Joint Appraisal report 2017

Country	**ERITREA**
Full Joint Appraisal or Joint Appraisal update	**Full Joint Appraisal**
Date and location of Joint Appraisal meeting	25-30 Sep. 2017 Asmara, Eritrea Embassoira Hotel
Participants / affiliation[1]	1.Dr. Goitom Mebrahtu GAVI HSS Focal Person 2.Mr. Tedros Yehdego EPI Manager 3.Dr. Eyob Tekle, PMU director 4.Mr. Tewelde Yohanness P&P Director 5.Mr. Robel Zekurustor GAVI HSS Grant officer 6.Ms. Yodit Huruy UNICEF CO EPI 7.Dr. Geoffrey Acaye UNICEF CO 8.Mr. Tzeggai Kidanemaraim WHO CO EPI 9.Mr. Semere Woldegiorgis WHO CO HSS 10.Mr. David Ennis GAVI SCM 11. Dr. Johannes Ahrendts GAVI Strategy Head 12. Dr. Fussum Daniel WHO/IST 13. Dr. Julliet Nabyonga WHO/IST 14. Ms. Awet Araya UNICEF C4D
Reporting period	July 2016 –July 2017
Fiscal period[2]	January – December
Comprehensive Multi Year Plan (cMYP) duration	2017-2021

1. SUMMARY OF RENEWAL AND EXTENSION REQUESTS

1.1. New and Underused Vaccines Support (NVS) renewal request(s)

Type of support (routine or campaign)	Vaccine	End year of support	Year of requested support	Target (population to be vaccinated)	Indicative amount to be paid by country	Indicative amount to be paid by Gavi
Routine	DPT-HepB-Hib	2021	2018	119,630	US$60,000	US$301,000
Routine	Rota Vaccine	2021	2018	119,630	US$40,000	US$375,000
Routine	PCV-13	2021	2018	119,630	US$54,500	US$863,000
Routine	Measles/Rubella	2021	2019	117,152	MR1 dose cost	US$100,000
Campaign	Measles/Rubella	2018	2018	1,562,025	0.00	US$1,015,300
Campaign	Men A Vaccine	2019	2019	2,668,450	0.00	US$1,734,492.5

[1] If taking too much space, the list of participants may also be provided as an annex.
[2] If the country reporting period deviates from the fiscal period, please provide a short explanation.

1.2. New and Underused Vaccines Support (NVS) extension request

Type of Support	Vaccine	Starting year	Ending year
2017 is not our last year of cMYP for the year. The new cMYP (2017- 2021) is already developed	NA	NA	NA

1.3. Health System Strengthening (HSS) renewal request

Total amount of HSS grant	US$ 9,911,281 + (961,875) = 10,873,156
Duration of HSS grant (from…to…)	2017-2021
Year / period for which the HSS renewal (next tranche) is requested	2018
Amount of HSS renewal request (next tranche)	US$ 1,899,951.50

1.4. Cold Chain Equipment Optimisation Platform (CCEOP) renewal request

Total amount of CCEOP grant	US$ 1,234.029	
Duration of CCEOP grant (from…to…)	2018-2019	
Year / period for which the CCEOP renewal (next tranche) is requested	2018	
Amount of Gavi CCEOP renewal request	US$ 970,534	
Country joint investment	**Country resources**	US$263,495
	Partner resources	US$0.00
	GAVI HSS resources[3]	US$108,000

1.5. Indicative interest to introduce new vaccines or request Health System Strengthening support from Gavi in the future[4]

	Programme	Expected application year	Expected introduction year
Indicative interest to introduce new vaccines or request HSS support from Gavi	HPV	2018	2019
	Yellow Fever	2018	2019
	Meningococcal A vaccine.	2017	2019

[3] This amount must be included either in an earlier HSS approval or else in the current HSS renewal request in section 1.4 above.
[4] Providing this information does not constitute any obligation for either the country or Gavi, it merely serves for information purposes.

Background

2. CHANGES IN COUNTRY CONTEXT SINCE LAST JOINT APPRAISAL

Since the last Joint Appraisal, there have not been any major changes or factors adversely affecting the performance of the immunization system and Gavi grants. To the contrary the health sector has been successful in developing three strategic documents in 2016 that should enhance achievement of better immunization outcomes over the coming five years. These documents include the Second Health Sector Strategic Plan (HSSP II), Country Multi Year Plan on Immunization (cMYP), and National Action Plan on Health Security, all plans run from 2017 - 2021.

Even though Eritrea is categorized with low income countries, the country is not in a state of fragility and there are no security problems that could interrupt the routine social services for the people. Eritrea is not formally identified as fragile and flexibility in grant management not being requested.

3. PERFORMANCE OF THE IMMUNISATION SYSTEM IN THE REPORTING PERIOD

3.1. Coverage and equity of immunisation

Within Eritrea, the Southern Red Sea (SRS), Gash Barka (G/Barka), Northern Red Sea (NRS) and Debub regions (Zobas) contain areas where it is challenging to achieve health outcomes where there is consistently limited access to routine EPI services, as well to other priority health services. SRSZ faces particular challenges, with 70% of routine immunization services provided at outreach sites, which in turn requires considerable transport support. Valid immunization coverage is below the target of 90% in SRS, G/Barka and NRS regions, for all antigens, while the remaining three regions had coverage of 95% and above based on the EPI coverage survey results of 2017.

