Application Form for Gavi NVS support

Submitted by

The Government of Papua New Guinea

for

Measles-rubella follow-up campaign 2019

Gavi terms and conditions

1.2.1 Gavi terms and conditions

The terms and conditions of the Partnership Framework Agreement (PFA) between Gavi and the Country, including those provisions regarding anti-corruption and anti-terrorism and money laundering, remain in full effect and shall apply to any and all Gavi support made pursuant to this application. The terms and conditions below do not create additional obligations or supersede those of the PFA. In the event the Country has not yet executed a PFA, the terms and conditions of this application shall apply to any and all Gavi support made pursuant to this application.

GAVI GRANT APPLICATION TERMS AND CONDITIONS

FUNDING USED SOLELY FOR APPROVED PROGRAMMES

The applicant country ("Country") confirms that all funding provided by Gavi will be used and applied for the sole purpose of fulfilling the programme(s) described in the Country's application. Any significant change from the approved programme(s) must be reviewed and approved in advance by Gavi. All funding decisions for the application are made at the discretion of Gavi and are subject to IRC processes and the availability of funds.

AMENDMENT TO THE APPLICATION

The Country will notify Gavi in its Joint Appraisal, or in any other agreed annual reporting mechanism, if it wishes to propose any change to the programme(s) description in its application. Gavi will document any change approved by Gavi according with its guidelines, and the Country's application will be amended.

RETURN OF FUNDS

The Country agrees to reimburse to Gavi all funding amounts that Gavi determines not to have been used for the programme(s) described in its application. The Country's reimbursement must be in US dollars and be provided, unless otherwise decided by Gavi, within sixty (60) days after the Country receives Gavi's request for a reimbursement and be paid to the account or accounts as directed by Gavi.

SUSPENSION/ TERMINATION

Gavi may suspend all or part of its funding to the Country if it has reason to suspect that funds have been used for purpose other than for the programme(s) described in the Country’s application, or any Gavi-approved amendment to the application. Gavi retains the right to terminate its support to the Country for the programme(s) described in its application if a misuse of Gavi funds is confirmed.

NO LIABILITY

The Country shall be solely responsible for any liability that may arise in connection with: (i) the implementation of any programme(s) in the Country; and (ii) the use or distribution of vaccines and related supplies after title to such supplies has passed to the Country.

Neither party shall be responsible for any defect in vaccines and related supplies, which remain the responsibility of the relevant manufacturer. Gavi shall not be responsible for providing any additional funding to replace any vaccines and related supplies that are, or became, defective or disqualified for whatever reason.

INSURANCE
Unless otherwise agreed with Gavi, the Country shall maintain, where available at a reasonable cost, all risk property insurance on the Programme assets (including vaccines and vaccine related supplies) and comprehensive general liability insurance with financially sound and reputable insurance companies. The insurance coverage will be consistent with that held by similar entities engaged in comparable activities.

ANTI-CORRUPTION
The Country confirms that funds provided by Gavi shall not be offered by the Country to any third person, nor will the Country seek in connection with its application any gift, payment or benefit directly or indirectly that could be construed as an illegal or corrupt practice.

ANTI-TERRORISM AND MONEY LAUNDERING
The Country confirms that funds provided by Gavi shall not be used to support or promote violence, war or the suppression of the general populace of any country, aid terrorists or their activities, conduct money laundering or fund organisations or individuals associated with terrorism or that are involved in money-laundering activities; or to pay or import goods, if such payment or import, to the Country's knowledge or belief, is prohibited by the United Nations Security Council.

AUDITS AND RECORDS
The Country will conduct annual financial audits, and share these with Gavi, as requested. Gavi reserves the right, on its own or through an agent, to perform audits or other financial management assessment to ensure the accountability of funds disbursed to the Country.
The Country will maintain accurate accounting records documenting how Gavi funds are used. The Country will maintain its accounting records in accordance with its government-approved accounting standards for at least three years after the date of last disbursement of Gavi funds. If there is any claims of misuse of funds, Country will maintain such records until the audit findings are final. The Country agrees not to assert any documentary privilege against Gavi in connection with any audit.

CONFIRMATION OF LEGAL VALIDITY
The Country and the signatories for the Country confirm that its application, or any other agreed annual reporting mechanism, is accurate and correct and forms legally binding obligations on the Country, under the Country's law, to perform the programme(s) described in its application, as amended, if applicable.

COMPLIANCE WITH GAVI POLICIES
The Country confirms that it is familiar with all Gavi policies, guidelines and processes relevant to the programme(s), including without limitation the Transparency and Accountability Policy (TAP) and complies with the requirements therein. All programme related policies, guidelines and processes are available on Gavi's official website and/or sent to the Country.

USE OF COMMERCIAL BANK ACCOUNTS
The Country is responsible for undertaking the necessary due diligence on all commercial banks used to manage Gavi cash-based support. The Country confirms that it will take all responsibility for replenishing Gavi cash support lost due to bank insolvency, fraud or any other unforeseen event.

