p>
<p>Assessment of efficiency in use of immunization resources, identify bottlenecks and develop strategies to be undertaken to address them (WHO)</p>	<p>WHO Developed a study protocol, this was shared with TCC for approval. Activity delayed due to focal point having been transferred to another country office</p>
<p>Service delivery addressing equity and coverage</p> <p>Analysis of all relevant data at end 2018 to identify districts for follow up with mentoring and implementation (WHO/ UNICEF)</p>	<p>WHO Supported 52/135 districts in cascading out the RED approach to developing annual work plans. Its planned that the remaining districts will be supported in the next GAVI TCA 2020 so as to ensure that the country is fully covered</p> <p>UNICEF Using 3-year data identified 22 districts with immunisation inequities and supported microplanning and implementation to address the immunisation coverage</p>
<p>Conduct RED-REC-C&E-MOV training, supervision and mentorship with focus on immunisation inequities to reach the target populations and marginalised/high-risk communities. Implementation in $\geq 60\%$ districts (UNICEF/WHO/ CHAI/JSI)</p>	<p>UNICEF A total of 41 districts were supported to update costed micro plans with inequity mapping, supervised, mentored and provided financial support for implementation.</p>
<p>Development and implementation of minimum package of health services including immunisation in urban and pri-urban setting to reach marginalised target populations (as per urban health strategy) i.e. KCCA, Wakiso, Iganga, Arua (UNICEF)</p>	<p>UNICEF</p> <ol style="list-style-type: none"> 1. Conducted mapping in Urban hard to reach communities in 3 districts of Kampala, Wakiso and Iganga. Costed micro plans developed and financially supported for implementation 2. Registration and orientation of 1,534 Community Health Workers (VHT) is in initial phase in Kampala, Wakiso and Iganga

Prioritised actions from previous Joint Appraisal	Current status
<p>Immunisation Mobilisation and Demand generation</p> <p>Dissemination of the updated EPI communication strategy and HPV communication plan to guide the stake holders for generation demand; roll out of the EPI communication strategy with special focus on areas with large numbers of unimmunized children and in urban and peri-urban communities; use local community structures to generate demand for EPI services including megaphones use in selected areas (UNICEF)</p>	<p>UNICEF</p> <p>The EPI communication strategy 2019-2023 was developed and approved by MOH. Dissemination of the EPI communication strategy is complete in Easter and Central regions (15 districts) targeting high risk communities</p> <p>HPV vaccination strategy 2019 – 2022 was developed and approved by Ministry of Health. This was rolled out with the HPV coverage improvement plan nationwide in 128 districts aimed at increasing and sustaining the uptake of HPV vaccine</p>
<p>Engaging the non-health stakeholders (Cultural leaders, CAO, RDC, LC5, district planner, Secretary for Health, district councils, CDOs, etc.) with special focus in the 61 districts identified with inequities (UNICEF/JSI).</p>	<p>UNICEF</p> <p>Engagement of non-health stake holders conducted in a whole of Busoga and Central region (total of 15 district). A total of 405 political leaders, 210 religious leaders and 8,025 community workers were oriented</p>
<p>Airing of comprehensive media campaign for routine and HPV immunisation (UNICEF)</p>	<p>UNICEF</p> <p>A nationwide radio campaign for HPV and routine immunisation using radio spots, adverts, talk shows conducted. Social media platforms (WhatsApp, Face book, SMS) used. The media campaigns are still on going.</p>
<p>Data and surveillance</p> <p>Finalize the strategic data improvement plan (DIP), Update cMYP, launch DIP, develop annual DIP and Implement plan (WHO, PATH, CDC, CHAI)</p>	<p>WHO</p> <p>A total of 112 Public health specialists of 14 RRHs were supported to conduct routine supervision immunization service delivery in 128 districts</p>
<p>Provide quality training, supportive supervision and mentorship on data handling and use for action at the point of data generation through use of innovative technologies (WHO, CDC-AFENET)</p>	<p>WHO</p> <ul style="list-style-type: none"> • Technical oversight of three new vaccine sentinel surveillance sites, a total of 123 suspected bacterial meningitis cases were detected • Capacity building of health workers in Kampala, Wakiso, Arua and Kassanda on Adverse Events After Immunization (AEFIs) surveillance. A total of 3,364 health workers in 1,793 (34%) health facilities were oriented.

7. ACTION PLAN: SUMMARY OF FINDINGS, ACTIONS AND RESOURCE/SUPPORT NEEDS IDENTIFIED AND AGREED DURING THE JOINT APPRAISAL (OneTA plan as attached)

This table draws from the previous JA sections, summarizing key findings and agreed actions, as well as indicating required resources and support, such as associated needs for technical assistance.