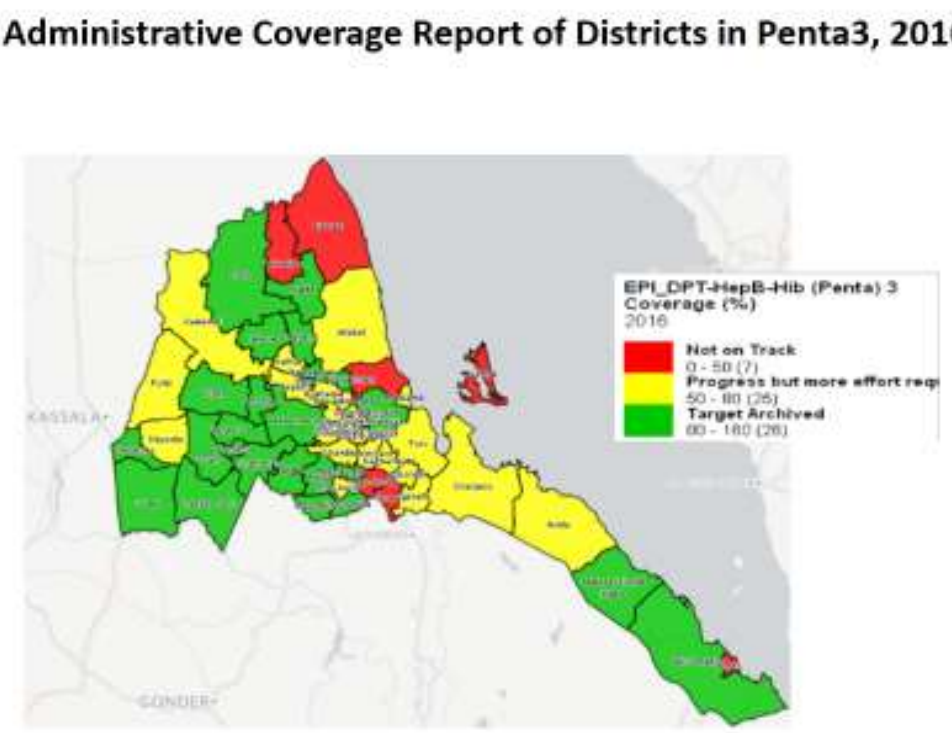
Up to 40% of Eritrea's population do not have a health facility within 10 kms radius of their residence (HSSDP, 2012). Details of the key issues surrounding access can be found in the following sources: EPI Coverage Survey Eritrea, 2013 (pgs. 13, 20-24 & 31-42); the joint Assessment Report of 2016.

The high mobility of semi-nomadic populations in the coastal districts in Eastern Low land areas and the extreme topographic conditions and access issues of these areas, there are often high dropout rates between BCG and Measles and limited impact of efforts to increase community involvement. However, it is worth noting that there is no reported gender related inequity in the country, especially in relation to EPI services.

Lowest access to EPI/VPD and other priority services is found in the lowest and second lowest socioeconomic quintiles, putting at risk the children of mothers and or families in remote/rural and Hard To Reach (HTR) areas, HTR (mostly nomadic) populations, as well as children in households with young mothers (below 24 years) or older mothers (35 years and above).

Key regions with inequities which require particular attention and support include: SRS, NRS, Debub and G/Barka. These results are well documented, details can be found in the following resources: EPHS, 2010 (pgs. 197-201); EPI Coverage Survey Eritrea, 2013 (pgs. 19, 20-24, 29, 31-42); JAR cMYP Eritrea, 2015 (pgs. 4-5, 15); MTR HSSDP, 2014 (24).

Figure 1



The populations of some Kebabi (village) administrations in the 16 low performing districts in the Western and Eastern Low Lands of Eritrea are less accessible, in terms of delivering routine immunization services and the reported administrative coverage of child vaccinations in these districts is comparatively lower than elsewhere in the country (see Fig. 1 above).

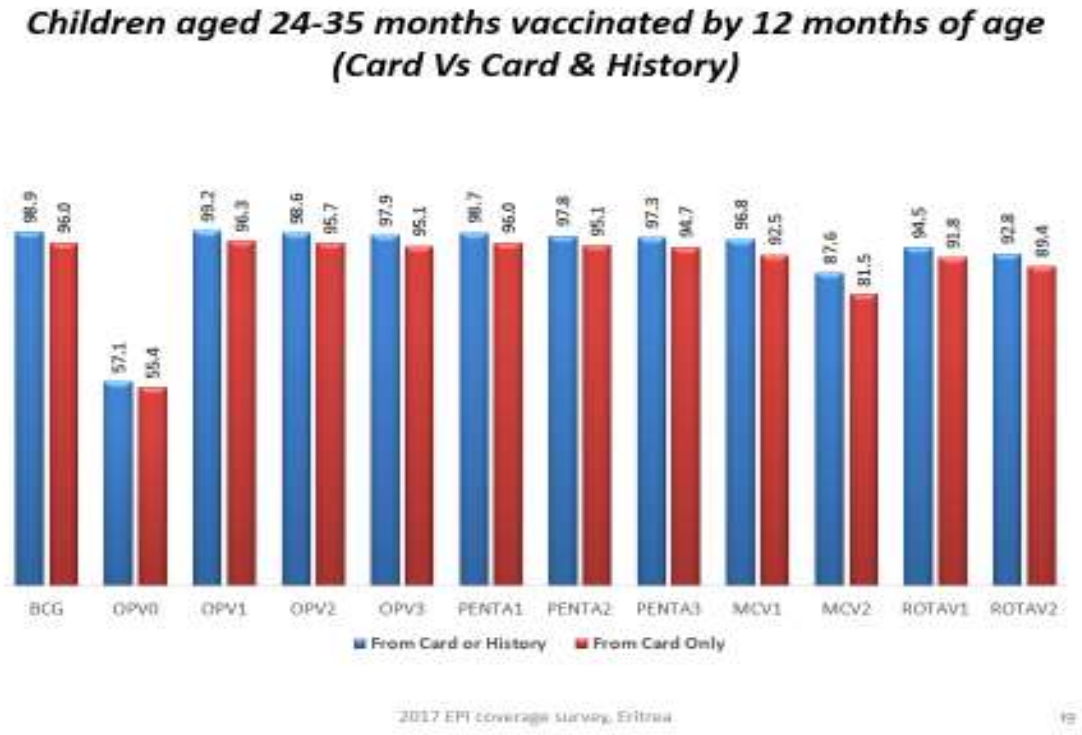
As a result of this lower coverage, outbreaks of Measles and sporadic Diphtheria cases were reported from these areas in 2016. To address this, the country has adopted a Periodic Intensified Routine Immunization (PIRI) service delivery approach to better reach unvaccinated children in less accessible geographical areas, increase immunization coverage and to minimize dropout rates in the target children.

