[Ghana]
2018 Programme Support Rationale
[Strategic period (2020-2024)]

Abbreviations

AEFI	Adverse Events Following Immunization
ANC	Antenatal Care
AR	Ashanti Region
BAR	Brong Ahafo Region
CBO	Community Based Organization
CBV	Community based volunteers
CCE	Cold Chain Equipment
CDC	Center for Disease Control
CHAG	Christian Health Association of Ghana
CHNs	Community Health Nurses
CHOs	Community Health Officers
CHPS	Community-based Health Planning Services
CHW	Community Health Workers
cMYP	Comprehensive Multi-Year Plan
CR	Central Region
DFID	Department for International Development
DHIMS	District Health Information Management System
DHMT	District Health Management Team
DHS	Demographic and Health Survey
DPs	Developing Partners
DPT	Diphtheria, Pertussis and Tetanus
DVD-MT	District Vaccination Data-Management Tool
ER	Eastern Region
EVMA	Effective Vaccine Management Assessment
FDA	Food and Drugs Authority
FEFO	First-to-expire first-out
FMIS	Financial Management Information System
FPP	Full Portfolio Planning
FSP	Financial Sustainability Plan
GAR	Greater Accra Region
Gavi	Vaccine Alliance
GCNH	Ghana Coalition of NGOs in Health
GMR	Grant Management Requirement
GoG	Government of Ghana
GHS	Ghana Health Services
GIFMIS	Ghana Integrated Financial Management Information Systems.
GES	Ghana Education Service
GIS	Geographic Information Systems
GPF	Grant Performance Framework
GPTP	Ghana Polio Transition Plan
GVAP	Global Vaccine Action Plan

HepB	Hepatitis B
HSMDTP	Health Sector Medium Term Development Plan
HSS	Health System Strengthening
HSWG	Health Sector Working Group
ICC	Inter-Agency Coordinating Committee
IGF	Internally Generated Funds
IPV	Inactivated Polio Vaccine
IRC	Independent Review Committee
JAR	Full Joint Appraisal
JICA	Japan International Corporation Agency
JSI	JOHN SNOW INC
KOICA	Korea International Cooperation Agency
LMIS	Logistics Management Information System
NDPC	National Development Planning Commission
Men-A	Meningitis A
MMDAs	Metropolitan Municipal and District Assemblies
MNCH	Maternal, Newborn and Child Health
MoE	Ministry of Education
MoH	Ministry of Health
MoF	Ministry of Finance
MoU	Memorandum of Understanding
MR	Measles Rubella
NMIMR	Noguchi Institute of Medical Research
NGO	Non-Governmental Organization
NHIA	National Health Insurance Authority
NHIF	National Health Insurance Fund
NHIS	National Health Insurance Scheme
NITAG	National Immunization Technical Advisory Group
NR	Northern Region
NSA	Non-state Actors
OPV	Oral Polio Vaccine
PBF	Performance Based Financing
PCA	Programme Capacity Assessment
PCV	Pneumococcal Vaccine
Penta	Pentavalent vaccine
PFM	Public Financial Management
PHRL	Public Health Reference
PNC	Postnatal care
PSR	Programme Support Rationale
REC	Reaching Every Child
RCH	Reproductive and Child Health
RMU	Resource Mobilization Unit
SDHMT	Sub-District Health Management Teams
SHEP	School Health Education Programme
SOPs	Standard Operating Procedures
TA	Technical Assistance

TT/TD	Tetanus Diphtheria immunization
UER	Upper East Region
UNFPA	United Nations Population Fund
UNICEF	United Nations Children Fund
USAID	United States Agency for International Development
UWR	Upper West Region
VPDs	Vaccine Preventable Diseases
VR	Volta Region
WB	Word Bank
WHO	World Health Organization
WR	Western Region
YF	Yellow Fever
2YL	Second Year of Life

The Programme Support Rationale (PSR) presents the rationale and objectives for the programming of Gavi support for the upcoming period, and - together with the online vaccine application(s) mentioned below - replaces the previous application forms used to request new support.

- The PSR is developed approximately once every five years based on and in alignment with the national health and immunisation strategic plan(s) and budgets.
- It incorporates the Joint Appraisal in the year of its review.
- **Stock levels and requests for vaccine renewals or product switches need to be reported on the Gavi Country Portal between late March and 15 May.**
- All required reporting has to be submitted on the country portal, as per the reporting guidelines.
- The PSR builds on robust analysis of country data and evidence of progress made (or persistent challenges) on the coverage and equity situation.
- In parallel to the PSR, the Gavi budgeting and planning template and Gavi grant performance framework (GPF) are completed to complement the objectives presented in the PSR. This should be reflected in the country's own operational budget and workplan.
- The Coordination Forum (ICC, HSCC or equivalent body) is required to endorse the PSR prior to final submission to Gavi.
- Signatures of both the Minister of Health and Minister of Finance or their delegated authority are required to endorse the final PSR before submission to Gavi.
- The PSR will be reviewed by members of the independent review committee (IRC) who will make a recommendation to Gavi on the full portfolio of support for the duration of the PSR, including any current support that needs to be renewed.
- Following the independent review there will be a period for countries to respond to any 'issues to be addressed' ahead of final Gavi approval and disbursement.
- **It is recommended that this process be initiated 15-18 months prior to expected grant disbursement.**
- **Vaccine applications are developed via Gavi's online country portal and submitted for review and approval 15 to 18 months before the planned vaccine launch or campaign.**
- On an annual basis the budget will be reviewed and updated to take into account implementation progress and any new information from the joint appraisal.

Visit Gavi's website (http://www.gavi.org/support/process/apply/) for available programmatic and process guidance to support the development of the PSR and vaccine applications. For a **list of mandatory documents** to be submitted together with this PSR, please refer to Annex 1 of the Application guidelines.

Part A: Overview of portfolio of support

All grey boxes to be pre-filled by the Gavi Secretariat
All white boxes to be filled by Country

1. Vaccines: Projected country co-financing and Gavi support requested for current and new Gavi-funded vaccines

1.1. Co-financing for current Gavi-funded vaccines

Programme and type of support		Estimated projections[1]				
		2020	2021	2022	2023	2024
Pentavalent routine	Country co-financing (US$)	$ 937,827	$ 1,084,829	$ 1,255,609	$ 1,453,095	$ 1,682,707
	Gavi support (US$)	$ 1,851,934	$ 1,721,251	$ 1,568,167	$ 1,389,010	$ 1,178,753
Rotavirus routine	Country co-financing (US$)	$ 1,758,960	$ 2,035,084	$ 2,354,985	$ 2,726,101	$ 3,156,073
	Gavi support (US$)	$ 3,155,890	$ 2,909,748	$ 2,621,028	$ 2,282,211	$ 1,886,344
Yellow Fever routine	Country co-financing (US$)	$ 579,966	$ 670,994	$ 776,479	$ 898,822	$ 1,040,647
	Gavi support (US$)	$ 1,172,288	$ 1,091,951	$ 997,583	$ 886,756	$ 757,091
Meningitis A routine	Country co-financing (US$)	$ 326,583	$ 382,329	$ 447,596	$ 524,139	$ 613,726
	Gavi support (US$)	$ 711,493	$ 674,477	$ 628,349	$ 571,346	$ 501,860
Pneumococcal routine	Country co-financing (US$)	$ 4,236,130	$ 4,868,577	$ 5,633,565	$ 6,521,394	$ 7,550,386
	Gavi support (US$)	$ 7,447,136	$ 6,807,515	$ 6,116,156	$ 5,304,595	$ 4,356,134
Inactivated Polio Vaccine routine	Country co-financing (US$)	N/A	TBC	TBC	TBC	TBC
	Gavi support (US$)	Gavi support (US$)	Gavi support (US$)	$ 1,203,569	$ 1,211,090	$ 1,218,893
a) Total Country co-financing for current vaccines (US$)		**$ 7,839,467**	**$ 9,041,813**	**$ 10,468,234**	**$ 12,123,552**	**$ 14,043,540**
b) Total Gavi support for current vaccines (US$)		**$ 15,535,107**	**$ 14,408,511**	**$ 13,142,373**	**$ 11,652,812**	**$ 9,907,286**
c) Total cost of current vaccines (a+b) (US$)		**$ 23,374,574**	**$ 23,450,324**	**$ 23,610,608**	**$ 23,776,363**	**$ 23,950,826**

[1] *These estimates provide visibility to the total funding needs that a country should plan to complement the Gavi financing. These estimates are projections and may differ from actual commitments, which are calculated year-by-year and reflected in Gavi decision letters. The source of these estimates are the latest input received from country, with adjustments performed by the Gavi Secretariat (e.g. price updates, supply constraints, etc.)*

1.2. Vaccine presentation and implementation dates: Country to complete all columns for each new vaccine introduction and campaign planned over the duration of the PSR and for which the country seeks support.

Programme and type of support	Preferred presentation[2]	Target submission date of request	Desired date for vaccines to arrive	Planned launch date	Support requested until[3]
Yellow Fever Preventive Mass Campaign (Phase B)	10-dose vial	2018	August 2019	October 2019	April 2020
Human Papillomavirus (Routine)	10-dose vial	2021	October 2021	January 2022	July 2022
Measles-Rubella (Campaign)	10-dose vial	2022	August 2023	October 2023	April 2024

1.3. New vaccine support to be requested: For types of vaccine support and guidelines, please refer to http://www.gavi.org/support/process/apply/vaccine/)

Programme and type of support	Year	2019*	2020	2021	2022	2023	2024
Yellow Fever Preventive Mass Campaign (Phase B)	Population in the target age cohort (#)	5,533,784	0	0	0	0	0
	Target population to be vaccinated (first or only dose) (#)	10-60 years	0	0	0	0	0
	Target population for last dose (#)	NA	0	0	0	0	0
	Estimated wastage rates[4]	10	0	0	0	0	0
	Country co-financing (US$)	$	$	$	$	$	$
	Gavi support (US$)	$	$	$	$	$	$
Human Papillomavirus (Routine)	Population in the target age cohort (#)	0	0	924,762	947,881	971,578	995,868
	Target population to be vaccinated (first or only dose) (#)	0	0	9 years (2.9%)	9 years (2.9%)	9 years (2.9%)	9 years (2.9%)
	Target population for last dose (#)	0	0	9 years	9 years	9 years	9 years
	Estimated wastage rates[5]	NA	NA	10	10	10	10
	Country co-financing (US$)	$	$	$	$	$	$
	Gavi support (US$)	$	$	$	$	$	$
Measles-rubella (Campaign)	Population in the target age cohort (#)	0	0	0	0	5,360,432	0
	Target population to be vaccinated (first or only dose) (#)	0	0	0	0	5,360,432	0

[2] For vaccine presentations, please refer to the detailed product profiles available here: https://www.gavi.org/about/market-shaping/detailed-product-profiles/

[3] For routine vaccine introduction, support is usually requested until the end of the country's valid cMYP, as per the guidelines and may be extended in the future. If you wish to request Gavi support for a shorter time period than the end of your cMYP you may do so. For campaigns the "support requested until" field will normally be the same or one calendar year from the launch date but can be extended for a phased campaign.

[4] For indicative wastage rates for preferred presentations (%), please refer to the detailed product profiles available here: https://www.gavi.org/about/market-shaping/detailed-product-profiles/

[5] For indicative wastage rates for preferred presentations (%), please refer to the detailed product profiles available here: https://www.gavi.org/about/market-shaping/detailed-product-profiles/

Programme and type of support	Year	2019*	2020	2021	2022	2023	2024
	Target population for last dose (#)	NA	NA	NA	NA	9-59 months	NA
	Estimated wastage rates	NA	NA	NA	NA	10	NA
	Country co-financing (US$)		$	$	$	$	$
	Gavi support (US$)		$	$	$	$	$
d) Total Country co-financing for new vaccines requested (US$)			$	$	$	$	$
e) Total Gavi support for new vaccines requested (US$)			$	$	$	$	$
f) Total cost of new vaccines requested (a+b) (US$)			**$**	**$**	**$**	**$**	**$**

1.4. Total cost and co-financing summary for vaccine support

a) Total Country co-financing for current and new vaccines requested (a+d) (US$)	**$**	**$**	**$**	**$**	**$**
b) Total Gavi support for current and new vaccines requested (b+e) (US$)	**$**	**$**	**$**	**$**	**$**
c) Total cost of current and new vaccines requested (g+h) (US$)	**$**	**$**	**$**	**$**	**$**

1.5 Request for vaccine presentation switches[6] for current support (if applicable)[7]:

Please note that this requires further documentation containing cold chain capacity, stock levels of the current product, and a costed activity plan (to be submitted via the Country Portal, here: http://www.gavi.org/support/process/country-portal/ in the Supporting Documents section).

Current presentation	Desired new presentation	Desired switch month and year	Rationale for the switch in presentation including any anticipated impact on coverage and equity	Do you request a product switch grant in the vaccine renewal request on the country portal?
PCV13 4 dose vial	PCV13 10 dose vial	As soon as available	Reduce cold chain capacity requirements of PCV	YES
Rotavirus 1-dose vial	Rotavirus 10-dose vial	January 2020	The country intends to switch from one-dose rotavirus vaccine vial (which requires positive storage) to 10-dose vials, requiring negative cold storage. The current negative cold chain space is 5714 litres net. OPV occupies 425ltr of the net space per quarter. With the switch from the one-dose vial to the 10-dose vial rotavirus vaccine, 429 additional litres negative space will be occupied leaving 4860 litre negative space	YES

[6] *Gavi aims to meet country's preferences on vaccine presentation to the extent possible. When there is not enough supply of a desired product to meet country demand, Gavi will consider the rationale for the switch in order to prioritise supply between countries.*

[7] *For a detailed description of the vaccine product profiles, please see here: https://www.gavi.org/about/market-shaping/detailed-product-profiles/*

			unoccupied. This will free up 680 litres of positive cold space currently being occupied by the one-dose vial rotavirus vaccine. Additionally, the cost per dose of rotavirus will reduce with the switch	

2. Financial support requested

2.1. Country health and immunisation data and national health planning and budgeting cycle Country to complete table below

Country health and immunisation data - All figures in US$	**2017**	**2018**
Total government expenditures (2017)	$8,903,513,614[8]	Not applicable
Total government health expenditures (2017)	$1,279,795,811[9]	Not applicable
Immunisation budget (past & current year)	**$37,778,900**[10]	**$68,608,369**[11]

2.2. National health planning and budgeting cycle, and national planning cycle for immunisation

National cycles	**From**	**To**
Years of National Health Plan	2018	2021
Years of immunisation strategy (e.g. cMYP)	2015	2019
Start and end dates of fiscal period	1st Jan	31st Dec

2.3. Currently active Gavi financial support (only grants already approved but not yet closed)

Type of support	**Amount committed**	**Amount approved**	**Amount disbursed**	**Year(s) of support**
HSS 2	*$ 18,059,296*	*$ 12,039,146*	*$ 7,739,496*	2014-2018
IPV VIG	*$ 820,027*	*$ 820,027*	*$ 646,000*	2015-2019
MENA VIG	*$ 914,500*	*$ 914,500*	*$ 914,500*	2016

[8] *Budget Highlights, Ministry of Finance and Economic Planning 2018, pg 8, table 7*

[9] *MoH Holistic Assessment, 2017 pg 20 table 6*

[10] *2017 WHO/UNICEF JRF (sheet 6, row 6650)*

[11] *cMYP 2015-2019 pp78*

2.4. New financial support requested: Country to complete table below. For all types of vaccine support and guidelines, please refer to: http://www.gavi.org/support/process/apply/

Target start and end date for financial support:	Month & year Prefilled by Gavi Sec (PO)					
Please note the **country's total HSS ceiling** for the coming 5 years[12]: (US$ ceiling amount)	Indicative estimates					
	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Health Systems Strengthening support (HSS)						
Objective 1 - To achieve at least 90% Penta 3 coverage in all districts by 2024	969,338	2,485,305	518,582	481,303	362,680	4,817,209
Objective 2 - To ensure 100% availability of safe and efficacious vaccines	46,492	767,638	17,157	77,557	17,157	926,002
Objective 3 - To improve governance and management functions at all levels of the health sector	301,734	303,507	222,632	222,632	222,632	1,273,137
Objective 4 - Strengthen Supervision, Disease Surveillance, Monitoring and Evaluation at all levels	321,465	514,831	365,649	454,269	416,649	2,072,863
Objective 5 - Improve Sustainable Financing for Universal Health Care (UHC)	305,681	499,325	322,065	380,895	237,420	1,745,386
Total HSS (US$)	1,944,711	4,570,606	1,446,085	1,616,657	1,256,538	10,834,596
Cold Chain Equipment Optimisation Platform (CCEOP)						
CCEOP Gavi joint investment[13]						
CCEOP country joint investment[14]						
• National funds	50%	50%	50%	50%	50%	50%
• Gavi HSS (with this amount clearly budgeted for within the HSS ceiling to avoid double counting)	50%	50%	50%	50%	50%	50%
• Other partners						
Total CCEOP[15] (US$)	3,546,140	384,021	274,504	274,504	----	4,479,169
New vaccine support (vaccine introduction grants, or operational support for campaigns, or switch grants) (as per type of support requested in table 1.2)						

[12] If circumstances warrant, and the source of the CCEOP country joint-investment is Gavi HSS, this amount should be deducted from the HSS ceiling.