Key finding / Action 1	Strengthening UNEPI capacity at all governance levels, building capacity of immunization health workforce and ensuring sustainable approaches
Current response	
Agreed country actions	
Expected outputs / results	1. Strengthen the capacity of Mbale Human Resource for Health Development Institute (HRHDI) to conduct in service training to roll out the vaccine Pharmacovigilance at the HF level including VAEMIS with close collaboration with NDA

	<ol style="list-style-type: none"> 2. Strengthen the capacity of Mbale Health Development Institute to scale up MOV strategies in 83 districts through the regional CHDs 3. Provide technical support to MoH to monitor the roadmap for implementation of Addis Declaration on immunization 4. Provide technical support to the monthly EPI sub committees of Data and Surveillance, Program management and service delivery 5. Conduct DIT Round 2 implementation end term evaluation (2016-2020) review and adopt materials for next phase of DIP implementation 6. Build capacity of Regional Community Health Department (CHD) from 14 Regions of Uganda on immunization data quality improvement using revised materials as per new DIP 7. Build capacity of District Data Managers from 135 Districts on immunization data quality improvement using revised materials as per new DIP 8. Support supervision by National and Regional level teams for health worker Peer to Peer on-the-job mentorship at district and facility-level 9. Provide technical support for REC/Equity and Coverage activities to sustain immunisation improvement in 22 districts with inequities 10. Support Advocacy, Social Mobilisation and Communication through engagement of decision makers at national, district and community level to improve immunisation coverage 11. Work with UNEPI and NMS to develop SOPs for immunisation waste disposal and implementation of the plan. The activity implementation will mainly cater for transport from districts to disposal sites. 12. Provide technical assistance to support procurement processes of equipment under HSSII, CCEOPII & C&E grants including incinerators 13. Follow up supervision for installation of the previously procured 608 CCEs 14. Build capacity of relevant institutions, including Universities, training institutions and professional bodies to conduct immunization pre-service training 15. Engage Ministry of Education & Sports and Ministry of Health to review the content on immunization in the primary school's syllabus 16. High level advocacy and technical support to EPI Program for sustainable financing informed by program implementation lessons Learnt, the investment case and integrate ADI activities into the country multiyear plan (cMYP) 17. Provide technical support to MoH to develop implementation framework and regulations for immunization Act 2017 18. Develop and deploy ODK-X CCE App tool for cold chain inventory and stock reporting 19. conduct a comprehensive cold chain inventory update
Associated timeline	
Required resources support and TA	
Key finding / Action 2	Strengthening urban immunization service delivery and demand
Current response	
Agreed country actions	<ol style="list-style-type: none"> 1. Support the capacity strengthening, regulation, monitoring and supervision of the private health care facilities providing immunization services in the Urban settings (Wakiso, Iganga, Kampala and Jinja). 2. Strengthen the advocacy, communication and social mobilization to maximize 'reach' of target population in urban settings through: 3. Development and finalization of Urban Health communication guideline and implementation plan 4. Implement the urban immunisation communication plan through: Targeted information dissemination, dialogues/meetings with urban elites, informal settlements, refugees, schools, working caretakers 5. Scale up demand generation through registration of VHTs, Registration of children in municipalities, mobilisation & awareness at community level, address vaccine hesitancy and immunisation refusals 6. Assessment/mapping private health care facilities providing immunization.