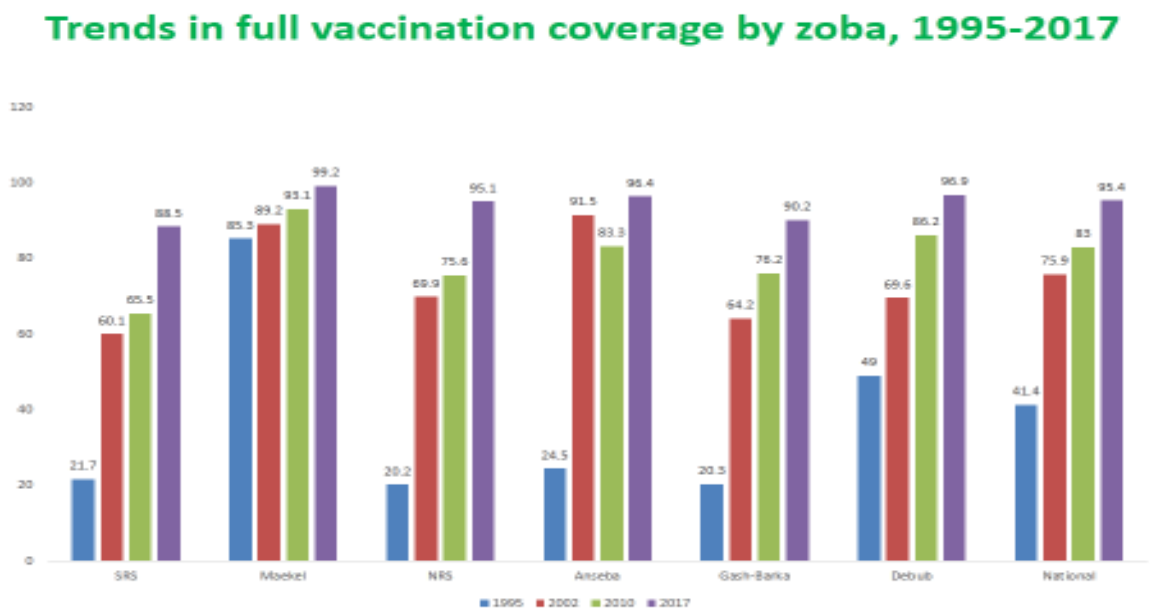
The program also conducts targeted tracing activities for vaccine defaulters during the African Vaccination Week (AVW) and Child Health & Nutrition Week (CHNW). Using these opportunities the healthcare providers encourage mothers/care-givers to bring children and their child health/vaccination cards to the vitamin A supplementation site during the campaign dates to a defaulter tracing activities.

Through these strategies and using other opportunities and events, the country has been able to achieve high and sustainable routine immunization coverage in almost all districts (verified by successive coverage surveys). In Eritrea a population census has not been conducted for some time, creating issues about the exact population and target figures for vaccination to be used for each district. This denominator issue affects the calculation of the actual immunization coverage of each antigen in each district. To establish accurate data on coverage, Eritrea

conducts regular nationwide coverage surveys (every 3 years), the latest EPI national coverage survey was undertaken during the first quarter of 2017.

The 2017 coverage survey found that almost all children (99.2%) in Eritrea had vaccination cards with 97.2% households able to produce their child health cards during the household surveys. This was significantly higher than the proportion of children aged 12-23 months with vaccination cards reported (85.2%) during the Eritrea Population & Health Survey (EPHS, 2010). The 2017 coverage survey found that 95.4% of the children aged 24-35 months were fully vaccinated with all the required antigens, using the child health card as a reference. The crude coverage (card and history) was found to be: 98.9% for BCG, 97.9% for OPV3, 97.3%, for PENTA, and 96.8% for MCV1 vaccine.





In Eritrea immunization demand by communities of all ethnic groups is very high. Community leaders and religious groups are highly involved in community mobilization and awareness raising activities on VPD and support vaccine dose uptake, especially during SIAs & NIDs. Moreover, community groups participate in district micro planning and mapping of less accessible geographical areas and community members are encouraged to play their role and in some cases even lend their camels to help the EPI transport vaccines to less accessible areas.

The country plans to conduct equity assessment of EPI service in the 1st quarter of 2018, even though previous coverage survey results have not shown significant variation by socio-demographic factors, or major disparities between rural and urban populations, or major differences in vaccine dose uptake between those of different economic backgrounds or between females and males.

In Eritrea there is no gender inequity in vaccine dose uptake. Male and female children have equal access and utilization of the routine immunization services. The 2017 EPI coverage survey showed that the likelihood of full vaccination with all the recommended antigens was slightly higher amongst female than male children (89.5% and 84.2% respectively **EPI Coverage survey, 2017 PP 27).**

According to the 2017 EPI coverage survey, there is variation in full immunization status of children by Zoba. The highest proportion of children aged 24-35 months were fully immunized in Maekel Zoba (which has good access to routine immunization services in all of the 11 antigens) whilst Southern Red Sea Zoba has the lowest coverage. The variation was found to be statistically significant and is associated with comparatively less access of populations to routine immunization services and failure of children to complete the required doses on time.

The 2017 EPI coverage survey found that, the level of education of the mother were also shown to have significant influence on full vaccination coverage. Ninety-two percent of children of mothers with middle or higher education were fully immunized compared with only three-fourths of children of mothers with no education. Whereas 92% of children in the highest wealth quintile received full vaccinations, the corresponding figure for children in the middle or lower wealth quintiles was 80%.

The table below illustrates the findings of the survey and the inequities by different background characteristics (2017 EPI Coverage survey).