ARBITRATION

Any dispute between the Country and Gavi arising out of or relating to its application that is not settled amicably within a reasonable period of time, will be submitted to arbitration at the request of either Gavi or the Country. The arbitration will be conducted in accordance with the then-current UNCITRAL Arbitration Rules. The parties agree to be bound by the arbitration award, as the final adjudication of any such dispute. The place of arbitration will be Geneva, Switzerland. The languages of the arbitration will be English or French.

For any dispute for which the amount at issue is US$ 100,000 or less, there will be one arbitrator appointed by Gavi. For any dispute for which the amount at issue is greater than US $100,000 there will be three arbitrators appointed as follows: Gavi and the Country will each appoint one arbitrator, and the two arbitrators so appointed will jointly appoint a third arbitrator who shall be the chairperson.

Gavi will not be liable to the country for any claim or loss relating to the programme(s) described in the application, including without limitation, any financial loss, reliance claims, any harm to property, or personal injury or death. The Country is solely responsible for all aspects of managing and implementing the programme(s) described in its application.

Gavi Guidelines and other helpful downloads

1.3.1 Guidelines and documents for download

Please refer to the relevant guidelines concerning your request for support.

Please ensure to consult and download all documents. It is important to note that some documents must be completed offline, and will need to be uploaded in the final steps of your application.

This application form is designed to collect information needed by Gavi to process requests for support, plan procurement of vaccines, plan technical assistance, track data for future reporting, and more.

A key component of the application is a solid operational plan (New Vaccine Introduction Plan for routine support, or Plan of Action for campaign support), explaining how the country will introduce the vaccine or conduct the envisaged campaign, with a corresponding budget. The New Vaccine Introduction Plan or Plan of Action must be submitted together with this application form and will be considered as the foundation of the support request.

For more information on the documents to submit with your application and what they should contain, please refer to the appropriate guidelines: http://www.gavi.org/support/process/apply/

Review and update country information

Country profile

2.1.1 Country profile

Eligibility for Gavi support

Eligible

Co-financing group

Accelerated transition

Date of Partnership Framework Agreement with Gavi

29 November 2013

Country tier in Gavi's Partnership Engagement Framework

2

Date of Programme Capacity Assessment

June 2018

2.1.2 Country health and immunisation data

Please provide the following information on the country's health and immunisation budget and expenditure.

What was the total Government expenditure (US$) in 2016?

3,394,654 Billion

What was the total health expenditure (US$) in 2016?

334,591 Billion

What was the total Immunization expenditure (US$) in 2016?

250,000

Please indicate your immunization budget (US$) for 2016.

1,034,128

Please indicate your immunization budget (US$) for 2017 (and 2018 if available).

2017: 322, 344

2018: = 2,416,66 for vaccine and 7,735 for operation (NDOH)

2.1.3 National health planning and budgeting cycle, and national planning cycle for immunisation:

The government planning cycle starts on the

1 January

The current National Health Sector Plan (NHSP) is

From 2011

To 2020

Your current Comprehensive Multi-Year Plan (cMYP) period is

2016-2020

Is the cMYP we have in our record still current?

Yes☒

If you selected "No", please specify the new cMYP period, and upload the new cMYP in country documents section.

From

To

If any of the above information is not correct, please provide additional/corrected information or other comments here:

2.1.4 National customs regulations

Please describe local customs regulations, requirements for pre-delivery inspection, and special documentation requirements that are instrumental for the delivery of the vaccine.

The medicine and supply procurement & distribution branch (MSPDB) of NDOH follows the standard custom procedure (international standard) to get delivery of vaccine

2.1.5 National Regulatory Agency

Please provide information on the National Regulatory Agency in the country, including status (e.g. whether it is WHO-certified). Please mention a point of contact with phone number and e-mail address. UNICEF will support the process and may need to communicate licensing requirements to the vaccine manufacturers where relevant.

PNG does not have NRA but a section named PSSB (Pharmaceutical Services Standard Branch) under NDOH taking care of regulatory issues. PSSB has 4 units

1. Product registration –This unit has taken a plan to register all drugs over a period of 7 years. This year all public health medicines inclusive of vaccine will be registered.
2. Compliance, Licensing and Inspection
3. Pharmaceutical care (Pharmaco -vigilance)
4. Medicine quality control lab

The Focal point: Mr Vali Karo (Manger,PSSB) ; Phone: +675 71504698; Email : valikaro333@gmail.com

National Immunisation Programmes

2.2.2 Financial Overview of Active Vaccine Programmes

IPV Routine

	2018	2019	2020	2021	2022
Country Co-financing (US$)					
Gavi support	318,000	301,927	308,618	315,357	322,137

(US$)