[13] CCEOP Gavi joint investment = 50% or 80% of the total amount for CCEOP, depending on the Gavi transition phase

[14] CCEOP country joint investment = 20% or 50% of the total amount for CCEOP, depending on the Gavi transition phase

[15] Total CCEOP = CCEOP country joint investment + CCEOP Gavi joint investment

Measles- Rubella follow-up campaign operational support	Population in the target age cohort[16]	#	#	#	5,360,432	#	#
	Gavi Support (US$)[17]	$	$	$	$2,412,194		
Yellow Fever Phase B Campaign	Population in the target age cohort[18]	5,533,784					
	Gavi Support (US$)[19]	$3043581					
HPV Introduction	Population in the target age cohort[20]	947,881					
	Gavi Support (US$)[21]	$12638413					
Rota Switch	Population	1,182,202					
	Gavi Support (US$)[22]	$295,550.50					
Total Gavi support: VIGs, OPS, switches (estimate)							
Total HSIS support requested (US$)							

[16] *Operational cost is calculated based on population in the target age cohort*

[17] *Please refer to what you have calculated in the Budgeting and Planning template and ensure consistency*

[18] *Operational cost is calculated based on population in the target age cohort*

[19] *Please refer to what you have calculated in the Budgeting and Planning template and ensure consistency*

[20] *Operational cost is calculated based on population in the target age cohort*

[21] *Please refer to what you have calculated in the Budgeting and Planning template and ensure consistency*

[22] *Please refer to what you have calculated in the Budgeting and Planning template and ensure consistency*

2.5. Data verification option for calculating HSS/Performance Based Funding (PBF) payments

Country to indicate one data verification mechanism among the proposed ones (please mark with an "X" in the relevant box. Please note that the selected option will be utilized for the whole duration of the HSS grant.

Use of country admin data	**X**	**Use of WHO/UNICEF estimates**	**…**	**Use of surveys**	**…**

Part B: Country immunisation system analysis & past performance rreview

Part B replaces the Joint Appraisal for this year and reviews the performance of the immunisation system, including a thorough analysis of immunisation coverage and equity and any constraints to improving sustainable and equitable coverage. It should focus on the evolution/trends observed over the past two to three years and particularly on changes since the last Joint Appraisal took place.

Information in this section will substantially draw from the recommended analysis on coverage and equity and other relevant programme aspects which can be found in the **Joint Appraisal analysis Guidance** (http://www.gavi.org/support/process/apply/report-renew/).

This section also describes the progress in grant implementation and improvements in the immunisation system. By complementing the data as reported via the country portal (e.g. the updated grant performance framework, financial reports, data quality assessment etc.), this section explains over and under achievement of goals and targets, associated implementation challenges and key lessons from the past reporting period.

→ ***This section is the basis for the identification of objectives, to be defined in Section D on future programming***

3. Coverage & equity situation

Describe national and sub-national evidence on the coverage and equity of immunisation in the country and constraints to improvement. In tables 3.1 and 3.2, identify trends in coverage and equity, across geographical areas, economic status, populations and communities, including urban slums, remote rural settings and conflict settings (consider population groups under-served by health systems, such as slum dwellers, nomads, ethnic or religious minorities, refugees, internally displaced populations or other mobile and migrant groups). Relevant information includes: overview of districts/communities which have the lowest coverage rates, the highest number of under-vaccinated children, disease burden: number and incidence of vaccine preventable diseases (VPD) cases as reported in surveillance systems in regions/ districts, etc.

Among data sources available, consider administrative data, coverage surveys, DHS/MICS, equity analyses, Knowledge-Attitude-Practice surveys, and patterns of diseases like measles. Please clearly reference the source(s) of the data used in this section.

→ ***This section is key to determine the target geographies and/or population groups for prioritising interventions***

→ ***Provide any relevant trend analysis or additional evidence available.***

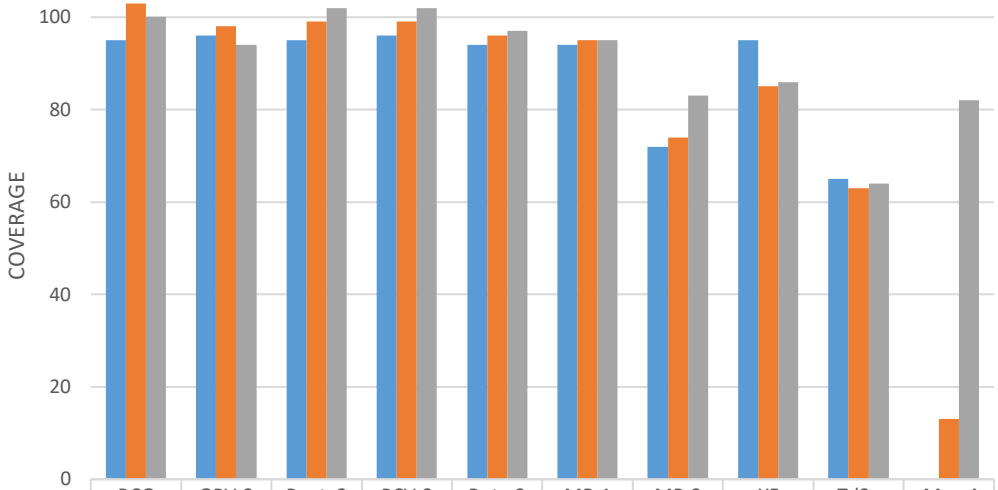
→ ***Please also refer to the Guidance on gender related barriers to immunisation*** (https://www.gavi.org/support/process/apply/additional-guidance/#gender)

3.1. At the national level: (Include data source & year for each)

Coverage: DTP3, MCV2, etc.	Ghana has made remarkable progress in reaching out to more and more children over the years as demonstrated by the high immunization coverage rates achieved in recent times. The coverage rate for the third dose of Penta increased from 95% in 2015 to 102% in 2017. The coverage for the first dose of measles-rubella has increased from 94% in 2015 to 95% in 2017 and that of the second dose (MR2) has also increased from 72% in 2015 to 83% in 2016[23].

[23] *WHO UNICEF Joint Report 2017*

	However, the EPI Programme observed a decline in other indicators. Notably, BCG, OPV3, Yellow Fever and Td2+ recorded low coverage rates in 2017 compared to 2015. The decline in OPV3 and Yellow Fever were as a result of vaccine shortages[24]. The coverage rate for BCG declined because of poor recording practices. Similarly, the low Td2+ coverage is attributed to poor recording practices[19]. Coverage rates of more than 100% is as a result of the unrealistic denominator used by the immunization programme. Trends in key indicators from 2015-2017 is shown in Figure 1.
Coverage:	Ghana achieved Penta 3 coverage rate of 102% in 2017. This creates the impression that no child in Ghana was missed. However, the denominator used by the country was/is not realistic.



	BCG	OPV-3	Penta3	PCV-3	Rota-2	MR-1	MR-2	YF	Td2+	Men A
2015	95	96	95	96	94	94	72	95	65	
2016	103	98	99	99	96	95	74	85	63	13
2017	100	94	102	102	97	95	83	86	64	82

Figure 1: National immunization coverage for key antigens: 2015-2017

Source: 2017 WHO UNICEF Joint Report (2015, 2016 & 2017)

The EPI Programme introduced Meningococcal A Conjugate Vaccine (Men A) into routine immunization in November 2016. The nationwide introduction was preceded by a mini catch-up campaign in the northern part of Ghana which falls within the African Meningitis Belt. The campaign achieved a national coverage of 98.1% (per administrative data). The mass vaccination coupled with the subsequent introduction of the vaccine into routine immunization had a synergistic effect on uptake of second dose measles-rubella vaccination.

Second dose measles (measles-rubella) was introduced into routine immunization in February 2012 in the second year of life. Coverage rates have been increasing but at a lower rate (69%, 72% and 74% from 2014 to 2016). However, the performance improved remarkably in 2017 (83%) after the Men A introduction which also recorded a coverage rate of 82% in its first year. Men A is given in children 18 months old, same age as for the receipt of MR-2, thus the campaign offered the opportunity to vaccinate these children with MR-2.

[24] *EPI Annual Report 2017*

Absolute numbers of un- or under-immunised children	Additionally, there are data management issues especially with recording and reporting that the EPI Programme is working to improve. In order to validate the administrative performance, the EPI Programme conducted Immunization Cluster Survey in collaboration with WHO, UNICEF and the College of Health and Well-Being in 2017. The results of the survey showed that 93.1% of children less than 1 year were reached with Penta 3[25] With a target population of children under 1 year of 1,100,226 and a cluster survey coverage of 93.1%, an estimated 75,916 children were unvaccinated as indicated in Table 1. **Table 1: EPI Cluster Survey results compared to Administrative performance**

Antigen	No. Vaccinated by Card or History	No. not vaccinated	Coverage by Card only (%)	Coverage by Card or History (%)	Administrative coverage
BCG	1844	120	82.3	93.9	100
OPV3	1857	107	82.7	94.6	94
Penta3	1828	136	81.3	93.1	102
Pneumo3	1821	143	80.9	92.7	102
Rota2	1839	125	81.9	93.6	97
MR1	1755	209	78.5	89.4	95
YF	1719	245	76.3	87.5	86
MR2	1181	402	62.3	74.6	83

In addition, absolute numbers of unvaccinated children according to the Joint Appraisal Report, 2017[26] (Figure 2), showed relatively, higher numbers of unvaccinated children are found in large urbanized or metropolitan/ municipal areas including Accra, Kumasi, Sekondi-Takoradi and Ho as well as some rural areas of the country.

[25] *2017 EPI Cluster Survey.*

[26] *Joint Appraisal Report 2017*

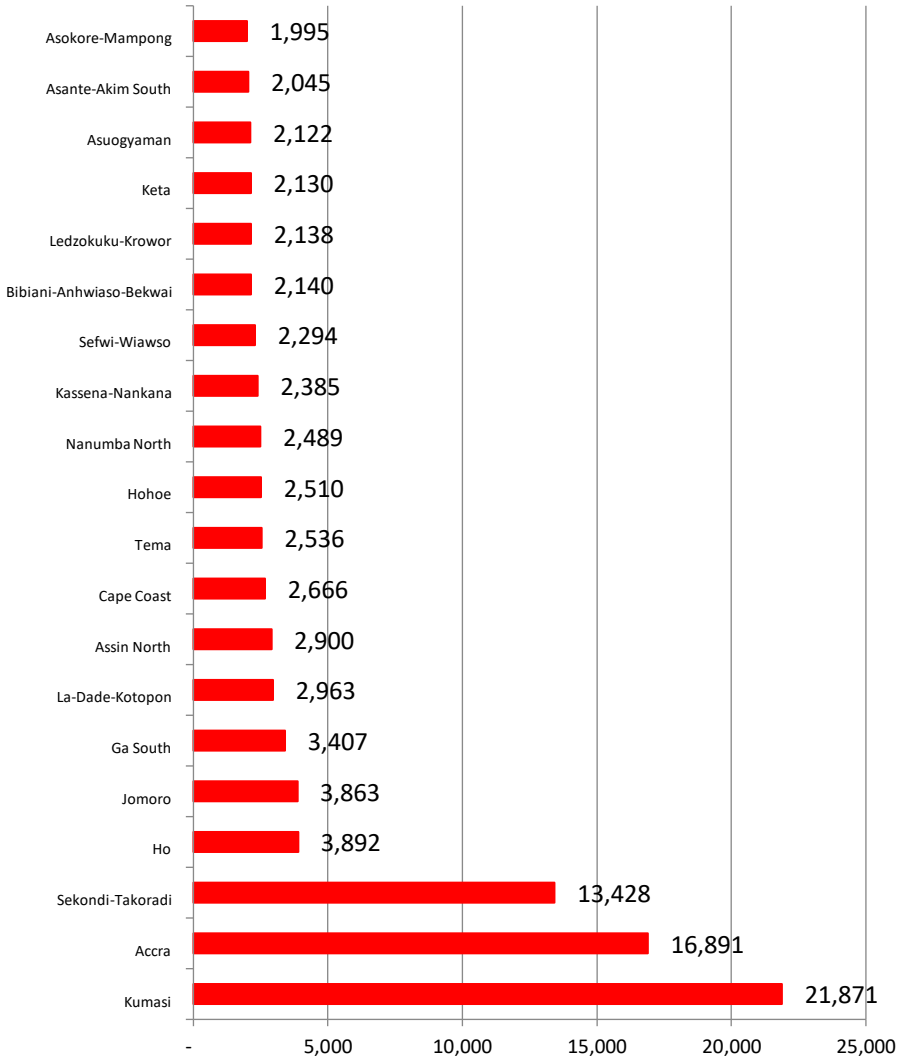


Figure 2: Districts with >1000 children left out using MR-2 as a proxy vaccine in 2016

Source: Joint Appraisal Report 2017, pp8

Equity: • Wealth (e.g. high/low quintiles) • Education (e.g. un/educated) • Gender • Urban-rural • Cultural, other systematically marginalised groups or	In Ghana, there is no discrimination so far as health service delivery, including immunizations, is concerned[27]. However, some equity gaps have been identified among children with different socio-demographic backgrounds. Data from the Ghana Demographic and Health Survey shows that huge gap existed in 2003 among children in the lowest wealth quintile who had DPT3 (64.5%) compared to those in the highest wealth quintile (87.4%). Through the efforts of government and partners, this gap has been reduced as per the 2014 GDHS data where 87.4% of children in the lowest wealth quintile received Penta-3 compared 91.9% of children in the highest wealth quintile. The percent gap for 2003 was 22.9 compared to 4.5 in 2014 (as in Table 2). Similar trends have been observed with regards to the educational status of mothers where the gap in immunization coverage rates have been reduced from 25.8% in 2003 to 7.6% in 2014.