Background characteristics	Penta 3	MCV2	Fully Immunized
Zoba			
Southern Red Sea	90.6	66.5	58.3
Northern Red Sea	96.4	87.7	84.1
Maekel	100	92.7	92.7
Gash Barka	93.2	83	81.7
Debub	99.5	89.2	89.2
Anseba	97.8	88.7	86.8
Residence			
All Urban	96.9	88.7	87.7
Asmara	100	91.1	91.1
Rural	96.5	87.2	85.8
Sex of the Child			
Male	97	85.1	84.2
Female	97.7	91.2	89.5
Age of the mother			
<25	98.2	91	90.8
25-34	97.5	87.2	85.5
35 and above	96.3	86.6	85.6
Level of education			
No formal education	93.9	80.9	77.7
Primary	97.9	91	90.6
Middle	99.7	88.9	88.6
Secondary or higher	100	93	93
Wealth Quintiles			
Lowest	94.8	90	88.9
Second	95.3	79.8	77.5
Medium	96.9	86.2	84
Fourth	99.7	89.1	885
Highest	99.8	93	92.9
Total	97.3	87.6	86.4

3.2. Key drivers of low coverage/ equity

Even though at present there seem to be no major drivers for low immunization coverage/equity in immunization services that cannot be addressed, there are a number of remaining issues which need to be actively taken forward. Whilst the demand for immunization uptake remains high, there remains a need to target hard to reach communities and identify missed children, in order to close equity gaps. For example:

1. Regular outreach visits are not conducting in some districts, due to transport shortages, inaccessible roads and the frequent breakdown of vehicles.

2. The Cold Chain Equipment (CCE) Preventive Maintenance Plan is not yet fully implemented to ensure continuously working refrigerators, constant availability of vaccines and timely uptake of vaccine doses.
3. An EPI Data Quality desk review and data quality analysis have not been done on a regular base to develop an improvement plan and to avoid under reporting and data discrepancies which affect routine immunization coverage.
4. Semi-nomadic and cross border population movements in the Western & Eastern low lands of Eritrea hinders timely uptake of vaccine doses according the schedule.
5. There is low retention of health workers who are assigned to health facilities located in areas with less access or social amenities.
7 Late disbursement of funds from partners and reconciliation of advanced vs. used budgets from Zobas hinders subsequent payments and support and availability of funds can affect the timing of planned regular outreach visits.
8 Denominator issue in districts can make it difficult to estimate the actual immunization coverage of each antigen.
9. Under reporting of EPI data due to under staffing and high workload of HWs assigned to remote health facilities.
10. High immunization coverage but low AEFI surveillance data reporting
11. Refresher training on Interpersonal Communication Skills for health workers is critical but not yet addressed
12. Supportive supervision is not done in a regular bases to provide feedback on the spot**.**

3.3 Data.

Eritrea's Immunization information system is integrated with the national health information system. HMIS collects data related to immunization activities from all health facilities providing immunization services from 276 health facilities provide immunization services in the country. Vaccinations are recorded at the health facility during the vaccination session using tally sheets and register books where the details of children are captured. In the HF monthly summary report, the total numbers of vaccinated children for each month are recorded by antigen, before the summary report is submitted to the sub-zoba level, where it is compiled with other returns to report to Zoba/regional level. Computerized data entry starts at the Zoba level, with this then forwarded to and aggregated at the National level. DHIS2 has been introduced and officially launched in the 1st week of December 2017. The DHIS2 will give on line access for program managers on various levels of the reporting and can make a close follow-up to give feed on sport for data discrepancy and under reporting to improve the existed challenges on data quality at national and zoba levels.

A population census has not been done in Eritrea for several decades. Estimated population figures are provided by the national statistics office. However, figures and estimates for population growth rates do not accurately reflect what districts see as their actual populations. Calculating immunization coverage using the current population estimates size appears very low underestimating the actual number of vaccinated children and administrative coverage levels not reflecting reality what is in the ground. Successive EPI Coverage Survey results (using the recommended WHO methodology) have shown higher coverage levels than the administrative coverage data in the last three consecutive surveys.

The denominator issue therefore remains a key challenge. Even given the above, some Zobas also record routine administrative coverage levels above 100%, suggesting over reporting of vaccinated children and wider data quality challenges.

A National Immunization Data Quality team has been established (as recommended by GAVI and WHO) with orientation and guidelines provided. The team has a clear Terms of Reference (ToR) to facilitate data quality improvement plans and assessments of data quality at all levels across the country. The team conducted its first data quality review training and data desk review for selected Sub Zobas and health facilities in August 2017. Gaps were identified in all the key components of data quality and at all levels (National, Zoba/district and Health facility).

The following issues were identified: Internal consistency problem in all levels; Negative dropout rates in some districts and health facilities; Outliers; Inconsistency between administrative coverage and survey coverage results; Inconsistency in denominator use at national and health facility/district level; Timeliness and completeness issues; Inadequate wastage rate calculation/inconsistency.

Computerized data management is currently only available at Zoba and National levels. At the district and health facility level data is captured by hand. The August 2017 data quality desk review found that the manual system of data capturing has contributed to discrepancies in tally sheets. Timeliness and completeness of reporting was low as compared to recommended levels. During the desk review, it was observed that the numbers of vaccinated children recorded in the national level HMIS were fewer than those recorded in the data at Zoba level. Similarly, the reported number of vaccinated children at Zoba level was found to be lower than the numbers recorded at health facility and district level.

One possible reason for the discrepancy may be that once reports are submitted there is no possibility to update subsequent updates for the same period (for example if a report comes in late) to the higher levels. Data is regularly provided late or incomplete requiring extra work causing deadlines to be missed. Generally, the lack of an adequate information and communication technology infrastructure in the country (especially at the district and health facility level) creates a burden on HF staff and has a significant effect on the timeliness and completeness of data reporting.