	<ol style="list-style-type: none"> 7. Identify the ones serving/near the informal settlements/slums 8. Carry out capacity building and review of the private health care facilities including the data management and compliance with Uganda's immunization guideline quarterly follow up, oversight and review 9. Engage and build capacity of private sector health facilities to improve routine immunization service delivery, including facilities not currently providing RI services in two municipalities (Mukono & Masaka). 10. Semi-annual multi-sectoral stakeholder review meetings for Urban-Kampala and Wakiso Districts on routine immunization (RI) and major focusing on school health and HPV as well as other 11. Quarterly supportive supervision for selected facilities & schools in Kampala and Wakiso Districts on RI in genera and major focus on school health and HPV
Expected outputs / results	
Associated timeline	
Required resources / support and TA	
Key finding / Action 3	Alignment with other support, coordination with partners, and working towards more integrative support and impact
Current response	
Agreed country actions	<ol style="list-style-type: none"> 1. Develop comprehensive multi-year plan 2021-2025 2. Engage the School of Public health (Mak SPH) to conduct operational research to identify operational barriers including GDP and per capita income to delivery of immunization services 3. Support the new vaccine sentinel sites to produce data that will monitor and evaluate new vaccine introduction (Rota, PCV and Penta), and data analysis for timely use 4. Provide Technical support in coordination of partners, mapping of partners by region using the 4W matrix of who is doing what, where, when and for how long and link them to the district and Health facility annual work plan for resource mobilisation and accountability 5. Enhance the regional EPI/IDSR structure for capacity building, monitoring and accountability for the investments, TCA/PEF support shall be aligned within the 14-regional operational frame work based on institutional capacity , The operational frame work will cover the 5 immunisation system components (vaccine, logistics & cold chain, data and VPD surveillance, service delivery, social mobilization, service delivery) <ul style="list-style-type: none"> ▪ Support MOH to conduct functional review of the staff in the regional Community Health Departments (CHDs) ▪ Develop a training package, supervision tools (M&E frame work, score cards and dashboard) to be used at the regional staff ▪ Build capacity of the regional teams ▪ Support inception regional orientation meeting with stakeholders " ▪ Support measles and rubella surveillance to be able to timely detect and respond to suspected measles/rubella outbreaks 6. Continue technical assistance to determine the cost and cost effectiveness of different approaches to DTP booster dose introduction; school-based delivery, facility-based delivery, single cohort approach, and multiple cohort approach. Includes dissemination of the findings. 7. Conduct EPI Program review to inform development of 5-year strategic plan 2021-2026 (support committee meetings and Field work). 8. Bring cancer-survivors and Members of Uganda cancer society on board for quarterly immunization TV & Radio talk show to raise public awareness and urgent need to immunize children against vaccine preventable cancers and other diseases 9. Produce and disseminate a documentary for RI social mobilization 10. Build capacity of Implementing Partners agencies in target regions on the immunization package and strategies for integration in RMNCAH workplans 11. Engage EPI partners (National and relevant sub national) to identify

	success stories, lessons learned, promising practices and innovations in the areas of routine immunization service delivery, data use & quality
Expected outputs / results	
Associated timeline	
Required resources/ support and TA	

Based on the above action plan, please outline any specific technology or innovation demand that can be fulfilled by private sector entities or new innovative entrepreneurs.

- Registration of children under 1 year in urban areas: Kampala, Wakiso, Jinja, Iganga, Mukono and Masaka by UNICEF and JSI
- Use of ODK-X in cold chain inventory and vaccine logistic management

8. JOINT APPRAISAL PROCESS, ENDORSEMENT BY THE NATIONAL COORDINATION FORUM (ICC, HSCC OR EQUIVALENT) AND ADDITIONAL COMMENTS

Uganda established a functional ICC in 2018. The ICC is chaired by the Permanent Secretary and reports to the Minister of Health. The ICC has provided:

- strategic direction, oversight and transparency of the Expanded Programme for Immunisation
- a coherent guidance on strategy, planning, funding and performance of the EPI programme within the context of the broader health system

UNEPI led the coordination and chairing of the preparatory and post JA meetings. The meetings were attended by MoH-UNEPI, WHO, UNICEF, CHAI, JSI, CDC-AFENET and PATH. This ensured that all components delivered during the PEF period were included. The draft one report was shared with global partners including Gavi, WHO regional office, ESA/IST, UNICEF regional office and in country partners for review, comments and input in preparation for the workshop for November 4th – 8th 2018 JA. The workshop was attended by all key EPI partners.

To consolidate and prioritize the country One TA and JAR report, joint meetings were held post JA workshop on 12th, 15th and 18th Nov 2019. The draft One TA plan and JA report were submitted to Gavi on 18th Nov 2019.

ANNEX: Compliance with Gavi reporting requirements

	Yes	No	Not applicable
End of year stock level report (due 31 March) *	√		
Grant Performance Framework (GPF) * reporting against all due indicators			
Financial Reports *			
Periodic financial reports			
Annual financial statement			
Annual financial audit report			
Campaign reports *			
Supplementary Immunisation Activity technical report			
Campaign coverage survey report			
Immunisation financing and expenditure information			
Data quality and survey reporting			
Annual data quality desk review	Not available yet		
Data improvement plan (DIP) - Draft	√		
Progress report on data improvement plan implementation	√		
In-depth data assessment (conducted in the last five years)	√		
Nationally representative coverage survey (conducted in the last five years)	√		
Annual progress update on the Effective Vaccine Management (EVM) improvement plan	√		
CCEOP: updated CCE inventory	√		
Post Introduction Evaluation (PIE) (specify vaccines):			√
Measles & rubella situation analysis and 5-year plan			
Operational plan for the immunisation programme	Still being updated- will upload by 20 th Jan 2020		
HSS end of grant evaluation report (HSS1)	√		
HPV demonstration programme evaluations			√
Coverage Survey			√
Costing analysis			√
Adolescent Health Assessment report			√
Reporting by partners on TCA and PEF functions			