[27] *GDHS, 2014*

communities e.g. from ethnic religious minorities, children of female caretakers with low socioeconomic status, etc.	There are no major differences in immunization coverage rates by place of residence (rural vs urban) and by gender. The GDHS 2014 indicates Penta-3 immunization coverage, was slightly higher in rural (88.8%) compared to urban (88.1%), with identified narrowing gaps a difference of 0.7 compared to 2.8 as pertained in 2008. The survey also showed that there is no apparent gender related barrier to immunization as 86.8% and 90.3% male and female children respectively received Penta-3 vaccinations. However, to sustain the male-female equity in immunization and other health system issues, a gender mainstreaming strategy has been developed by the MoH and being implemented. Table 2 summarizes immunization coverage rates by these socio-demographic groups.

Table 2: Vaccination coverage by Socio-demographic groups (Penta 3)

Background Characteristic	2003	2008	2014
Sex			
Male	81.3	88.8	86.8
Female	77.3	88.8	90.3
Residential			
Urban	86.2	87.2	88.1
Rural	75.8	89.8	88.8
Wealth quintile			
Lowest	64.5	88.0	87.4
Highest	87.4	93.3	91.9
Education			
No education	68.5	84.5	86.7
Secondary+	94.3	88.1	94.3

Source: GDHS, 2003/2008/2014

3.2. At the sub-national level identify the target areas and groups of low coverage and equity: (Include data source & year for each)

→ ***Identified target groups to be used in subsequent sections for tailored interventions***

Coverage by geographies/population group: DTP3, MCV2, etc.	Immunization coverage rates at the sub-national levels have improved over the years (Figures 3 and 4). The number of districts achieving coverage rates of 95% and above have been increasing whilst the number of districts with coverage rates of less than 80% have been reducing. In 2017, 160 (74.1%) districts achieved Penta-3 coverage of 90% and above, 26 (12%) districts had coverage rates between 80-89%, 30 (13.9%) districts had coverage rates between 50-79%. No district had coverage rate below 50% in 2017[19]. The number of districts with Penta-3 coverage of 90% and above increased from 142 (65.7%) in 2015 to 153 (70.8%) in 2016 and to 160 (74.1%) in 2017. The country also made improvements in the first dose of measles-rubella. In 2017, 135 (62.5%) districts achieved MR1 coverage of 90% and above, 36 (16.7%) districts had coverage rates between 80-89%, 45 (20.8%) districts had coverage rates of 50-79% and no district had less than 50% coverage[18]. The number of

districts with MR1 coverage of 90% and above increased from 58.3% in 2015 to 62% in 2016 and to 62.5% in 2017.

With the support of partners, particularly WHO and Center for Disease Control (CDC), there has been an improvement in the performance of the second dose measles-rubella vaccination (MR2). The number of districts with MR2 coverage of 90% and above increased from 45 (20.8%) in 2015 to 75 (34.7%) in 2017.

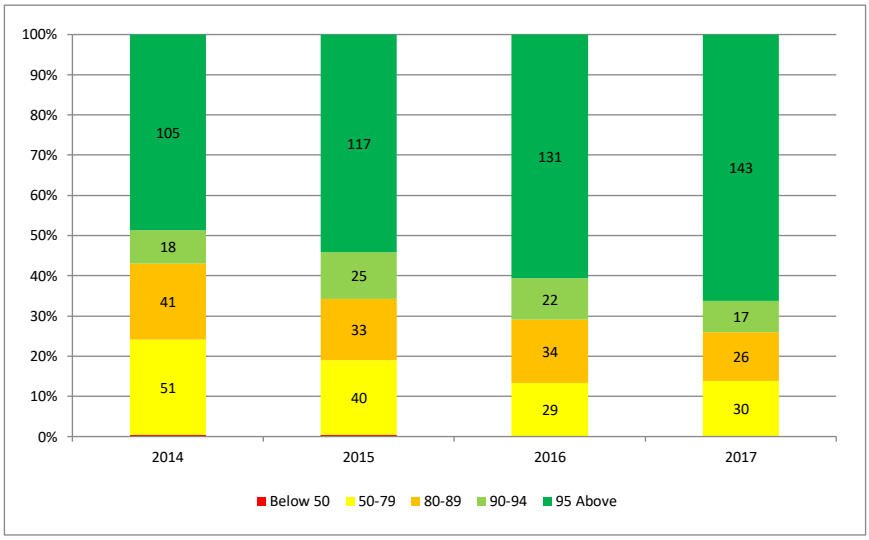


Figure 3: Penta-3 Performance by districts 2014-2017

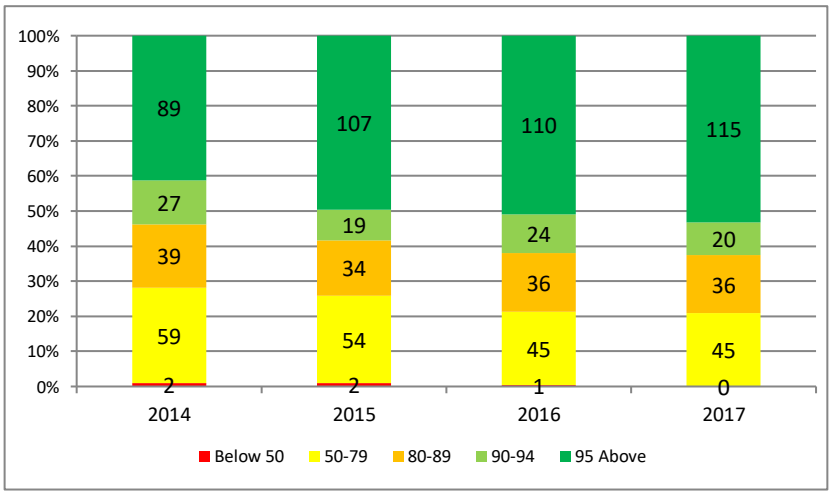


Figure 4: MCV1 Performance by districts 2014-2017

Coverage by geographies/population group:
Absolute numbers of un- or under-immunised children

Ghana has made a lot of progress towards achieving the goal of the Global Vaccine Action Plan target of reaching every person with immunization services irrespective of who they are, where they live or where they are born. Although the issues of unrealistic denominators affect the coverage rates, especially at the district levels, studies conducted in some of these areas point to the fact that some children are not reached.

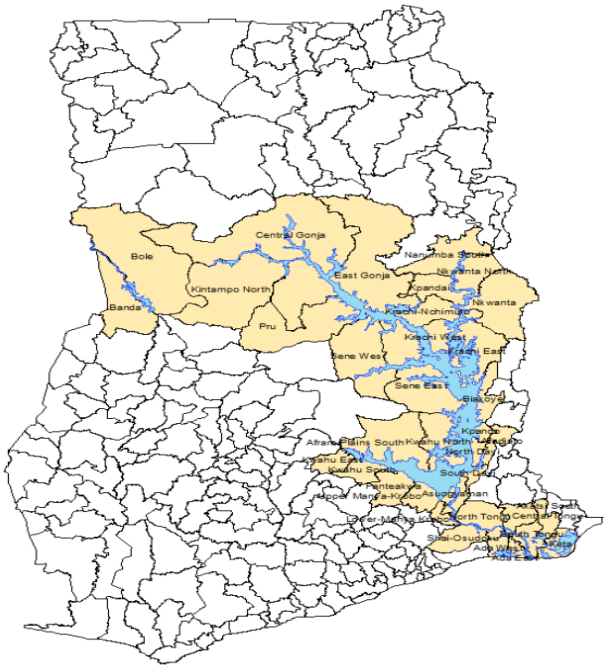
The top twenty (20) districts with unvaccinated children in the country is demonstrated in Table 3.

Table 3: Top 20 districts with unvaccinated children using Penta3 as a proxy

Province Name	District Name	Location	Surviving Infants	No. vaccinated	No. Unvaccinated
Western	Sekondi-Takoradi	Urban	26,385	13,953	12,432
Ashanti	Kumasi	Urban	76,359	67,594	8,765
Volta	Ho	Urban	7,948	4,335	3,613
Central	Assin North	Rural	7,107	4,365	2,742
Western	Jomoro	Rural	7,072	4,736	2,336
Upper East	Kassena-Nankana	Rural	4,850	2,718	2,132
Eastern	Asuogyaman	Rural	4,367	2,478	1,889
Central	Gomoa East	Rural	9,116	7,329	1,787
Greater Accra	Tema	Urban	12,855	11,101	1,754
Ashanti	Asokore-Mampong	Urban	13,501	11,749	1,752
Volta	Hohoe	Urban	7,474	5,782	1,692
Greater Accra	Ga South	Urban	18,974	17,393	1,581
Upper West	Jirapa	Rural	3,872	2,400	1,472
Central	Cape Coast	Urban	6,925	5,538	1,387
Greater Accra	Ledzokuku-Krowor	Urban	10,018	8,645	1,373
Greater Accra	Ga East	Urban	6,515	5,158	1,357
Upper East	Talensi	Rural	3,602	2,398	1,204
Volta	Ketu North	Rural	4,446	3,244	1,202
Ashanti	Sekyere Central	Rural	3,164	1,999	1,165
Eastern	Akyemansa	Rural	4,367	3,205	1,162

Equity by geographies/population group:

- Wealth (e.g. high/low quintiles)
- Education (e.g. un/educated)
- Gender
- Urban-rural
- Cultural, other systematically marginalised groups or communities e.g. from ethnic religious minorities, children of female caretakers with low

socioeconomic status, etc.	 **Figure 5: A map of Ghana Showing Geographical hard to reach areas** Source: Joint Appraisal Report, 2017 Geographical hard to reach communities exist in the Volta Basin Districts of Ghana. There a total of 36 districts in five of the ten regions classified as hard-to-reach, distributed per region as Volta (15), Eastern (8), Brong Ahafo (5), Northern (5), and Greater Accra (3) [23]. The top 10 districts with the lowest Penta-3 coverage in Ghana comprised both urban (large urbanized or metropolitan/ municipal areas) as well as rural locations of the country[23]. High numbers of unvaccinated children are located in urban/ peri-urban areas. Example, in Kumasi, Ashanti region (the most populous region in Ghana), an estimated 21, 871 children were unvaccinated in 2016 (using Penta-3 as the proxy), as in Table 3. This constitutes 23.5% of all unvaccinated children among the 20 districts with lowest MR2 coverage in 2016. No district had a Pent-3 coverage of < 50% in 2017[23]. Currently no disaggregated data on urban poor communities, nomadic and internally displaced persons. The PSR will seek to address some of these data limitations. This will enable the country to target properly, these vulnerable groups

To further elaborate on sections 3.1. and 3.2 above, **countries are strongly encouraged to include heat maps or similar to show immunisation coverage trends over time**, and to reference the source of data, which may be added here. Examples of such analysis are available in the Joint Appraisal Analysis Guidance
(available here: http://www.gavi.org/support/process/apply/report-renew/)

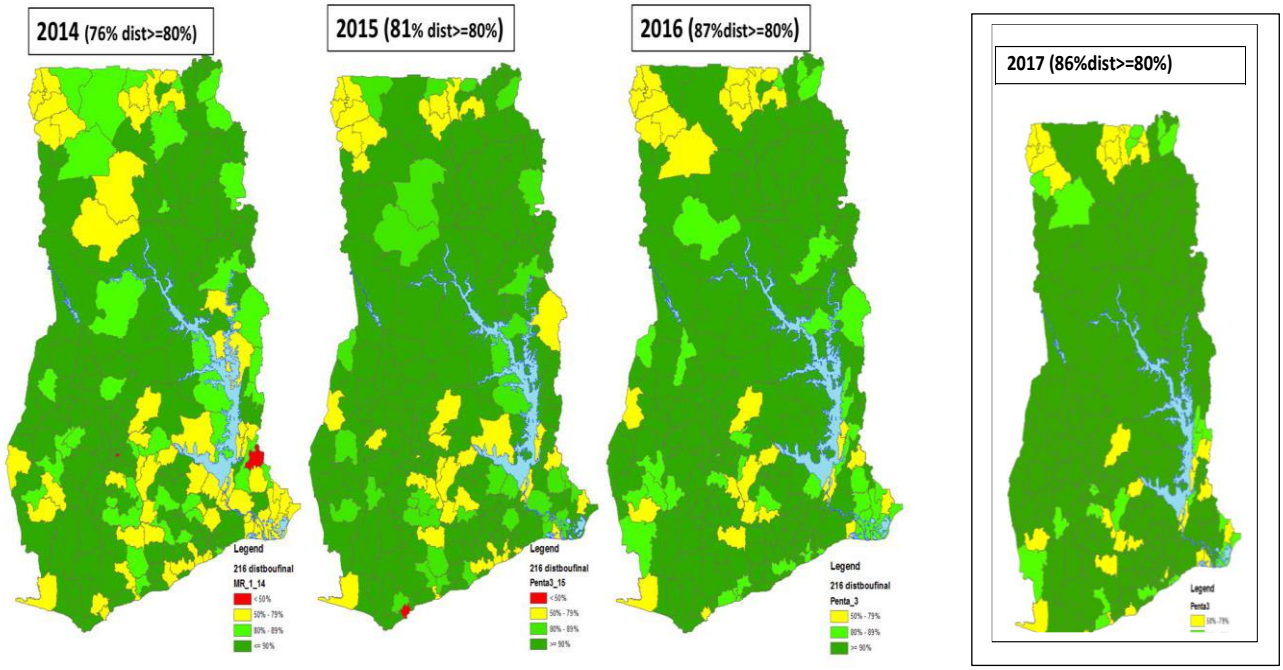


Figure 6: Trends in Penta3 coverage, 2014-2017 (Joint Appraisal Report, Ghana, 2017, pp5 and Performance of Expanded Programme on Immunization, 2017)

The district level trends in Measles-Rubella 1 vaccination coverage by districts, 2014-2016, indicates no district had MRI coverage of < 50% in 2016.