Integrated supportive supervision is done at sub national level but have less impact in improvement since it is not done program focused. Moreover, no data focused supervision and counter checking has not been done during the supervision. Hence there is a lack of on the spot support and corrections. The staff on the service level are too busy and mainly focused on service provision and giving less weight to quality of data. Hence that no improvement is observed on the data quality. Good quality data leads to good planning and decision making. To reach this point there is a need of conducting program focused in depth supervision and feedback on sport and conducting data quality self-assessment to understand their weakness and strengths in data issues.

3.4 Role and engagement of different stakeholders in the immunisation system

Eritrea's Inter-agency Coordinating Committee (ICC) is a strategic committee providing technical guidance and advice to the EPI programme, to support in priority setting, taking appropriate actions on identified problems in the routine vaccination service, building partnerships for

technical and financial support, linking local and international partners to ensure integrated and coordinated support to the program.

The overall mission of the ICC is to focus on the appropriate utilization of domestic and international agencies contributions, to attain equitable and accessible immunization services for children and Women in the Reproductive Age Group (WRAG) in the country.

Advancing equity and access to routine immunization service is central to the mission of the EPI program. Remote communities and hard to reach groups represent a significant proportion of those not fully benefitting from the timely uptake of vaccine doses. The MoH works with civil society organizations to deliver health services and immunization to those who need them most.

There are a number of civil society organizations (CSO) in the country, such as National Union of Eritrean Women Association (NUEW), National Union of Eritrean Youth and Students (NUEYS) and religious organizations. These work closely with the EPI program and play a significant role in community mobilization activities, especially during national vaccination days. As community demand is high in immunization and health services, CSOs have a powerful role in mobilizing support and resources. They help the EPI program reach unvaccinated children in less accessible areas, by encouraging community participation in EPI plans and unlocking their resources.

There are relatively few Partners working with the immunization program in Eritrea (WHO, GAVI, UNICEF, & JICA) however these provide strong technical and financial support in partnership with the EPI to strengthen immunization services in the country. The EPI program has built strong links with partners and works closely with these to gain technical and financial support to build the capacity of the program and improve access and equity of immunization services in the country. As a result of these joint efforts (of the program, our partners and the government's commitment to immunization service), the country has been able to attain high and sustainable immunization coverage in all districts (**EPI coverage survey, 2017)**

In Eritrea private sector health service providers and private health facilities provide routine immunization services to communities in the same way as Gov. health facilities. Vaccines, Cold chain equipment and all injection safety materials supply is provided by the EPI program in the country. Private health facilities do not procures vaccines by themselves. This was able to maintain high quality being of one source of distribution. All vaccines and vaccine storage and delivery equipment are procured through UNICEF and provided to the national immunization program in the country. All health facilities (Gov. & private) adhere to the same policy guidelines, registers, reporting formats and vaccination cards developed by the EPI program and all reports are submitted in a scheduled way to the HMIS.

The immunization program has cross-sectorial linkages with the Ministry of Education and Ministry of Labour & Social Welfare and Local Administration at all levels, especially during the national immunization days, introduction of new vaccines and launching of new vaccines. The EPI program receives support from these line Ministries such as: Transport support; dissemination of information to the community about immunization; community mobilization for their participation in the plan; arranging immunization session and tracing vaccine defaulters' activities.

The county has establishment of National Immunization Technical Advisory Group (NITAG) in the October 2017 with clear terms of references. Training has planned to be carried out in the 4th week of December 2017 with technical support of IST/WHO. Establishment of independent bodies such as the National Immunization Technical Advisory Group (NITAG) in the country will give guidance

on policy matters and strategy for developmental issues based on local epidemiology status of the vaccine preventable diseases and public health interest in a harmonized way. Moreover establishment of NITAG is becoming mandatory and cost effective to reduce dependency of the country on external bodies for policy guidance, technical support and advices on decision making on prioritizing issues such as introduction of new vaccines and technologies in the country. It is also considered that NITAG is composed of individuals who have earned and engaged in higher academia, professional societies, and other national agencies to ensure that a cohesive and coordinated approach will be in place to address the priority issues for public health interest in the country.

4. PERFORMANCE OF GAVI GRANTS IN THE REPORTING PERIOD

4.1. Programmatic performance

In the last 5 years Eritrea has successfully introduced a number of new vaccines into its routine immunization program without experiencing any major challenges and with high acceptance of the new vaccines by communities. Introduction includes: Measles MCV2 (2012), Rotavirus vaccine (July 2014) and PCV-13 (in August 2015). Using these opportunities, the country has able to strengthen the existed immunization service social mobilization activities is able to achieve high immunization coverage (97% and 96%) for Penta3 and Measles respectively (**EPI coverage survey, 2017)**. Eritrea has been able to achieve the agreed targets such as attaining > 95% with low dropout rate (2%) of vaccine dose uptake which is far below the WHO recommended benchmark (10%) as specified in the grant performance framework (GPF) and other related agreed plans with other partners.

In order to reach the unreached children, a number of approaches are practicing in the country in less accessible geographical areas such as Periodic Intensified Routine Immunization (PIRI) service and providing routine outreach services using RED/REC approaches in areas 10km radius from the health facility and have no public transport support. During implementation of the RED/REC approach the country has practiced of involving community during district micro planning to map the hard to reach areas and less access areas.

Lessons learnt from introductions and post introduction evaluation activities will help us to understand and address the challenges expected to face during the MR catch-up campaign and Men A preventive vaccination campaign. Some of the acquired experiences are mapping of areas with access and mobile population groups and arrange transport means of camels and perform the activities one week before the campaign date, Organize mobile teams that go on foot hard to reach area, and dissemination of information through during the public gathering. Furthermore, the country has useful experience of mobilizing community involvement during SIA micro planning and campaign operational activities to address the problems such as cultural barriers of women to bring their infants to vaccination site, working hours of housewife encountered and scatter household in the catchment areas.