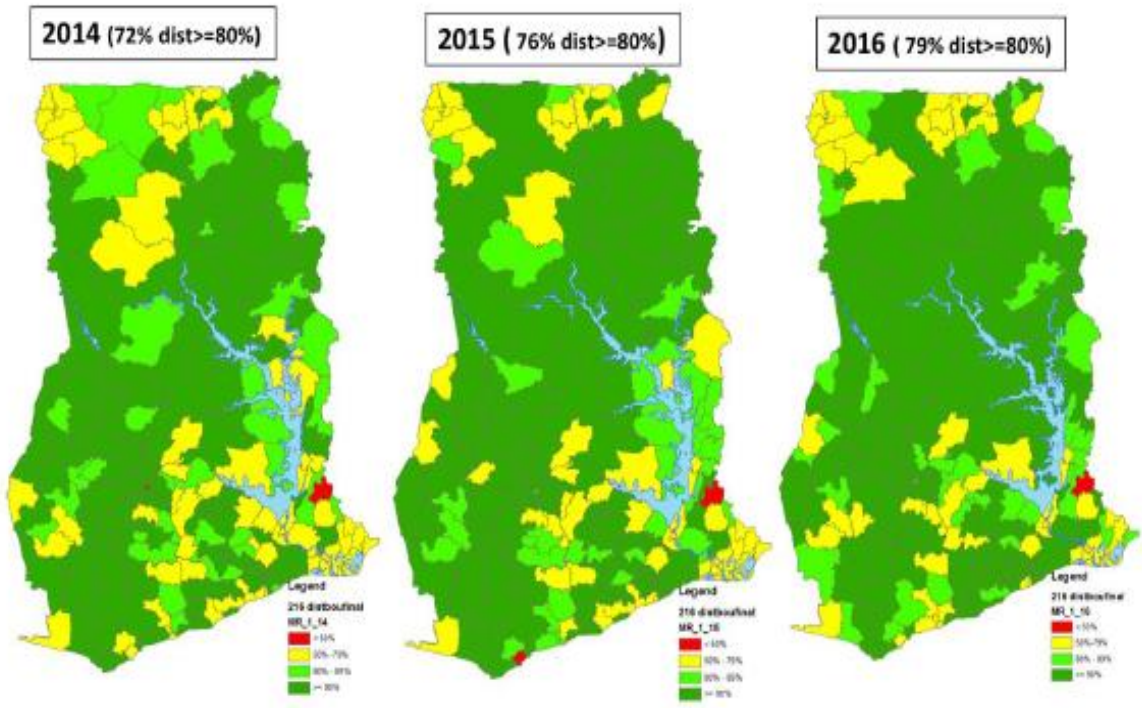


Figure 7: Trends in Measles-Rubella 1 vaccination coverage by districts, 2014-2016 (Joint Appraisal Report, 2017 pp6)

Whilst the country is making progress in increasing the quality and coverage of immunization interventions, efforts are constantly being made to improve surveillance on vaccine preventable diseases. However, active disease surveillance and weak community volunteer system have led to passive surveillance at the community level. In addition, surveillance among nomadic population is weak and availability of reagents for laboratory testing of suspected cases of VPDs remains a challenge. At all levels, trainings and reviews on EPI and disease surveillance are mostly integrated. A lot of gains have been made in combating vaccine preventable diseases;

1. No reported death from measles since 2003[21]
2. No case of polio reported/isolated since 2008[21]
3. Neonatal tetanus was eliminated in 2011[28]
4. Reduction in rotavirus hospitalization since introduction of the vaccine[29]

Ghana has now entered elimination mode for measles control and on course to eliminate measles by 2020. However, the country saw an increase in the number of confirmed measles cases from 23 in 2015 to 32 cases in 2016. In 2017 however, the number of confirmed cases declined to 19. Through the collaboration with CDC, the Ghana Health Service is strengthening the second year of life vaccination, MR-2 coverage increased from 74% in 2016 to 83% in 2017 Figure 8 shows trends in confirmed cases of measles for 2013-2016 by location;

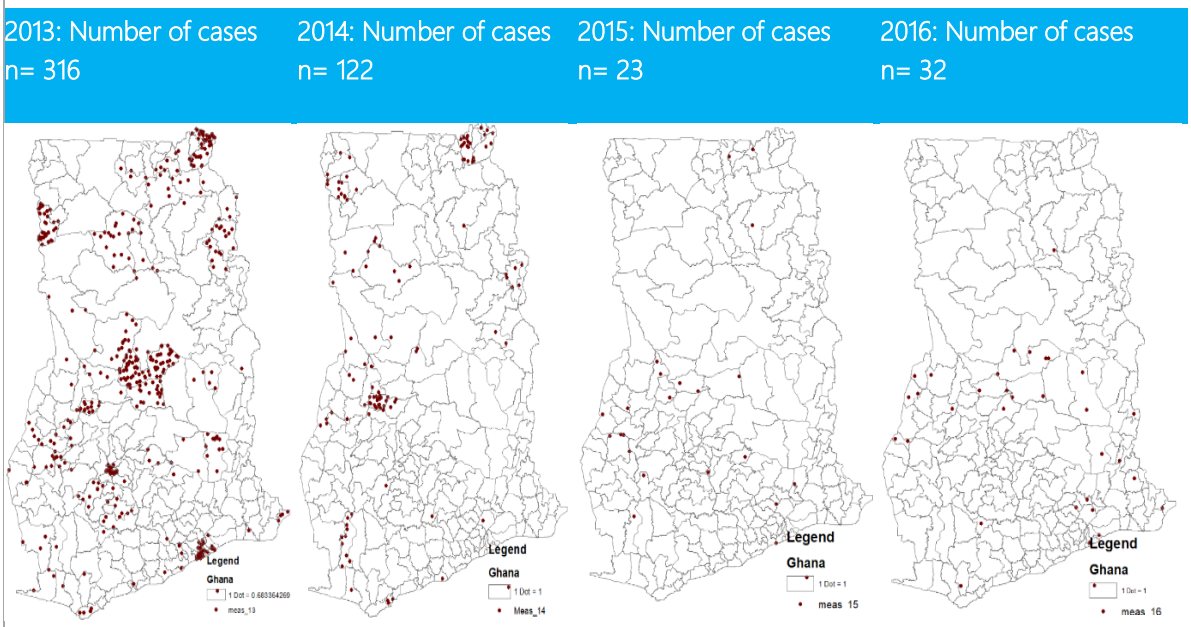


Figure 8: Distribution of confirm cases of measles in Ghana, 2013-2016

Source: Disease Surveillance Department of the GHS in 2017

Per the epidemiology of the disease, the country envisages that susceptible children are building up as the quality and coverage of routine immunization is not optimal. It is in this sense that the country will conduct a nationwide measles-rubella follow-up campaign to sustain the gains the country has made in her measles elimination efforts.

[28] *MNT Validation Report*

[29] *Rotavirus sentinel surveillance report*

3.3. Key drivers of sustainable coverage and equity at the national level

Please highlight the key health system and programmatic drivers of the levels of coverage and equity from the section above. To the extent possible, please list the barriers below by order of priorities with regards to coverage and equity bottlenecks, prioritising and ranking the 3-5 biggest issues. If any of these will not be supported by Gavi, indicate why and who will support it. Provide evidence and lessons learned from previous activities.

→ ***This prioritisation is to be reflected in Part D on objectives of requested Gavi support***

1. Equity and Coverage
   i. Insufficient engagement with communities to increase awareness and demand for immunization services.
   ii. Very limited information, education and communication (IEC) materials for immunization at service delivery points, especially materials in the local languages
   iii. Inadequate skilled staff to provide high quality and equitable immunization services
   iv. Unavailability of equity sensitive immunization plans at all levels (micro plans especially for targeted vulnerable groups).

2. Vaccine and supply chain
   - Insufficient cold space at all levels (as defined in the national rehabilitation plan). The introduction of new vaccines may compound the storage capacity challenges.
   - Inadequate cold chain storage capacity within sub-districts (Health Centres & CHPS Zones)
   - Limited number of trained staff (due to attrition) and professionally unqualified logisticians at intermediary stores
   - Inadequate transportation (vehicles and motorbikes) and logistics for vaccine distribution and immunization service delivery.
   - Inadequate resources for implementation of preventive and curative maintenance and monitoring of cold chain equipment
   - No HPV in the programme despite the high burden of the diseases

3. Health System Strengthening- Leadership, management and coordination
   - Inadequate capacity to provide oversight and technical coordination of immunization and related activities.
   - The newly inaugurated NITAG is in the process of being strengthened to play the expected advisory role

4. Health System Strengthening- Monitoring and Evaluation
   - Limited engagement with key stakeholders especially Private Sector, CSOs, Corporate Organizations and Local Government Structures within the health system.
   - Poor documentation (due to shortages of key recording and reporting materials such as tally book, child health register and child health records[21]) and use of data for decision making at all levels
   - Inadequate disaggregated data on the vulnerable populations at the sub national levels (e.g. urban poor, displaced population, hard to reach areas).
   - Low reports on AEFI (with consequence on AEFI causality review and immunization services).

- Limited support for integrated monitoring and supervision systems.
- Weak and poorly resourced national surveillance for vaccine preventable disease control.

5. Health system financing and sustainable immunization financing
   - Inefficient harmonization and implementation of health programmes at all levels of the system e.g. donor funded programmes
   - Inadequate coordination of resource flow for the implementation of plans and budget as well as performance management.
   - Sub-optimal financial monitoring at all levels
   - Inadequate domestic financing to ensure sustainability of immunization financing

Main Source: PSR Preparatory Document, July 2018[30] and Technical Report FPP in-country workshop[31]

3.4. Key drivers of sustainable coverage and equity at the sub-national level

Please highlight the key health system and programmatic drivers of the levels of coverage and equity from the section above. To the extent possible, please list the barriers below by order of priorities with regards to coverage and equity bottlenecks, prioritising and ranking the 3-5 biggest issues. If any of these will not be supported by Gavi, indicate why and who will support this.

→ ***This prioritisation is to be reflected in Part D on objectives of requested Gavi support***

- Equity and Coverage
  - Disparities in access and coverage across geographical areas (especially in hard to reach and deprived communities)
  - Insufficient engagement with communities to increase awareness and demand for immunization services
  - Limited knowledge of caregivers on the diseases prevented by vaccines[32] .
  - Inequitable distribution and retention of skilled frontline health workforce (especially some urban and peri-urban and other deprived areas).
  - Unavailability of equity sensitive immunization plans at the sub-national level (micro plans especially for targeted vulnerable groups e.g. urban poor communities, nomadic and internally displaced persons.

- Vaccine and supply chain
  - Inadequate cold chain storage capacity within sub-districts (Health Centres & CHPS Zones)
  - Insufficient resources for transport operations (vehicles and motor bikes) at the implementation level (District, Sub-district and CHPS Levels)
  - Inadequate knowledge in calculation of vaccine estimation, wastage and forecasting by service providers
  - Non-compliance of frontline staff with the open vial policy, leading to missed opportunities for vaccination.
  - Inadequate vaccine safety measures- poor temperature monitoring etc
  - No Hepatitis B birth dose and HPV in the programme despite the high burden of Hepatitis B and HPV

- Health System Strengthening- Leadership, management and coordination
  - Weak leadership, mentoring and coaching of frontline workers
  - Weak leadership and management structures at the sub-district level.

[30] *PSR Preparatory Document, July 2018*

[31] *Technical Report FPP in-country workshop*

- Health System Strengthening- Monitoring and Evaluation
    - Inadequate integrated monitoring and supervision at district and sub-district levels
    - Poor coordination of activities of donor partners at the sub national levels
    - Poor documentation (due to shortages of key recording and reporting materials such as tally book, child health register and child health records[21]) and use of data for decision making at all levels
    - Low reports on AEFI (with consequence on AEFI causality review and immunization services)[21]
    - Irregular review and validation of data: facility reporting remains a challenge at the district level
    - Poor accountability on vaccine usage at the implementation level

- Health system financing and sustainable immunization financing
    - Inadequate planning and budgeting for immunization activities at the district and sub-district levels
    - Delays and inadequate disbursement of funds to districts and sub-districts levels.
    - Delayed accountability of funds advanced for implementation of activities at the sub-national level
    - Inefficient harmonization and implementation of health programmes at all levels of the system e.g. donor funded programmes
    - Insufficient integration of immunization services with other services
    - Inadequate systems to track resource flow and management at the sub-national level

Main Source: PSR Preparatory Document, July 2018[27] and Technical Report FPP in-country workshop[28]

4. National programme management

4.1. Immunisation financing

Availability of national health financing framework and medium-term and annual immunisation operational plans and budgets, whether they are integrated into the wider national health plan/budget, and their relationship and consistency with microplanning processes

Allocation of sufficient resources in national health budgets for the immunisation programme/services, including for Gavi and non-Gavi vaccines, (integrated) operational and service delivery costs. Discuss the extent to which the national health strategy incorporates these costs and any steps being taken to increase domestic resources for immunisation. If any co-financing defaults occurred in the last three years, describe any mitigation measures that have been implemented to avoid future defaults.

Timely disbursement and execution of resources: the extent to which funds for immunisation-related activities (including vaccines and non-vaccine costs) are made available and executed in a timely fashion at all levels (e.g., national, province, district).

Adequate reporting on immunisation financing and timely availability of reliable financing information to improve decision making.

The health sector budget is aligned to the government of Ghana medium term expenditure framework that spans for 3 years using the program-based budgeting approach. This covers integrated budgeting for all known sources of funding including that for immunisation (as in section 2.1). The EPI Programme operates a costed 5-year comprehensive Multi-year Plan (cMYP) which is aligned with the HSMTDP 2018-2021 and included in the sector budget. Annual EPI operational plans and budgets are derived from the cMYP. Microplanning for immunization is done through bottom-up approach from sub-district through to the national level. The sector budgets have a line item for medical commodities including the cost of traditional and non-traditional (Gavi supported vaccines). However, provision made for operational cost for immunizations is low.

Ghana defaulted in her co-financing obligations for 2013, 2014 and 2016. That for 2017 has been fully paid and there is a roadmap for paying the outstanding obligations.

The MoH has established the Resource Mobilisation Unit (2017) to develop strategies and explore opportunities for mobilising domestic sources including the implementation of the Corporate Social Responsibility Strategy (private sector) which was recently developed. In view of the dwindling donor support/transition the country is developing the Ghana Roadmap for Sustainability and Transition Plan (GRSTP)[33].

A fund distribution Standard Operating Procedures (SOP) exists at GHS to guide disbursement at all levels. Financial management system is being automated at national, regional and selected districts levels through the Ghana Integrated Financial Management Information Systems (GIFMIS), to ensure timely generation and submission of financial reporting.

[33] *MoH Aid Memoir 2018*

4.2. Priority needs

4.2.1 Programme management: leadership and management capacity of the EPI team, functionality of the Coordination Forum (ICC, HSCC or equivalent body) and the national immunisation technical advisory group (NITAG or equivalent):

- **Challenges related to structure, staffing and capabilities of the national/ regional EPI team (including implementation of annual operational plan for immunisation)**
- **Engagement of different stakeholders (including WHO, UNICEF, CSOs, donors) in the immunisation system**
- **Effective functioning of the relevant Coordination Forum：To what extent does it meet Gavi requirements? If it does not, what are the steps needed to address these gaps?**

  (To be eligible for new Gavi vaccine or financial support, countries need to demonstrate a basic functionality of their coordination forum. Requirements are further described at http://www.gavi.org/support/process/apply/additional-guidance/ under the heading 'Leadership, management and coordination')

  Where a NITAG does not exist, Gavi recommends that countries include plans to establish one and briefly describe such plans here.

The HSWG is the highest decision-making body of the health sector, chaired by the Minister of Health and oversees the overall implementation of Gavi support to Ghana. The ICC for immunization chaired by the Director General GHS provides leadership and direction for the immunization programme[21]. In addition, the NITAG was formed and inaugurated in April 2018 to provide technical advice for immunisation interventions.

The ICC meets every quarter and on emergency basis. In the past 3 years, the committee has been meeting averagely 4-times a year. Membership of the ICC includes WHO, UNICEF, GCNH, Red Cross Society, PATH, Paediatric Society of Ghana, Church of Jesus Christ of Latter-Day Saints (LDS), Ghana National Polio Plus Committee of Rotary International (GNPPC) among others. Civil Society Organizations play a pivotal role in immunization activities in Ghana. The Ghana Coalition of NGOs in Health (GCNH) is a member of the HSWG and the ICC and is an implementing partner of the Gavi HSS.

There exist other technical committees (AEFI, Polio, Measles committees etc) to provide technical advice at the national level.

There is a strong managerial skill at national and regional levels[11]. However, District and sub-District levels have sub-optimal managerial skill. The EPI Programme in Ghana is situated within the Public Health Division of the GHS. It is headed by a Public Health Specialist and assisted by different skilled personnel and technical specialist in areas including logistics management, data management, cold chain management, injection safety, social mobilization and communication.

4.2.2 Vaccine management: Priority areas for improvement to manage risks to vaccine stocks, e.g. based upon recent audits or assessments

Ghana conducted Effective Vaccine Management Assessment (EVMA) in 2014 to assess the vaccine management practices as well as storage capacity for both cold and dry stores. The EVM implementation plan identified key areas for improvement geared towards minimizing risks to vaccine stocks including these recommendations;

1. Install a continuous temperature monitoring device at vaccine stores
2. Calibrate all temperature recording devices to comply with the specified level of accuracy
3. Fix continuous temperature monitoring loggers and recorders in all vaccine refrigerators
4. Make available temperature alarm equipment for cold rooms and freezer rooms
5. Conduct a National cold chain assessment to ascertain cold chain inventory and status of functionality by levels
6. Train all store managers in best stock management practices.

The Government has installed continuous temperature recording devices in the walk-in cold rooms and freezer rooms in the National Vaccine Store and all regional stores. Continuous temperature loggers (fridge tag) are currently the recommended temperature monitoring device and almost all vaccine refrigerators in the country have these devices. These continuous temperature loggers for walk-in cold rooms and vaccine refrigerators have alarm systems for alerting and documenting temperature excursions. As part of the CCEOP application submitted with the PSR, a comprehensive cold chain inventory has been conducted to identify the cold chain gap. Plans are being made through the CCEOP to address the gap. The PSR aims to train frontline staff in basic principles of immunization logistics management (LMIS).

The country will train all peripheral staff in immunization basics which include vaccine and stock management. SOPs on vaccine management will also be developed.

4.2.3 Financial Management: Priority areas to address financial management gaps

The Ministry of Health and Ghana Health Service has a robust financial management system with reasonable control systems for managing public funds. Currently there are mechanisms (protocols) to monitor the movement of funds from one level to the other to avoid delays in release of funds which directly or indirectly affect programme implementation. Additionally, a new PFM Act 2016, Act 921, has been enacted by Government and in response, the health sector built the capacity of selected finance and non-finance managers at all levels to ensure compliance and promote efficiency in resource use. The key constraint is building the capacity of personnel at the lower levels (Health Centre and CHPS) where relatively high volumes of immunization resource are situated.

The country continues to pay for the traditional vaccines as well as co-finance with Gavi for the new and underused vaccines. However, the country paid 60% of the 2016 co-financing in January 2018 amount and has until December 2019 to pay the balance which is of the 2016 co-financing obligation. Government commitment and need for high level advocacy within the transition period will be required. High level advocacy will be embarked upon to prevent future defaulting and also prepare the country to take up full cost of financing immunization activities when the country finally graduates from GAVI support.

Government renewed its commitment to GAVI through signing of the Partnership Framework Agreement (PFA) in June 2013, which governs the national Government's relationship and obligation with Gavi

4.3. Polio transition planning (if applicable)

If transitioning out of immunisation programme support from other major sources, such as the Global Polio Eradication Initiative, briefly describe the transition plan. If none exists, describe plans to develop one and other preparatory actions.

Ghana Polio Transition Plan (GPTP) outlines the legacy of the Polio Eradication Initiative (PEI) which is available for use by the country. One of the achievements of the PEI in Ghana was the adoption, adaptation and strengthening of integrated disease surveillance and response (IDSR) through capacity built for AFP surveillance. Case-based surveillance has been implemented for all VPDs such as Measles-Rubella, Neonatal Tetanus, Yellow Fever, etc. using the knowledge and skills acquired from the AFP surveillance process.

The PEI provided funds for community awareness creation. Community volunteer system has been established to effectively implement active surveillance in the country.

5. Past performance of Gavi support, implementation challenges and lessons

Briefly comment on the performance of the vaccine support and health systems and immunisation strengthening support (HSS, Ops, VIGs, CCEOP, transition grants) received from Gavi

5.1. Programmatic performance of Gavi grants, in terms of:

- **Achievements against agreed targets**
- **Overall implementation progress, lessons learned and best practices**
- **Progress and achievements specifically obtained with Gavi's HSS and CCEOP support**
- **Usage and results achieved with performance-based funding (PBF)**
- **If applicable, implementation progress of transition plan, implementation bottlenecks and corrective actions**

Ghana achieved most of the coverage indicators outlined in the GPF with the exception of Yellow Fever and Measles-Rubella-2. The target for Yellow Fever vaccination could not be achieved because there was a global vaccine shortage in 2016. Though the country received a total of 800, 000 doses from Gavi support, the supply was irregular, and the volume was not enough to cover the birth cohort of 1.2 million (due to challenges with Government co-financing obligation). A general lack of understanding on the need for second year vaccinations of Measles-Rubella-2 may have accounted for failure to achieve set targets. Fortunately, Ghana is collaborating with the CDC to strengthen immunization interventions in the 2nd Year of Life (2YL) (Table 1 of Appendix).

Financial execution rate of the HSS Year 2 is shown in Table 2 of Appendix. In addition, programmatic implementation progress, lessons learned and best practices of HSS 2 in relation to objectives of the PSR is shown below:

Objective: Previous HSS 2014	Objective: Current PSR 2020-2024	Implementation Issues	Lessons Learned/ Best Practices Best Practices
1. Strengthen and scale-up community health interventions	Obj-1: Achieve at least 90% Penta 3 coverage in all districts by 2024	Bought and distributed Motor bikes (200) and vehicles (1 Saloon, 2 Land Cruisers & 7 Nissan Pickups)	Motor bikes and vehicles purchased enhanced outreach services in the resourced districts
2. Strengthen health worker capacity and distribution for equity at the district level	Obj-1:	Supported 53 low performing districts to undertake outreach activities Integrated monitoring visits in all Regions conducted Trained CHOs in management	Government created Community Health training institutions in each region and increased intake. Ensured 70% of the trained CHNs were retained in each region The PSR aims to: ◦ scaling up Implementation of CHPS Policy to allow posting

			of frontline health workers to deprived communities
3. Improve storage distribution and management of safe vaccines, medicines and devices	Obj-2: Ensure 100% availability of safe and efficacious vaccines	Installed Voltage Stabilizers for Refrigeration Equipment and generators for Regional and National Cold Rooms Procured Spare parts for Cold Chain Equipment Trained 20 Regional Cold Chain Technicians	An inventory of all cold chain equipment undertaken in 2016-2017.
4. Empower civil society for increased demand creation	Obj-1:	The GCNH have completed the selection and orientation of Implementing Partners in 40 low performing districts in immunization. The GHS conducted an audit of the year one funds.	Improved collaboration between MoH/GHS and CSOs at all levels The PSR aims to build capacity of CSOs in national policy dialogue at all levels
5. Strengthen governance and health information management	Obj-3: Contribute to governance and management functions Obj-4: Strengthen Supervision, Disease Surveillance, M&E Obj-5: Improve sustainable financing for universal health coverage	Annual EPI Review meeting (2016 and 2017) Community performance-based financing undertaken for district teams A TWG working to upgrade LMIS and integrate with DHIMSII	Annual reviews improved data management The flexibility of Gavi HSS support enabled Ghana to re-programme funds and promoted the integration of HSS activities into other government activities.

5.2. Financial management performance, in terms of:

- Financial absorption and utilisation rates-
- Compliance with financial reporting and progress in addressing audit requirements
- Major issues arising from review engagements (e.g. Gavi cash programme audits, Gavi programme capacity assessments, annual external/internal audits, etc.) and the implementation status of any recommendations
- Financial management systems, including any modifications from previous arrangements

Ghana received approval for the health systems strengthening cash support in 2014 and received the first disbursement (US$4,299,400) in August of the same year, which has been fully (100%) utilized. The second disbursement of US$3,440,096 was received in June 2016 with average utilization rate of 72% (US$2,465,032) as at December 2017. The outstanding 28% of the year 2 budget activities is ongoing (mainly due to procurement delays) as in Table 2 of the Appendix.

Compliance with financial reporting and audit requirements:

Two bank accounts are used to manage the Gavi HSS funds- a Dollar and a Cedi account at ECOBANK GHANA LTD and UNIBANK Ghana Limited (Consolidated Bank Ghana Limited) respectively. The dollar account is the receiving account in which the funds are lodged from source. The Cedi account is the operational account. Funds are transferred from the dollar account to the cedi account for general home currency transactions.

Ghana External audits were largely non-compliant because they were Health Sector audits and not Gavi grants specific. Gavi specific external audit for 2017 has been carried out in 2018 by the Auditor General, Audit services. In addition, the PSR is budgeting for Gavi specific annual external audit.

Major issues arising from cash programme audits or programme capacity assessments:

The MOH received the Gavi final outcome of the 2015 Gavi Cash Program Audit in October 2016 (after several iterations with the country on the draft audit report), and some major issues were raised:

- Commitment to reimburse the misused funds amounting to US$850,470. Part payment of USD 637,108.00 was paid in August 2017 and the outstanding of USD 213,368.32 was paid in January 2018.
- An amount of US$116,975 in respect of expenditures not related to grant activities has been refunded and disclosed (HSS2 year 2 financial report, December 2017).
- Expenditure questioned on the basis of asset allocation (US$360,000) with regards to Pick-up vehicles kept at the national level have all been sent to various districts as per the recommendation of the audit. (Issues have been addressed and evidence of this provided in earlier correspondence to Gavi).

A Programme Capacity Assessment (PCA) was undertaken at the end of 2016 to review the country programme (EPI) management, existing financial mechanisms and vaccines management system

In April 2017 the country received the first version of the Grant Management Requirement (GMR) based on the report of the Programme Capacity Assessment. This GMR governs the oversight of vaccines and related supplies and financial support provided by Gavi to the Government of Ghana. The latest revision of the GMR was made in August 2018 at the satisfaction of both parties. The PCA will be redone in 2019 in anticipation of the use of another financial mechanism from 2020 for the implementation of the PSR.

Financial management systems

The Health Sector has in place a good legal and institutional framework for Public Financial Management (PFM) across all levels of the sector. The passing of the Public Financial Management Act 2016, Act 921 and the Public Procurement Amendment Act 2016, Act 914 by Parliament are expected to improve PFM practices and a significant step towards strengthening the PFM systems to ensure fiscal discipline in the use of public resources.

Presently the Ministry of Health (MoH) Accounting, Treasury and Financial Reporting, Rules and Instruction Manual has been reviewed. The review has considered developing partners (DPs) interest in the area of traceability and visibility of donor funds to the Health Sector in financial reporting at all levels. The MoH has

also reviewed its Internal Audit Manual to strengthen internal audit processes; ensure accountability and value for money for all resources received. Staff of the Audit services are currently involved in the Gavi specific external audit.

Part C: Planning for future Gavi support[34]

6. Planning for future support: coordination, transparency and coherence

6.1. Alignment

How does Gavi support align with the country's national health and immunisation strategies including multi-year plans (e.g. cMYP)?

- Explicitly address how Gavi support will complement, both financially and programmatically, the achievement of objectives set out in the most recent strategic multi-year plan (cMYP).
- Given the immunisation strategies proposed in this PSR, explain and show how these will contribute to the national health strategy or if there are gaps, describe what needs to be done to address these.
- Describe the extent to which Gavi's support proposed in this PSR (in areas such as data, supply chain, etc.) will be implemented through national routine systems and processes or explain the steps that are being taken to achieve integration.

→ ***Include information on the Gavi budgeting & planning template to capture the gap analysis for requested Gavi support***

The objectives of this proposal address prioritized health system and immunization bottlenecks which are specifically aligned to HSMTDP (2018-2021). The objectives of the next cMYP (2020-2024) will be aligned with the PSR. The alignment between this PSR objectives and cYMP (2015-2019) with the HSMTDP (2018-2021) is shown in the Table 4:

Table 4: Alignment of National objectives and PSR Objectives

HSMTDP 2018-2021	cMYP 2015-2019	PSR 2020-2024
Objective-1: Bridge equity gap in geographic access to health	Objective-1: Achieve and sustain 95% coverage in all childhood immunizations Objective-2: Improve communication, advocacy and information dissemination	Objective-1: To achieve at least 90% Penta 3 coverage in all districts by 2024 Objective-2: To ensure 100% availability of safe and efficacious vaccines at all service delivery points
Objective-2. Ensure sustainable financing for healthcare delivery	Objective-5: Ensure sustainable access to predictable funding, quality supply and innovative technologies	Objective-5: Improve sustainable financing for universal health coverage
Objective-3. Improve efficiency in governance and management of the health system.	Objective-4: Improve programme management and integration with health systems	Objective-3: Improve governance and management functions at all levels of the health sector Objective 5

[34] *The duration of Gavi funding should be discussed in consultation with the Gavi Secretariat to align to the extent possible to a country's strategic period. For Measles Rubella the high-level plan with coherent and integrated measles and rubella disease control activities is expected to cover the next5 years, regardless of the duration of the national strategy.*

Objective-4. Intensity prevention and control of communicable diseases	Objective-3: Strengthen surveillance system	Objective-4: Strengthen Supervision, Disease Surveillance, Monitoring and Evaluation at all levels

Activities outlined in the PSR are focused on achieving these strategic national objectives. Gavi support will complement that of the Government. Support from other partners and local resource mobilization will also be critical in achieving these objectives. Some of the activities outlined in the PSR will address gaps in financial and programme management

6.2. Complementarity, coherence and technical soundness

What steps were taken to ensure complementarity, coherence and technical soundness of Gavi's support across government and stakeholders?

- What role was played by the national coordination forum (ICC, HSCC or equivalent) and the national immunisation technical advisory group (NITAG) in the development of the PSR?

Entity	Role
HSWG	• The Health Sector Working Group (HSWG) is the highest decision-making body of the health sector, chaired by the Minister of Health and provided high-level national support for the PSR development. The Ministry of Health is spearheading the development of the FPP with the active involvement of the Minister of Health and Director General of the Ghana Health Service.
ICC	• Provided technical leadership and direction for the development of PSR • Participated in the In-country stakeholder meeting on the Full Portfolio Plan Development in July 2018 • Participated and reviewed the PSR drafted by the PSR Core Team after the In-country meeting
NITAG	• Although the NITAG was recently inaugurated (April 2018) and not fully functional, individual members of the team have been actively involved in the FPP process • Provided technical support and advice in the development of PSR • Participated in the In-country stake holder meeting on the Full Portfolio Plan Development in July 2018 • Involved in the Core Team activities for the development and review of the draft PSR after the in-country meeting
Development Partners	• Contributed to development of the Preparatory Report to facilitate the in-country stake holder meeting (WHO, UNICEF, Embassy of Japan, JICA, USAID, JSI, CDC, 2YL) • Participated in the In-country stake holder meeting on the Full Portfolio Plan Development in July 2018 • Involved in the Core Team activities (WHO, UNICEF) after the in-country meeting on the Full Portfolio Plan between July and September 2018
Coalition of NGOs/ CSOs	• Contributed to development of the Preparatory Report to facilitate the in-country stake holder meeting, represented by the GCNH • Participated in the In-country stake holder meeting on the Full Portfolio Plan Development in July 2018 • Involved in the Core Team activities after the in-country meeting on the Full Portfolio Plan between July and September 2018

Private Sector-private health facilities	• Contributed to the development of the Preparatory Report to facilitate the in-country stake holder meeting, represented by CHAG • Participated in the In-country stake holder meeting on the Full Portfolio Plan Development in July 2018

Part D: Objectives of requested Gavi support

Section D details the new vaccine support and health system strengthening support requested for the upcoming 3-5 years, including strategic considerations and prioritized activities. Operational details are presented in the Gavi budgeting and planning template and performance measurement is presented in an updated **grant performance framework**.