Implementation of GAVI HSS II Grant of 2017 has started in April 2017. The main objective of the GAVI HSS II grant is to strengthen the health system in order to attain equitable and accessible immunization services and other priority health service to communities for better health outcomes by 2021. To this regard, the HSS II Grant funded for 67 activities under 6 core strategic objectives to obtain the aim of the grant. So far a number of activities of the 6 major

strategic objectives have been implemented for improved outcomes of immunization services and other concern of the public health events in the country. Most of the planned activities of the GAVI HSS II grant of 2017 are implemented and significant change were showed on the aligned indicators for each activity code. Overall, 90% of the total budget allocated have utilized based on the activity code such as procurement of Solar Direct Drive (SDD) refrigerators, sealed solar batteries, EPI updated reporting tools, registers and child health cards for better documentation and reporting were printed based on required amount. Moreover, for better and safe immunization outcome capacity building of the health workers on effective vaccine management, cold chain management for Adverse Effect Following Immunization (AEFI). Periodic Intensified Routine Immunization (PIRI) has implemented in areas with less access areas and semi nomadic population groups to minimize dropout rates and increase timely uptake of immunization services in these hard to reach areas. For more information please refer on the annexes the change made on performance indicators.

The country also applied for CCEOP support in May 2017, to replace absolute CCE and fill the gaps available on CCE. The application has reviewed by IRC in June 2017 with minor recommendation and clarifications and has been approved.

4.2 Financial management performance (for all cash grants, such as HSS, vaccine introduction grants, campaign operational cost grants, transition grants, etc.)

Under the first year of GAVI's HSS II grant (2017 tranche), the country received the allocated amount of USD 2,398,157.50. USD 802,469.69 was transferred to Zobas as advances which are currently being accounted for (under reconciliation). For some operational activities which have been planned to be implemented at national level such as providing ToT and implementing EVM, the budget was utilized at national level. Procurement of cold chain equipment and batteries for solar refrigerators and the printing of EPI reporting tools and registers was also done at national level, a total amount of USD 486,041.87 was utilised for these activities. As of September 2017 the remaining unspent budget in country, not yet allocated/utilised by programs is USD 246.923.6. The PMU in the MoH use the 'SAP' financial MIS system (as used for managing Global Fund Grants). Using this system has enabled us to generate all financial reports by activity, by category and by users as necessary. An external Audit report, covering January to December '2017, will be carried out by February 2018 and will be submitted to GAVI on March '2018.

GAVI HSS II Grant, Allocated and Expenditure Budget Summary

Allocated Budget $US	Total Actual Expenditure	Exp. In %	Advance with Zones	Variance	Remarks
2,398,157.5	2,151,233.9	89.7%	0	246,923.6	Dec. 2017

In the current HSS2 budget money allocated (on activity code # 6.10) to cover 'management fees' totals only USD 450.00. However, the programme is incurring bank charges as part of transferring money from national to sub national levels. The currently allocated amount is too small to cover these expenses and similar fees. Based on the acquired experiences from the year of 2017 we will estimate the amount expected expenses on management fees and we will send to the GAVI SCM an amended budget showing clearly the charge we want to make and why it is needed for management.

In 2017 Eritrea received US$ 31,840.50 of PCV Switch VIG funding from GAVI for implementation of the Switch Plan from one dose vial of PCV-13 to 4 doses/vial presentation (with no change to the vaccine formulation). The country has provided ToT to support the switch plan for Zoba Health Management Team (HMT) staff working in family and community health units and for staff in health promotion teams at sub national level. The remaining VIG budget has been transferred to Zobas to support training on switch planning for health facility heads and EPI focal persons at service delivery levels and began on 31st October 2017 which have been successfully completed and implemented.

Vaccination of measles second dose for children aged of 18 months started in July 2012. In Eritrea, reported administrative coverage for measles is very low compared to WEUNIC coverage survey results (14% higher). As previously mentioned this is due to the lack of a recent population census leading to difficulties in developing accurate forecasts and targets for immunization services for each district.

To reveal actual levels of coverage, an EPI coverage survey was conducted in the first quarter of 2017 nationwide and the survey result indicates coverage 98.9% for BCG, 97.9% for OPV3, 97.3%, for PENTA, and 96.8% for MCV1, which is much higher as compared to routine administrative coverage. The proportion of children aged 24-35 months who received MCV2 (87.6%) was lower than MCV1 and other vaccines. Consequently, when MCV2 is considered with the previous antigens administered before one year of age, the full coverage has declined to 86.4% from both cards and mother's report and from cards only it become 80.5%.

For the majority of children who did not receive vaccination service on time this was because mothers/caretakers were not aware of the need to return for subsequent doses (40.6%) or they were unaware of the need for immunization (31.4%). The next most frequently cited reason for children not getting vaccinations were "family problem including illness" (12.8%) and "mother too busy" (6.1%). Each of these issues will be specifically addressed in the design of future plans.

4.2. Sustainability and (if applicable) transition planning

***Polio Endgame Transition Planning**:*

As the polio eradication program intensifies its efforts to achieve regional certification in 2018, countries were advised to plan for the eventual ramp-down of the Global Polio Eradication initiative (GPEI). GPEI support will gradually reduce over the next two years as regional and global polio certification draw closer. Countries were supported to prepare polio transitional plan.

In this regards, the Ministry of Health has received technical support (a WHO funded consultant) to prepare a Polio Eradication and Endgame Strategic Plan for the Global Polio Eradication Initiative (GPEI) and has completed the following tasks:

a. Briefing key Government officials about polio endgame transition plan.
b. Reviewed ToR for ICC
c. Enhancing the setting up of the ICC as the Governing body to oversee activities of the polio endgame transition planning.
d. Conducted sensitisation meeting for all ICC members
e. Documented lessons learnt as per provided framework and shared with MOH and WCO.
f. Concluded Mapping of polio funded assets.
g. Conducted meetings to guide the ICC Secretariat on setting priorities and defining strategies.

The process is on-going and the document will be finalized by the consultant by the end of 2017.