If you plan to request new vaccine support (routine introductions and/or campaigns**) in the upcoming 3-5 years,** please fill in section 7 below.

I**f you plan vaccine routine introductions and/or campaigns in the next 18 months,** in addition, please fill in the relevant vaccine specific request, on the Country Portal, here: http://www.gavi.org/support/process/country-portal/

7. Strategic considerations supporting the requests for new vaccines (routine or campaigns)

This section presents information on future vaccine routine introductions and/or campaigns under consideration for Gavi support (including support for which the country may not be eligible yet). This does not represent a commitment from the country to introduce the vaccines listed below. High level information critical to advance planning and preparation should be outlined here.

Approximately 15-18 months ahead of the actual introduction in the routine programme or the campaign, the country will be required to fill in the relevant vaccine specific request, on the Country Portal to obtain Gavi approval. This vaccine-specific request to be submitted will include: evidence to confirm eligibility, operational plan, budget, and essential information to support grant implementation (e.g. procurement and co-financing terms, target population data).

7.1. Rationale

Describe the rationale for requesting each of the new vaccine supports, including the burden of disease. If already included in detail in the Introduction Plan or Plan of Action, please cite the sections only.

HPV- Ghana has a population of more than 6.57 million women aged 15 years and older who are at risk of developing cervical cancer, with an estimated 3,038 women diagnosed with cervical cancer and 2,006 deaths attributable to the disease annually. HPV vaccine as a preventive action will be one key measure for Ghana's National Strategy to combat cervical cancer. (Costing Analysis of HPV Ghana Demo Project, 2014). A pilot Gavi supported HPV demonstration was conducted in 2013 and 2014 in two districts each in the Greater Accra and Northern regions to provide a guide for feasible introduction nationally.

Yellow Fever- Under the new Global Strategy for Elimination of Yellow Fever Epidemics (EYE) which aims at protecting risk populations, preventing international spread and containing outbreaks rapidly, there is need to vaccinate 'unreached' at risk populations in the country to prevent outbreaks. Hence, the 74 "left-out" districts need to be covered[35].

MR follow up campaign: *Follow-up campaign:* Ghana plans to conduct MR campaign in October 2018 and another follow up campaign in 2023. The coverage for MR1 is 95% and that for MR2 83% in 2017. These coverage rates fall short of the target of 95% needed for both MR1 and MR2. Susceptible children will build up over the years and may result in a possible outbreak. In addition, the 2023 MR –Follow up campaign is to further improve the population immunity in line with the Global Measles elimination strategy.

[35] *Plan of Action for Yellow Fever Preventive Campaign in Ghana pp12*

7.2. Financial Sustainability

Discuss the financing-related implications of the new vaccine support requested, particularly how the government intends to fund the additional co-financing obligations.

There has been substantial increase in the Government expenditure on vaccines used in routing immunization from 2012-2016 as indicated below. This trend is expected to continue

Government expenditure on vaccines used in Routine Immunization in Ghana, 2012-2016

	2012	2013	2014	2015	2016
Government Expenditure	$3,555,615	$3,059,333	$2,553,075	$7,954,624	$16,763,289
Total Expenditure	$33,265,939	$20,059,450	$22,091,850	$28,390,624	$22,620,461
Government as % of total	11%	15%	12%	28%	30%

Source: WHO/UNICEF JRF, 2017[20]

- Ministry of Health has established the Resource Mobilisation Unit to develop strategies and explore opportunities for mobilising domestic sources of funding including domestic resources to ensure sustainable financing.
- Currently, a Corporate Social Responsibility (CSR) Strategy (private sector) has been developed which provides for the following key interventions

  i. Corporate Sector Profiling through creation of database of the entities and the health supported programmes
  ii. Provision of incentives for Corporate Sector Participants. The current PSR has taken account of some of the critical activities in the CRS for mobilization of domestic funding
- In the same vein, the main recommendations in the 2015 Ghana Health Financing Strategies has also been considered in the PSR
- The health sector performance review 2018, also documented the following areas for resource mobilization.

  i. The MoH plans to complete and implement Ghana Roadmap for Sustainability and Transition Plan (GRSTP) being developed with the support of DFID[30].

7.3. Programmatic challenges

Summarise programmatic challenges that need to be addressed to successfully implement the requested vaccine support and describe plans for addressing those. These may include plans to address the barriers identified in the coverage and equity situation analysis section, and include vaccine supply chain, demand generation/ community mobilisation, data quality/ availability/ use and leadership, management and coordination, etc.

- Cold Chain - cold chain assessment for available storage spaces especially at district and sub-district levels, (considering all the current vaccines on the EPI programme) is needed to inform the use of high dose vials to improve storage space and in addition to implementing strategies in the CCEOP. A national cold chain improvement plan exists based on recommendations from the last effective vaccine management assessment (EVMA) in 2014. The EVMA planned for - 2019 would be more useful in providing guidance for the introduction of the new vaccines.
- Data Management- challenges with denominators observed with the current coverage and data management issues especially with recording and reporting would need to be improved by implementing monitoring and evaluation plans in the PSR.

- Advocacy and Communication- Insufficient engagement with communities to increase awareness and demand for immunization services. Potential knowledge gaps in basics of immunization and national policy on the new vaccines by frontline staff. Coalition of NGOs in Health and Health Promotion Department of Ghana Health Service will be involved to roll-out communication and social mobilization activities to create demand.
- AEFI surveillance- active disease surveillance and weak community volunteer system have led to passive surveillance at the community level. In addition, surveillance among nomadic population is weak and availability of reagents for laboratory testing of suspected cases of VPDs remains a challenge. Improved vaccine surveillance activities included in the PSR is anticipated to improve AEFI on the new vaccines
- Financing- current challenges with co-financing and delay in procurement of traditional vaccine are anticipated, however, measures being introduced for sustainable health financing is anticipated to provide local funding support

7.4. Improving coverage and equity of routine immunisation

Explain how the proposed vaccine support will be used to improve the coverage and equity of routine immunisation, by detailing how the proposed activities and budget will contribute to overcoming key barriers.

The objectives of the campaigns are to strengthen routine immunization and surveillance for MR and Yellow Fever. The infrastructure and human resource capacity that will be built for the campaigns will assist in improving the quality of routine immunization (MR and Yellow fever) and future campaigns. In the same vein, the infrastructure, human resource capacity that exist for communication, service delivery, injection safety, cold chain management, waste management, disease surveillance and vaccine safety monitoring will contribute to an improvement in the campaigns and vaccine introduction.
The CCEOP is Gavi-led initiatives to support eligible countries to upgrade/expand their cold chain equipment If successful, this platform will also enhance storage and distribution of the vaccines for campaign (MR and Yellow Fever) and HPV.

7.5. Synergies

Describe potential synergies across planned introductions or campaigns. If relevant, comment on capacity and appropriate systems to introduce multiple vaccines in a year. Also describe how the country will mitigate any programmatic and financial risks associated with multiple introductions.

The YF PMVC is planned for first quarter 2019and MR2 2023. As part of the Polio End-game strategy, the country introduced IPV into routine immunisation in April 2018. The country is also part of the Malaria Vaccine Implementation Program (MVIP) and making plans to pilot RTS,S vaccine for malaria in four selected regions in 4th Quarter 2018. The infrastructure, human resource capacity that will be built for communication, service delivery, injection safety, cold chain management, waste management, disease surveillance and vaccine safety monitoring will contribute to an improvement in the quality of proposed YF and MR2 campaigns. In the same vein, the infrastructure and human resource capacity that will be built for the proposed YF and MR2 campaigns will assist in improving the quality of routine immunisation and future campaigns.

8. Description of requested support for each new vaccine

More specific planning needs particular to certain vaccine support listed in table 1.2 are described here. Greater details on activities needed to prepare for the vaccine introduction and/or campaign (addressing the programmatic challenges and bottlenecks outlined above) should be reflected in the country's annual EPI work plan.

Exclude here vaccines that already approved by Gavi, even if not yet introduced.

HPV routine	**Anticipated introduction date: January 2022**
	Describe the **broad strategy for introduction** (including target population, potential multi-age cohort vaccination in year 1, potential regional roll-out etc.).
	Single age strategy targeting both in-school and out-of-school girls. There will be one-time national roll out of the vaccine. An estimated 947,881, girls 9 years old will be the target population. The HPV routine vaccination will be included in the school health programme
	Describe the **steps to finalise the introduction** strategy and to engage key stakeholders
	There will be wide stakeholder engagements involving key actors including WHO, UNICEF, Ministry of Education (MoE), Ghana Education Service (GES), District Assemblies etc. Experiences gained from the HPV demonstration vaccination in some districts in Ghana will be applied in shaping the vaccination strategy as well as other preparatory activities including social mobilisation, data management, logistics management etc.
	Describe how the **future HSS investments** will strengthen the quality of the HPV introduction (e.g., through focus on critical demand generation, civil society engagement, adolescent health platforms for integrated service delivery, etc.)
	Through the HSS, Civil Society Organisations (CSOs) will be supported to assist in the generation of demand and mobilisation of potential vaccines (eligible girls) to vaccination sites. Opportunity will be created to engage communities through house-to-house sensitization and advocacy. Investment will be used to support provision of basic logistics at the district and community level.
	Technical Assistance: List the anticipated TA needs and timelines required to support this activity and plans for securing it (e.g., Gavi HSS, PEF/TCA, other sources?)
	TA for post-introduction evaluation
Measles / Measles Rubella ***(routine and campaign/s)***	To encourage a complete and longer-term planning approach to measles and rubella for programmatic and financial sustainability, a **country's cMYP or equivalent multi-year plan attached to this PSR must include a comprehensive situation analysis and a 5-year plan on measles and rubella.** If the current cMYP or equivalent multi-year plan does not contain all the required information, a cMYP addendum needs to be developed and submitted with the PSR as an attachment. To develop your comprehensive situation analysis and 5-year plan for measles and rubella, please use the **Gavi template** available here: http://www.gavi.org/library/gavi-documents/guidelines-and-forms/m-r-situation-analysis-and-5-year-plan-for-cmyp/

	Provide a **technical justification** for each type of support requested for Measles / Measles Rubella in the next 5 years and indicate for when each introduction or campaign is planned
	Follow-up campaign: Ghana plans to conduct MR campaign in October 2018. The Country intends to conduct another follow up campaign in 2023. The coverage for MR1 is around 94% and that for MR2 hovers around 80%. These coverage rates fall short of the target of 95% needed for both MR1 and MR2. Susceptible children will build up over the years and may result in a possible outbreak. A follow up campaign is therefore required to mitigate the build-up of susceptible children. In addition, the 2023 MR2 –Follow up campaign is to further improve the population immunity in line with the Global Measles elimination strategy.
	List the **Technical Assistance** needed to support the introductions and/or campaign(s) outlined in your 5-year plan. Describe how you plan to secure it and by when.
	TA for campaign application TA for AEFI surveillance
	Describe how the health systems strengthening support requested in this Programme Support Rationale will contribute to **MCV1 and MCV2 routine immunisation** strengthening and to **measles, rubella and congenital rubella syndrome surveillance** strengthening.
	The following health systems strengthening support will contribute to MR1 and MR2 routing immunization • Engage key stakeholders (Private Sector, Ministry of Finance (MoF), Parliamentary Sub Committee on Health etc) on demand generation for immunization. • Provide resources (IEC &Transport etc) for social mobilization • Build capacity of health staff in micro planning (Including planning for targeted vulnerable population). • Improve data governance, ensure the availability of adequate data collection tools and make data registers user friendly through the use of electronic register (e-tracker). • Strengthen capacity of frontline staff to ensure regular report of Adverse Events Following Immunization. • Provide opportunities for offline data capture to ensure timely data entry, transmission and use. • Conduct regular programme reviews to support management decisions. • Strengthen capacity of laboratories to ensure prompt diagnosis of vaccine preventable diseases to support surveillance activities.

Yellow Fever Phase B ***(campaign)***	To encourage a complete and longer-term planning approach to measles and rubella for programmatic and financial sustainability, a **country's cMYP or equivalent multi-year plan attached to this PSR must include a comprehensive situation analysis and a 5-year plan on measles and rubella.** If the current cMYP or equivalent multi-year plan does not contain all the required information, a cMYP addendum needs to be developed and submitted with the PSR as an attachment.

To develop your comprehensive situation analysis and 5-year plan for measles and rubella, please use the **Gavi template** available here: http://www.gavi.org/library/gavi-documents/guidelines-and-forms/m-r-situation-analysis-and-5-year-plan-for-cmyp/

Provide a **technical justification** for each type of support requested for Yellow Fever in the next 5 years and indicate for when each introduction or campaign is planned

Preventive mass campaign: Ghana plans to conduct YF Phase B campaign in October-November 2019. This is aimed to cover all districts not covered by phase A campaign and thus vaccinate all the eligible children. By doing this the country would not need to conduct another campaign within the next five years. i.e. 2020-2024

In addition, the national campaign will further improve the population immunity in line with the Global control strategy

List the **Technical Assistance** needed to support the introductions and/or campaign(s) outlined in your 5-year plan. Describe how you plan to secure it and by when.

TA for campaign application
TA for AEFI surveillance

Describe how the health systems strengthening support requested in this Programme Support Rationale will contribute to **MCV1 and MCV2 routine immunisation** strengthening and to **measles, rubella and congenital rubella syndrome surveillance** strengthening.

The following health systems strengthening support will contribute to YF Phase B campaign

- Engage key stakeholders (Private Sector, Ministry of Finance (MoF), Parliamentary Sub Committee on Health etc) on demand generation for immunization.
- Provide resources (IEC &Transport etc) for social mobilization
- Build capacity of health staff in micro planning (Including planning for targeted vulnerable population).
- Improve data governance, ensure the availability of adequate data collection tools and make data registers user friendly through the use of electronic register (e-tracker).
- Strengthen capacity of frontline staff to ensure regular report of Adverse Events Following Immunization.
- Provide opportunities for offline data capture to ensure timely data entry, transmission and use.
- Conduct regular programme reviews to support management decisions.
- Strengthen capacity of laboratories to ensure prompt diagnosis of vaccine preventable diseases to support surveillance activities.

Anticipated introduction date: Campaign scheduled for October- November 2019

Describe any **data supporting the rationale for introducing Yellow Fever** into the national immunisation schedule (epidemiological / modelling data)

Preventive mass vaccination campaign in left out district targeting those 10-60 years (excluding pregnant women), using static, mobile and camp-out teams.