4.3. Technical Assistance (TA)

Throughout 2017 the major milestones of the PEF TCA activities for 2017 have been actively implemented. UNICEF provided technical support for developing the countries CCEOP application during the May window. The application was reviewed by IRC, and based on the country's response, is at the final approval stage. This activity had been planned using PEF TCA but in the end was financed using resources from UNICEF, so the budget for this activity was reprogrammed to fund the printing and dissemination of SOPs for vaccine management after consultation with the ICC and GAVI SCM. A temperature monitoring and mapping study has been conducted and an improvement plan developed. Standard operating Procedures (SOPs) for EVM and CCE management have been developed using TCA for all levels in the first 6 months of 2017 and training on SOPs is in progress at sub national levels.

An Equity Assessment of immunization services is planned for the 1st quarter of 2018. The equity assessment consultant will begin in January, exploring the causes of inequity among different groups in the previously identified low equity Zobas of Gash Barka, NRS and SRS in particular and will develop recommendations on strategies on reaching the last child. Preparations to conduct the full EVM have been finalised. UNICEF is hiring an international consultant to undertake this work in November and December 2017. UNICEF has used TCA to provide transport support for EPI supervisory visits in Zoba Gasbarka, Anseba, Northern Red Sea and Debub**.**

WHO provided technical support to the MoH through Gavi Targeted Country Assistance (TCA) in 2017, the main areas of which were:

- Developing the EPI coverage survey proposal, sharing it with WHO/IST for input and comments. Based on this one consultant was recruited to support the country to conduct the EPI coverage survey by an independent consultant in consultation with WHO/IST/ESA in March and April 2017.
- Ongoing activities to improve the communication skills of health workers and risk communication capacity, to contribute to increase awareness of care takers on when to return for their child's second or third dose.
- The country received technical support to develop an AEFI surveillance manual based on WHO guidelines. An Immunization Safety Advisor Committee (ISAC) was established at nation which have an extension at sub national level. The committee was trained on AEFI investigation, AEFI causality assessment and signal detection.
- Surveillance of vaccine preventable diseases and case based and sentinel surveillance sites are the backbone of the immunization program in generating data on the prevalence and incidence of diarrheal diseases related to Rotavirus, Pediatric Bacterial Meningitis, Measles/Rubella cases and other VPDs. Surveillance of VPD is integrated with other disease surveillance (IDSR) in the

country. WHO has been supporting MOH, IDSR unit to carry out new vaccine surveillance for vaccine preventable diseases, though the funds were not adequate as well as the project was not included in the HSS II grant. However, Testing kits for Rotavirus and PBM, an Elisa reader, Multitask FC, lamps for the ELISA reader, and reagents have been procured using TCA funds in order to strengthen the performance of sentinel surveillance sites as to generate adequate data for PBM, Rotavirus and Measles/Rubella from the case based and sentinel surveillance sites. The 2017 JA recommended strengthening the new vaccine surveillance. Based on this fund was requested for training of laboratory workers, clinicians on case investigation, identification and collection of sample specimen collection for confirmation (lumbar puncture) of the disease condition and data collection; procurement of testing kit, reagents and chemicals for the National Health Lab on their request.

- Support the country in capacity building of EPI and IDRS staff from national and sub national level to travel to attend regional workshop/training on approaches of strengthening immunization services and surveillance activities of vaccine preventable diseases and data quality improvement plan.

- Monitoring and supervision conducted during the EPI coverage survey, two supervisory teams from the WHO-CO were assigned to Zoba NRS and Ansba to supervise the EPI coverage survey conducted in the country,

- To strengthen and improve data quality. WHO, in collaboration with MoH, conducted a workshop in Keren in August 2017 on data quality to: re-enforce the capacity of regional/district focal persons through a data quality improvement workshop, review immunization data quality and to develop specific data quality improvement plans.

5. UPDATE OF FINDINGS FROM PREVIOUS JOINT APPRAISAL

Prioritised actions from previous Joint Appraisal	Current status
1. EPI vaccine shipment and delivery from abroad using chartered plane is too expensive and it is not easy to accommodate the onetime delivery arrival of different vaccines at national Level and could affect the storage capacity.	Vaccines are now delivered into the country twice per year, using charter planes. However, the planes that are giving service to the country are still not reliable for vaccine shipment, so storage capacity has been increased to accommodate the vaccines.
2. Shortage of skilled human resources to conduct routine maintenance of the cold chain system (walk-in cold rooms, electrical and solar refrigerators) and unavailability of adequate maintenance kits and spare parts for the cold chain.	CCE maintenance plan developed along with CCE OP application. Training for technician has been provided at national level for 4 days on installation of SDDs
3. Transport and fuel shortage to carry out planned outreach visits at district level in hard to reach areas and provide supervisory visits from national to sub national and district levels.	Areas with less support of vehicles and fuel shortages, camels are used for

	vaccine delivery as transport means to reach the hard to reach areas.
4. Government is committed to co-finance 20% of the new vaccine cost, still there is a need to co-finance the traditional vaccines which are procured through UNICEF supply division.	Government has made commitment to finance and contributed 20% for the total cost of traditional vaccines and injection safety materials
6. Reporting and utilization of data for planning and decision making purpose at lower levels remains to be unsatisfactory	In 2017 data quality report have discussed and identified at sub national level with involvement of zonal management team and partners. A work plan for data quality improvement will be developed
Additional significant IRC / HLRP recommendations (if applicable)	**Current status**

If findings have not been addressed and/or related actions have not taken place, provide a brief explanation and clarify whether this is being priorities in the new action plan (section 6 below).

6. ACTION PLAN: SUMMARY OF FINDINGS, ACTIONS AND TECHNICAL ASSISTANCE NEEDS IDENTIFIED AND AGREED DURING THE JOINT APPRAISAL

1. Conduct EVM assessment at sub national, district and service level
2. Conduct MR campaign for children age 9 months – 14 years
3. Conduct equity assessment on immunization service and follow-up activities in 2018
4. Implementation of Periodic Intensified Routine Immunization (PIRI) services in areas with less access and semi-nomadic population
5. Risk communication plan and strategy will be developed to address serious AEFI especially for upcoming wide-age range campaigns, (Men A, and MR campaigns)
5. Development of guidelines for CCE preventive maintenance plan
6. MR Catch-up campaign post campaign survey by independent monitoring group using an external consultants
7. Support for prior to the MR introduction Congenital Rubella Syndrome (CRS) retrospective record and prevalence
8. Support strengthening of existing MR surveillance to meet established surveillance indicators
9. Support establishment of measles elimination verification committee to review progress and establishment of NITAG. Support required for briefing, training and operations
10. Support for Men A introduction through quality SIAs. Consultant support is crucial for smooth implementation on the following activities:

    - Periodical assessments of readiness,
    - AEFI risk communication,
    - Micro planning, communication of the population below 30 years,
    - Preparation for validation post SIAs survey.

11. Meningitis SIAs to be preceded by establishing enhanced men A surveillance where capacity building or training is delivered for lab staff and field surveillance and kits with reagents. • Supplies (LP kits for CSF collection and diagnostic test kits) should be procured and pre-positioned at the required level. • Aadvocacy, communication and social mobilization plan including crisis communication. • Plan and development of timeline for Men A introduction into the routine immunization system
12 Support for Yellow fever risk assessment to be conducted to comply and amend the IHR regulations as per identified risk
13. Support for development of MNT elimination sustainable strategy and the need to review immunization schedule in line with latest recommendation
14. Support for comprehensive EPI, revised RED and VPD surveillance capacity building exercises.
15. Support for a Data quality assessment and development of a DQ Improvement plan (but broader than EPI alone), capacity building in data analysis and data use - especially at health facility level
16. Support for strengthening health sector governance beyond ICCs.

Key finding 1	Effective Vaccine Management Assessment (EVMA) not done for the last five years at sub national, district and service levels.
Agreed country actions	Conduct EVM assessment at sub national, district and service level
Associated timeline	January 2018
Technical assistance needs	Yes, UNICEF will recruit EPI logistic expert to provide technical assistance for EVM assessment
Key finding 2	The county will introduce MR vaccine in 2 vaccination schedules into RI in 2018 and there is a need of conducting catch-up campaign.
Agreed country actions	Conduct MR catch-up campaign for children at age of 9 months –14 years
Associated timeline	November, 2018
Technical assistance needs	Yes, UNICEF will recruit on consultant who support on implementation of the MR catch-up campaign
Key finding 3	Equity assessment on vaccination service is not yet done in the country and status is not determined
Agreed country actions	Conduct equity assessment on immunization service and follow-up activities in 2018
Associated timeline	February 2018
Technical assistance needs	Yes, one consultant will be recruited through UNICEF using GAVI, PEF
Key finding 4	Population residing in area with less access to routine immunization services have low immunization coverage
Agreed country actions	Implementation of Periodic Intensified Routine Immunization (PIRI) services in areas with less access and semi-nomadic population
Associated timeline	1st quarter, 2nd quarter and 3rd quarter
Technical assistance needs	No
Key finding 5	Timeliness, completeness and data use for action at service level is low

Agreed country actions	Support for a Data quality assessment and development of a DQ Improvement plan (but broader than EPI alone), capacity building in data analysis and data use - especially at health facility level
Associated timeline	2nd quarter of 2018
Technical assistance needs	No

7. JOINT APPRAISAL PROCESS, ENDORSEMENT BY THE NATIONAL COORDINATION FORUM (ICC, HSCC OR EQUIVALENT) AND ADDITIONAL COMMENT.S

The JA meeting was carried out in Asmara Embassoira Hotel 25-29 Sep. 2017. The full Joint Appraisal Process was done with involvement of all members of the local JA team from MOH, WHO, UNICEF and other senior staffs from our partner's offices working closely with EPI program and on GAVI HSS activities. The Director General of Public Health and WR of Eritrea have participated in the meeting and were having critical contribution. Moreover, the JA also included the Gavi Senior Country Manager and GAVI head of Strategy and Policy from Geneva and two WHO/IST members from Harare have participated in the JA workshop in Asmara. In between the participant of the workshop were deployed to rural areas to visit some health facilities to have direct observation and communication with service providers and observe what is going on the ground on immunization services. After they have returned back from the field visit, each team has presented what they have observed and differentiate the available strengths and shortfalls in the service. Based on the findings, they have provided recommendations on key points and bottlenecks that should be considered and addressed in 2018. The discussion and highlighted finding were briefed to H.E. Minister of Health.

Moreover, before two weeks of JA meeting, the JA template was shared to the write-up members of the local Joint Appraisal Team to develop a draft document by sharing sections of the JA template. A draft JAR was also shared to the country JA participating from abroad to have comments and input on the draft. After the appraisal meeting has completed, the identified bottlenecks and key recommendation has been incorporated to the JAR as action points to be addressed in the coming year.

This whole Joint Appraisal report has shared also to most of the ICC members who have been working technically advance and debriefing has also made on JAR during the ICC meeting and their approval was secured by their signatures.

8. ANNEX

Compliance with GAVI reporting requirements

	Yes	No	Not applicable
Grant Performance Framework (GPF) reporting against all due indicators	✓		
Financial Reports		✓	
Periodic financial reports		✓	
Annual financial statement	✓		
Annual financial audit report		✓	
End of year stock level report	✓		✓
Campaign reports	✓		
Immunisation financing and expenditure information	✓		
Data quality and survey reporting	✓		
Annual desk review	✓		
Data quality improvement plan (DQIP)	✓		
If yes to DQIP, reporting on progress against it	✓		
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	✓		
Post Introduction Evaluation (PIE)	✓		
Measles-rubella 5 year plan	✓		
Operational plan for the immunisation program	✓		
HSS end of grant evaluation report			✓
HPV specific reports			✓
Transition Plan		✓	

No missing documents is available