Of the 216 districts in the country, 137 are yet to be covered. In addition, two districts, previously covered in the 2005-2007 campaign achieved a coverage of <60% (Assin

	North-59% and Wassa-Amenfi West-44%) and are potentially still at risk. Therefore, 139 districts in total are potentially 'uncovered'. The "Phase A" PMVC is now scheduled for 3rd Quarter 2018. Therefore, 74 districts will still be unvaccinated[32].
	Technical Assistance: List the anticipated TA needs and timelines required to support this activity and plans for securing it (e.g., Gavi HSS, PEF/TCA, other sources?)
Rota Switch	**Anticipated introduction date: January 2020**
	Describe the **broad strategy for introduction** (including target population).
	A Nationwide introduction of an estimated population. An estimated target population of 1,182,202 children under one. Rational for the switch The nation currently has one negative chamber (used for OPV). The main rationale for the proposed switch to ROTAVAC 10 is to maximize cold storage space. The switch to ROTAVAC 10 will garner more negative chamber storage space because, ROTAVAC 5 occupies twice as much cold space compared to ROTAVAC 10
	Describe the **steps to finalise the introduction** strategy and to engage key stakeholders
	Key Activities • Requesting for approval from NITAG and endorsement from ICC. • Planning meetings • Trainings, Monitoring and supervisions • Vaccine introduction team • Post Introduction Evaluation (PIE)

9. Programmatic description of priority HSS investments from Gavi

9.1. Objectives and priority activities for Gavi financial support

Given the target geographic and population groups identified and key national and sub-national bottlenecks determined in **Section B**, this section asks you to strategically consider these findings, and develop the **3-5 key objectives and specific activities within these to be supported by Gavi and the rationale for choosing these**. The link between data and evidence and proposed interventions must be clear. **The activities listed here are to be costed in Gavi's budgeting and planning template.**

The activities proposed must contribute to sustainable improvements in coverage and equity. For **Programming Guidance** for targeting interventions in each of Gavi's strategic focus areas (i) leadership, management and coordination, (ii) supply chain, (iii) data (iv) demand promotion, and (v) immunisation financing, please see the Gavi website here: http://www.gavi.org/support/process/apply/hss/

To apply for CCEOP support, include CCEOP as one of the activities under a supply chain objective. For countries in the accelerated transition stage, dedicate one objective to those activities specific to appropriate transition planning.

Coverage and Equity

Objective :	**1. To achieve at least 90% Penta 3 coverage in all districts by 2024**
Timeframe:	2020-2024
Priority geographies/population groups or constraint(s) to coverage and/or equity to be addressed by the objective: → ***List to match those identified in Section B***	→ Urban Poor Communities → Island/Riparian Communities → Migrant/Nomadic Communities → Refugee Populations → Low Performing Districts

Describe the tailored interventions to address this constraint and provide evidence of efficacy of the intervention. Describe the critical national capacities that will be established or strengthened as a result of this investment.

1. Create demand for immunization services through advocacy and provision of the requisite resources
   This intervention aims to identify migrants and nomadic groups to be targeted for immunization.
   The MoH and GHs will engage key stakeholders (Private Sector, CSOs, and MoF on demand generation for immunization. The capacity of Health Promotion Division and CSOs will be built for these activities.

2. Build Capacity of Health Staff and provide resources for high quality and equitable immunization services
   This will involve the use of IEC material for immunization, training of frontline staff on interpersonal communication and community engagement and the collaboration with traditional and non-traditional media for advocacy and awareness creation. Innovative means for AEFI detection and reporting and identification and training of immunization champions will be undertaken.
3. Strengthen the uptake of services beyond infancy (2YL)
   A pilot catch up tool (a decision support tool to identify immunization schedule for children)- has been developed to facilitate screening of children to determine the immunization schedule at vaccination points. This will be most useful for the second year of life immunization. In addition, other defaulter tracing activities will be conducted

4. Improve immunization services in urban areas
   Intervention to specifically target the urban and peri-urban areas have been outlined , especially those addressing equity issues and included in the PSR (as below) and budgeted for.

List approximately five (5) specific activities to be undertaken to achieve this objective:
→ ***Reflect these activities in the budget & planning template***

1. Engage key stakeholders (Private Sector, CSOs, MoF, Parliamentary Sub Committee on Health etc) on demand generation for immunisation
2. Build systems for effective Social & Behaviour Change Communication (SBCC) for immunization
3. Provide resources for high quality and equitable immunization services
4. Strengthen the uptake of services beyond infancy
5. Build capacity of health staff in GIS technology to address inequalities in immunization services
6. Strengthen the uptake of services beyond infancy
   - Targeted support to improve CHPS implementation
   - Implement defaulter tracing strategies
   - Pilot and scale up the catch-up Ghana tool.
   - Collaborate with training institutions to review the pre-service training curriculum and build capacity of tutors.
   - Develop and implement 2YL messages for traditional and social media coverage
   - Disseminate the EPI policy on 2YL to all stakeholders

7. Improve immunization in urban and peri-urban areas
    - Identify urban poor communities/populations in the metropolitan/municipal areas to guide policies and plans.
    - Develop and implement micro-plans with defined targets for urban poor communities.
    - Provide resources to support immunization services for the urban poor communities e.g. weekend services, extended outreaches, container services and market clinics.
    - Collaborate and engage private facilities in immunization services
    - Monitoring the performance of urban poor areas
    - Engage identified informal groups in urban poor populations to support immunization services

Update the GPF to propose indicators to monitor progress toward this objective: These provide a means to assess achievement of intermediate results and activity implementation.

→ ***Reflect these in the Grant Performance Framework***

→

Technical Assistance: List the anticipated TA needs and timelines required to support this objective and plans for securing it (e.g., Gavi HSS, PEF/TCA, other sources?)

Build systems for effective Social & Behaviour Change Communication (SBCC) for immunization- Yea1 Semester 1 through Gavi HSS.

Geographic Information System-GIS at the national level

Financing: Justify any requests for Gavi to support major recurrent costs (e.g. human resources) regardless of transition stage.

→ ***Countries in the preparatory and accelerated transition phase are restricted from using Gavi funds for recurrent costs*** *(please refer to the please refer to the Guidance on supporting countries' HR capacity, available here:* http://www.gavi.org/support/process/apply/additional-guidance/).

…

How much HSS budget is allocated to this objective: → ***Reflect the details in the budget and planning template***	**Years 1-2**	*US$ 3,454,643*
	Years 3-5	*US$ 1,362,565*

Please also provide details on the key cost drivers, inputs and assumptions required for the main activities of this objective, here:

Addressing all forms of inequities associated with immunization coverage is important for the achievement of the objective of this proposal. Principally, this proposal seeks to focus on deprived and hard to reach communities which performance are seen to be below the national target. It also focuses on addressing issues related to urban and nomadic population access to immunization.

The main strategic focus and key driver to achieve this objective is in the area of demand generation. The total budget with respect to this main intervention is US$ 2,919,885 which is followed by investment in advocacy, communication and social mobilisation US$1,123,869 and capacity building US$597,238.

In order to implement activities embodied in this objective, the following inputs and their associated costs are required: Transport US$2,186,059; External Professional Services US$371,120; Event related costs US$1,645,701; Infrastructure US$438,571 and Communication and Printed Material US$509,756.

Achieving this objective assumes that the activities to identify, map out and reach the underserved populations are well implemented. It will also rely on community ownership and acceptability of the proposed interventions. Hence behavioural change and communication interventions in the subsequent interventions are well aligned to this objective.

Vaccine & Supply Chain

Objective :	**2. To ensure 100% availability of safe and efficacious vaccines at service delivery points**
Timeframe:	2020-2024
Priority geographies/population groups or constraint(s) to coverage and/or equity to be addressed by the objective: → ***List to match those identified in Section B***	→ Hard Urban Poor Communities → Island/Riparian Communities → Migrant/Nomadic Communities → Refugee Populations → Low Performing Districts → Health Facilities with poor/ inadequate infrastructure (equipment, road network)

Describe the tailored interventions to address this constraint and provide evidence of efficacy of the intervention. Describe the critical national capacities that will be established or strengthened as a result of this investment.

1. Strengthen procurement and supply chain management for immunization service delivery
   This is aims to build capacity for vaccine and supplies estimation for middle level management (MLM) and train frontline staff in LMIS
2. Improve cold chain capacity (availability and adequacy) at all levels
   This will improve the cold chain capacity for districts and health facilities with inadequate equipment in addition to that to be provided through the CCEOP as well as scale up capacity of regional cold chain technicians support district teams
3. Support last mile distribution of vaccines through out-sourcing and use of emerging technology (e.g. use of drones and third-party logistics-TPL)
   This is a Ghana Government programme aimed to improve availability of vaccines and supplies in the hard to reach communities.

List approximately five (5) specific activities to be undertaken to achieve this objective:
→ ***Reflect these activities in the budget & planning template***

1. Build capacity for vaccine and supplies estimation for middle level management (MLM)
2. Conduct an Effective Vaccine Management Assessment (EVMA). EVM implementation activities ongoing
3. Undertake temperature mapping study in the National and Regional cold rooms
4. Procure cold chain equipment for districts and health facilities with inadequate cold chain capacity in addition to the CCEOP
5. Scale up training of cold chain technicians at the regional level to support district teams

Update the GPF to propose indicators to monitor progress toward this objective: These provide a means to assess achievement of intermediate results and activity implementation.
→ ***Reflect these in the Grant Performance Framework***

Technical Assistance: List the anticipated TA needs and timelines required to support this objective and plans for securing it (e.g., Gavi HSS, PEF/TCA, other sources?)

EVMA: Year 2 Semester 1 through Gavi HSS

Temperature Mapping Study: Year 1 Semester 1 through Gavi HSS

Financing: Justify any requests for Gavi to support major recurrent costs (e.g. human resources) regardless of transition stage.
→ ***Countries in the preparatory and accelerated transition phase are restricted from using Gavi funds for recurrent costs*** *(please refer to the please refer to the Guidance on supporting*

countries' HR capacity, available here: http://www.gavi.org/support/process/apply/additional-guidance/).		
…		
How much HSS budget is allocated to this objective: → ***Reflect the details in the budget and planning template***	**Years 1-2**	US$ **814,130**
	Years 3-5	US$ 111,871
Please also provide details on the key cost drivers, inputs and assumptions required for the main activities of this objective, here:		
In this objective, EVMA is seen as the major service implementation activity to be conducted in the area of health information management system accounting for US$167,130 out of the total budget of US$962,002. Capacity building associated with implementation of objective 2 amounts to US$227,049. Specifically, the main intervention is focused on training in mapping study and training of cold chain technicians which are critical to achieve the objectives. The essential inputs for the implementation of this intervention are External Professional Services US$17,743; Event related costs US$ 394,178; Cold Chain US$ 514,080. The main assumption is that the studies with regards to EVMA will be conducted on time to inform further strategic direction and decisions that need to be undertaken to improve the program performance as well as the overall achievement of this objective.		

Health System Strengthening- Leadership, management and coordination

Objective :	**3. To contribute to governance and management functions at all levels of the health sector**
Timeframe:	2020-2024
Priority geographies/population groups or constraint(s) to coverage and/or equity to be addressed by the objective: → ***List to match those identified in Section B***	National and sub-district levels of the health system

Describe the tailored interventions to address this constraint and provide evidence of efficacy of the intervention. Describe the critical national capacities that will be established or strengthened as a result of this investment.

1. *Strengthen programme coordination and collaboration with key stakeholders and Partners at all levels*
   This will support programme management and coordination activities (MoH, GHS, CSOs etc.) at the national level and lower levels and promote Public Private Partnership for immunization services. In addition, the capacity of the CSOs in health sector policy dialogue and accountability will be built.
2. *Strengthen the roles of Governing bodies (HSWG, NITAG, ICC) at all levels of the health system*
   This will strengthen the oversight and stewardship functions of HSWG, NITAG as well as the ICC at the national level. The skills and capacity of members of the ICC will be improved for effective functioning. The sub-district teams will be trained with the health management manual to oversee health service delivery and provided resources for the conduct of district and sub-district supportive supervision.
3. *Review and develop policy relevant documents for health system strengthening*
   The intervention is geared towards the development essential national policy documents for improved health service delivery e.g. HSMTDP, Health sector M&E plan and National Health Account 2024. It is aimed to strengthen the function of EPI programme through the development of the EVMA and the conduct of a comprehensive EPI programme review

List approximately five (5) specific activities to be undertaken to achieve this objective:
→ ***Reflect these activities in the budget & planning template***

1. Build capacity of CSOs in health sector policy dialogue and accountability
2. Undertake Joint Annual Appraisal Process
3. Support the oversight and stewardship functions of governing bodies (HSWG, NITAG, ICC)
4. Support the development of the HSMTDP, Health Sector M&E Plan and review of the Private Sector Health Development Policy.

Update the GPF to propose indicators to monitor progress toward this objective: These provide a means to assess achievement of intermediate results and activity implementation.
→ ***Reflect these in the Grant Performance Framework***

Technical Assistance: List the anticipated TA needs and timelines required to support this objective and plans for securing it (e.g., Gavi HSS, PEF/TCA, other sources?)

Development of Health HSMTDP: Year 2 Semester 2 through Gavi HSS

Development of M&E Plan: Year 2 Semester 2 through Gavi HSS

Review of the Private Sector Health Development Policy: Year 1 Semester 1 through Gavi HSS

Financing: Justify any requests for Gavi to support major recurrent costs (e.g. human resources) regardless of transition stage. → ***Countries in the preparatory and accelerated transition phase are restricted from using Gavi funds for recurrent costs*** *(please refer to the please refer to the Guidance on supporting countries' HR capacity, available here:* http://www.gavi.org/support/process/apply/additional-guidance/).		
…		
How much HSS budget is allocated to this objective: → ***Reflect the details in the budget and planning template***	**Years 1-2**	*US$* **605,241**
	Years 3-5	*US$* 667,896
Please also provide details on the key cost drivers, inputs and assumptions required for the main activities of this objective, here:		
Objective 3 provides the pivot for health system strengthening support for the implementation of the programme as well as its direct and indirect impact on immunization interventions outlined in this PSR. The main cost driver for this objective is programme management which accounts for US$667,333, followed by support in the development of key documents in the area of legal, policy and regulatory environment amounting to US$318,009. Capacity building to achieve this intervention costs US$287,795. The essential inputs for the implementation of this intervention are Human Resources US$81,122; Event related costs US$925,378; Programme Administration US$266,637. Pertinent to the achievement of this objective is the assumption that all the oversight committees will be functional to the support of the programme implementation. Additionally, it is assumed that the existing management structures as well as the common management arrangement that will be developed for the implementation of the HSMTDP 2018-2021 will also have premium on immunisation services in terms of the oversight arrangement. Moreover, in view of the programmatic gaps in funding, it is assumed that adequate funds will be mobilised during the implementation to support the attainment of the objective.		

Health Systems Strengthening (Monitoring & Evaluation)

Objective:	4. **Strengthen Supervision, Disease Surveillance, Monitoring and Evaluation at all levels**
Timeframe:	2020-2024
Priority geographies/population groups or constraint(s) to coverage and/or equity to be addressed by the objective: → ***List to match those identified in Section B***	National, district and sub-district levels of the health system
Describe the tailored interventions to address this constraint and provide evidence of efficacy of the intervention. Describe the critical national capacities that will be established or strengthened as a result of this investment.	
1. *Improve generation and use of quality immunization and immunization safety data* This aims to improve data availability and use through availability and use of data collection tools at all service delivery points as well as through the conduct of data quality assessment (DQA) and data quality improvement plan. The scale-up of the national e-tracker system for immunization will enhance data quality for the EPI programme. 2. *Strengthen early detection and response to priority vaccine preventable diseases outbreaks* National capacity to investigate and respond to VPD outbreak will be enhanced. There will be in-service training and provision of resources for frontline staff on immunization safety monitoring, while the capacity of laboratories to ensure prompt diagnosis of VPDs to support surveillance activities will be enhanced. 3. *Improve integrated monitoring and supportive supervision* This is aimed at strengthening the national capacity for effective M&E through EPI quarterly and annual reviews at national and regional level, annual EPI coverage surveys and the conduct of integrated monitoring and supportive supervision at all levels. In addition, a comprehensive EPI Review will be organized in 2024	
List approximately five (5) specific activities to be undertaken to achieve this objective: → ***Reflect these activities in the budget & planning template***	
1. Conduct Data Quality Assessment (DQA) 2. Investigate and respond to VPD outbreak 3. Conduct annual EPI coverage surveys and review 4. Conduct integrated monitoring and supportive supervision 5. Conduct midline and end line evaluation.	
Update the GPF to propose indicators to monitor progress toward this objective: These provide a means to assess achievement of intermediate results and activity implementation. → ***Reflect these in the Grant Performance Framework***	
Technical Assistance: List the anticipated TA needs and timelines required to support this objective and plans for securing it (e.g., Gavi HSS, PEF/TCA, other sources?)	
Data Quality Assessment: Year 2 Semester 2 through Gavi HSS Midline and End line Evaluation: Year 3 and Year 5 through Gavi HSS	
Financing: Justify any requests for Gavi to support major recurrent costs (e.g. human resources) regardless of transition stage. → ***Countries in the preparatory and accelerated transition phase are restricted from using Gavi funds for recurrent costs*** *(please refer to the please refer to the Guidance on supporting*	

countries' HR capacity, available here: http://www.gavi.org/support/process/apply/additional-guidance/).		
…		
How much HSS budget is allocated to this objective: → ***Reflect the details in the budget and planning template***	**Years 1-2**	*US$* 836,296
	Years 3-5	*US$* 1,236,567

Please also provide details on the key cost drivers, inputs and assumptions required for the main activities of this objective, here:

The generation of requisite evidence based, and quality information is fundamental for effective surveillance and outbreak response. Hence this objective is critical to achieving the overall goal of the PSR. The main cost driver is relating to health information management system support for this objective, the total budget is US$1,252,804, which is to support data quality, printing of essential tools and conduct of important surveys and reviews and support EPI program implementation.

In terms of capacity building, the sub activities that are important to the objective focuses on building capacity of PHR zonal labs staff in VPD outbreaks and further training frontline staff in immunization operational research as well as equipping middle level managers in result-based implementation and monitoring of programmes. The total cost amounts to US$80,902. Regarding service delivery, the cost driver is the procurement of lab reagents, conduct of integrated visits and support to CSOs monitoring activities. The total cost under this area is US$640,810.

One of the important activities under this objective is improving financial visibility in the areas of data quality and accountability in the use of funds. Therefore, an amount US$98,347 has been budgeted for the conduct of Gavi-specific financial data validation and reporting.

The essential inputs for the implementation of this intervention are Communication Materials and Publications US$66,837; Event related costs US$1,570,126; Health Products US$263,400; INF and NHE US$22,500; External Professional Services US$150,000.

It is envisaged that community surveillance system will be functional and also link up effectively with the various levels.

Sustainable financing for universal health coverage

Objective:	**5. Improve sustainable financing for universal health coverage**
Timeframe:	2020-2024
Priority geographies/population groups or constraint(s) to coverage and/or equity to be addressed by the objective: → ***List to match those identified in Section B***	→ MoH/PPME (RMU) → GHS → NHIS → Parliamentary Select Committee on Health → CSOs → Private Sectors → Some key stakeholders
Describe the tailored interventions to address this constraint and provide evidence of efficacy of the intervention. Describe the critical national capacities that will be established or strengthened as a result of this investment.	
1. Enhance and prudently manage financial resource for sustainability This is primarily aimed at mobilizing domestic resources for immunization service delivery and for sustainability through development and implementation of an integrated co-financing business case, high lever national advocacy and involvement of the private sector in financing immunization services *2. Enhance and prudently manage financial resource for sustainability* In the period of transition, this is geared to support the development of a Gavi transition plan and build capacity for finance and non-finance staff in public financial management at the district and sub-district levels. In addition, ability to conduct integrated planning and budgeting at all levels including the CSOs will be enhanced. This aims to review the current Health Financing Strategy and how to position the government to meet its co-financing obligations.	
List approximately five (5) specific activities to be undertaken to achieve this objective: → ***Reflect these activities in the budget & planning template***	
1. Develop and implement an integrated co-financing business case 2. Strengthen domestic resource mobilisation through the implementation of the Corporate Social Responsibility Strategy (CSR) 3. Support the development of the Gavi transition plan 4. Review National Health Insurance Framework to include sustainable immunization financing. 5. Support the development of the National Health Accounts	
Update the GPF to propose indicators to monitor progress toward this objective: These provide a means to assess achievement of intermediate results and activity implementation. → ***Reflect these in the Grant Performance Framework***	
Technical Assistance: List the anticipated TA needs and timelines required to support this objective and plans for securing it (e.g., Gavi HSS, PEF/TCA, other sources?)	
Financing: Justify any requests for Gavi to support major recurrent costs (e.g. human resources) regardless of transition stage. → ***Countries in the preparatory and accelerated transition phase are restricted from using Gavi funds for recurrent costs*** *(please refer to the please refer to the Guidance on supporting countries' HR capacity, available here:* http://www.gavi.org/support/process/apply/additional-guidance/).	

…		
How much HSS budget is allocated to this objective: → ***Reflect the details in the budget and planning template***	**Years 1-2**	*US$* 805,006
	Years 3-5	*US$* 940,380
Please also provide details on the key cost drivers, inputs and assumptions required for the main activities of this objective, here:		
Given the dwindling resources to the health sector and the important role of internally generated funds to support service delivery, it is increasingly becoming critical that creative and innovative interventions are implemented in the area of domestic resource mobilisation. Interestingly, some donors including Gavi have signalled the graduation of Ghana from their support as a result of the country reaching a middle-income status. Hence, this objective seeks to strengthen domestic resource mobilisation, improve efficiencies and ensure sustainable financing for the health sector. Relating to the cost drivers, the key focus is on health financing amounting to US$1,610,522, followed by capacity building US$86,754 and legal policy and regulatory environments which amounts to US$48,110. The essential inputs for the implementation of this intervention are Event related costs US$1,740,284 and Communication Materials and Publications US$5,102. Whiles the focus of the interventions outlined within this objective aims at increasing domestic resource flow to the health sector, it is also assumed that the macroeconomic indicators will improve and be sustainable in the near future as well as continued stable political environment. It is also important to state that given the key role of advocacy that will be played in soliciting government support for immunization, there will be sustainable funding for immunization services.		

Supply Chain

Template for Supply Chain (Applicable even if country is not applying for CCEOP):	
Objective:	To enumerate and prepare inventory of EPI Cold Chain Equipment and related logistics in the country in order to strengthen the immunization supply chain using different systems including CCEOP support.
Timeframe:	2020-2024
Priority geographies/population groups or constraint(s) to coverage and/or equity to be addressed by the objective: → ***List to match those identified in Section B***	National, regional, district and sub-district levels of the health system. Especially at the Implementation Level
Describe the tailored intervention to address the particular supply chain constraints and provide evidence of efficacy of the intervention:	

- Replacement of aged cold chai equipment
- Improve cold chain management capacity of technician
- Improve the quality of logistics data
- Insufficient transport to reach hard to reach areas- e.g. motor bikes, boats

The supply chain system will be modified in order to address some geographical and operational challenges to improve coverage and equity. In riverine and island communities, CCE with higher capacity will be deployed. This will be able to hold requirements for at least a quarter and therefore reduce the number of times facilities in such areas have to travel to the district level for vaccine supply. This will reduce interruptions in the supply chain system and subsequently improve coverage of services.

The system will also be redesigned to ensure that, vaccines and other logistics will be 'pushed' to facilities in hard to reach areas using drones instead of the pull system. This will go a long way to ensure continuous supply of logistics for service delivery.

Satellite facilities which ordinarily will not be provided with a cold chain equipment because of the size of their catchment population will have a designated depot, which will be within a considerable radius, where such facilities can easily access and collect logistics including vaccines. The depots will service up to 5 satellite facilities.

Densely populated urban slums will have satellite facilities equipped with cold chain equipment and provided with the requisite staff to provide services.

List priority activities for each of the five supply chain fundamentals:
Describe the activities related to supply chain fundamentals – for those planned in years1-2 and those planned in the outer years (3-5).
→ ***These activities should be linked to the latest EVM Improvement Plan and be reflected in the operational workplan & budget***

1.	**Continuous Improvement**
	• With the technical support of the World Health Organization (WHO) and UNICEF, the country developed an improvement plan geared towards strengthening the supply chain system. • Expansion of transport capacity to meet EPI activity needs • Establish records of damaged vaccines and an internal review of the vaccine loss/ damages records.
	• Encourage all HFs to return completed requisition/issue/receipt vouchers to the issuing stores
2.	**Management/Leadership**
	• Liaise with UNICEF to develop product arrival for consumables (Syringes and needles, Safety boxes) at the national vaccine store • Develop a written contingency plan in case of unexpected arrival delays due to flight delays, transport failure, etc.
	• Establish and implement planned preventive maintenance system for buildings, equipment and transport at all the levels
3.	**Data for Management**
	• Conduct regular (bi monthly) physical stock counts; the stock count should include diluents, syringes and safety boxes. The stock records should be adjusted to match the physical count.
	• Ensure timely recording of stock movements (within 24 hours) to reduce disparity in the quantities of freeze-dried vaccines and their corresponding diluents
4.	**Cold Chain Equipment (including maintenance)**

- How will the country ensure that aspects of maintaining the cold chain are addressed (e.g. preventive and corrective maintenance, monitoring functionality, technicians, financing for maintenance, spare part procurement etc.)?
- What is the frequency of preventative and corrective maintenance that the country commits to (supported by partners)?
- How will the country monitor the completion of preventive and corrective maintenance?
- Indicate the sources of funding for planned maintenance activities
- How will the country dispose of obsolete and irreparable equipment replaced by new equipment?

- Conduct a cold chain monitoring study in accordance with WHO/IVB/05.01 study protocol at the NVS and other levels of the vaccine supply chain
- Conduct temperature mapping for all freezer rooms and cold rooms; Freezers and Refrigerators used for storing vaccines.
- Calibrate all temperature recording devices in all cold rooms and freezer rooms, freezers and refrigerators annually to comply with the specified level of accuracy.

- Conduct a cold chain assessment to ascertain cold chain inventory and functionality at least annually
- Install a continuous monitoring device at the NVS and regional stores.
- Repair and replace temperature loggers in all cold chain equipment storing vaccines at all levels.
- Establish records of damaged vaccines and an internal review of the vaccine loss/ damages records.

5. System design (all countries should answer) *If the country is applying for CCEOP, also indicate how system design considerations impacted the choice of CCE for which the CCEOP support is requested.*

The choice of cold chain equipment was informed by the improvements envisaged in the cold chain system. Facilities with large catchment population but limited/inadequate cold chain capacity have been targeted for expansion by the support. Facilities that do not have any cold chain equipment at all as a result of lack of electricity but have a fairly considerable target population will be provided with SDD CCE. These are expected to improve the quality of services offered to people in such areas and subsequently bridge the gap in service delivery.

Describe how the sustainability of these activities will be ensured in the future:

The CCEOP guarantees support for the provision of equipment, training of technicians who will conduct periodic maintenance and repairs, provision of spare parts as well as training of staff of simple maintenance practices.

These will be sustained by making adequate budgetary allocations in the ministry's budget for the procurement and more importantly, the maintenance of these equipment to ensure optimal performance.

The Government will also incorporate the sustainability of the supply chain system in the Gavi Transitional Plan

List indicators to monitor progress toward objective:
→ ***Reflect these in the Grant Performance Framework***
If requesting CCEOP support, include mandatory indicators (please refer to the programming guidance, here: http://www.gavi.org/support/process/apply/hss/)

- Proportion of EVM assessment composite scores of 80% or higher

Detail TA needs required to support this activity and clarify how much is not covered by PEF/TCA.

….

How much HSS and CCEOP budget is allocated to this objective **→ *Insert here same figures as in table 2.4. and also reflect these in the budget and planning template***	**Years 1-2**	***US$* 3,930,161**
	Years 3-5	***US$* 549,008**
Please also provide details on the key cost drivers, inputs and assumptions required for the main activities of this objective, here:		

Appendix

Table 1: Three-year trends in targets and achievements-GPF.

Indicators for Grant Performance Framework, 2015-2017				
Indicators	Target (%)	2015 (%)	2016 (%)	2017(%)
Penta-3 Coverage	94	95	99	102
PCV-3 Coverage	94	96	99	102
Measles-Rubella-1	94	94	95	95
Measles-Rubella-2	85	72	74	83
Rota-2	94	94	96	97
Yellow Fever	94	95	85	86
Drop-out rate between Penta1 and Penta3	2.0	2.0	2.3	-0.9
Drop-out rate between PCV1 and PCV3	2.0	2.0	2.1	-0.9
Drop-out rate between MCV1 and MCV2	10.0	23.0	22.3	12.6
Drop-out rate between RV1 and RV last dose	2.0	4.0	4.5	3

Progress of implementation- Financial Execution by Objective

Table 2: Gavi HSS 2 Year 2 Financial Report, December 2017

Ref	Activity name and description	% Utilized
Objective 1	To strengthen and scale-up community health interventions	63%
Objective 2	To strengthen health worker capacity and address equity	54%
Objective 3	To improve storage distribution and management of Cold chain	90%
Objective 4	To empower civil society for increased demand creation	97%
Objective 5	To strengthen governance and health information management	81%
GRAND TOTAL		72%

References*

8. Budget Highlights, Ministry of Finance and Economic Planning 2018, pg 8, table 7
9. MoH Holistic Assessment, 2017 pg. 20 table 6
10. WHO/UNICEF JRF, 2017 (sheet 6, row 6650)
11. Ghana Comprehensive Multi-year Plan (cMYP) 2015-2019 pp78
20. WHO UNICEF Joint Report 2017
21. EPI Annual Report 2017
22. EPI Cluster Survey, 2017
23. Joint Appraisal Report 2017
24. Ghana Demographic and Health Survey, GDHS, 2014
25. Ghana Maternal and Neonatal Tetanus (MNT) Validation Report, 2011
26. Rotavirus sentinel surveillance report, 2007
27. Ghana Programme Support Rationale (PSR) Preparatory Document, July 2018
28. Ghana Full Portfolio In-country Workshop Technical Report, July 2018
30. Ministry of Health, Summit, Aid Memoir 2018
32. Plan of Action for Yellow Fever Preventive Campaign in Ghana, 2018, pp12.

**Referenced as they appeared in the text, not sequential because of other footnotes*