PCV Routine

	2018	2019	2020	2021	2022
Country Co-financing (US$)	865,502	1,264,020	1,597,136		
Gavi support (US$)	1,016,000	678,149	388,031		

Pentavalent Routine

	2018	2019	2020	2021	2022
Country Co-financing (US$)	550,246	597,763	608,951		
Gavi support (US$)	76,500	64,198	67,534		

Measles SD Routine - Strat 1

	2019	2020	2021	2022
Country Co-financing (US$)	42,456	44,441		
Gavi support (US$)	40,292	42,191		

Summary of active Vaccine Programmes

	2018	2019	2020	2021	2022
Total country co-financing (US$)	1,415,748	1,904,239	2,250,528		
Total Gavi support (US$)	1,410,500	1,084,566	806,374	315,357	322,137
Total value (US$) (Gavi + Country co-financing)	2,826,248	2,988,805	3,056,902	315,357	322,137

Coverage and Equity

2.3.1 Coverage and equity situation analysis

Note: If a recent analysis of the coverage and equity analysis is already available, for example as part of a Joint Appraisal report, you may simply reference the report and section where this information can be found.

Describe national and sub-national evidence on the coverage and equity of immunisation in the country and constraints to improvement. In particular, identify the areas and groups of low coverage or high inequity linked to geographic, socioeconomic, cultural or female literacy considerations, as well as systematically marginalized communities. Specify both the areas and/or populations with low coverage (%) and those with the largest absolute numbers of un-/under-vaccinated children. Among data sources, consider administrative data, coverage surveys, DHS/MCS, equity analyses, Knowledge-Attitude-Practice surveys, and patterns of diseases like measles.

Describe the challenges underlying the performance of the immunisation system, such as:

- Health work force: availability and distribution;
- Supply chain readiness;
- Gender-related barriers: any specific issues related to access by women to the health system;
- Data quality and availability;
- Demand generation / demand for immunisation services, immunisation schedules, etc;
- Leadership, management and coordination: such as key bottlenecks associated with the management of the immunisation programme, the performance of the national/ regional EPI teams, management and supervision of immunisation services, or broader sectoral governance issues;
- Financing issues related to the immunisation programme that impact the ability to increase coverage, including bottlenecks related to planning, budgeting, disbursement and execution of resources;
- Other critical aspects: any other aspect identified, for example based on the cMYP, EPI review, PIE, EVM or other country plans, or key findings from available independent evaluations reports.

Describe lessons learned and best practices on the effectiveness of implemented activities to improve coverage and equity; recommendations on changes or new interventions that might be required to accelerate progress (include data to support any findings or recommendations).

Challenges in PNG remain manifold, including weak health systems and limited human resources, difficult geographical access, decentralized programme management structure with limited capacities etc. Preventable and treatable diseases such as pneumonia, diarrhoea, malnutrition, neonatal sepsis, birth asphyxia, HIV and tuberculosis remain some of the biggest causes of child death. Many of the vaccine preventable diseases, also cause disability and long-term problems that limit quality of life, educational outcomes and productivity. Moreover, most of the population (87%) still lives in rural areas; whereby access to basic and quality health services constantly remains a challenge.

Papua New Guinea launched its immunization program in 1978, but was not fully operational for routine immunization until 1985, when it introduced 6 routine antigens: BCG, DPT, measles and OPV, together with TT for pregnant women in all parts of the country. Quality and access to this service is widely

variable across the country, and is heavily dependent on supervision and technical support provided to health center staff by district health management.

Measles vaccination was introduced into the PNG National Immunization Programme (NIP) in 1982 as a 9month dose; a supplemental routine 6 month "zero" dose was added in 1992 in response to the large proportion of cases and deaths occurring in children below 9 months. A second routine dose was added between 18-24 months and a third dose at school entry. Measles-rubella vaccine (MRV) replaced measles vaccine for all doses in 2015. The current routine immunization schedule (Table 1) includes BCG, Hepatitis B birth dose, DTP-HepB-Hib, MR, bOPV 1+3, IPV and Pneumococcal PCV13.

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Based on provincial input at a Consultative EPI workshop held in December 2014, to identify and overcome barriers to low coverage in the routine EPI program, the NDOH developed a special program to strengthen the routine EPI program. The "Special Integrated Routine EPI Strengthen Program" (SIREP) was introduced in August 2015 to supplement traditional routine immunisation strategies to reach isolated and communities through quarterly multi-antigen immunisation and MCH service mobile and outreach activities. Pooling operational and human resources from EPI and MCH into quarterly outreach activities is designed to improve access of essential preventive health services to poorly reached populations of PNG.

Table 1: Routine immunization schedule

Vaccines	Birth	1 M	2 M	3M	6-8M	9-17M	18 -24	7Y	9-13y	13 Y
BCG	v									
Hepatitis B*	v									
bOPV*		v	v	v						
IPV				v						
DTP-HepB-Hib		v	v	v						
PCV-13		v	v	v						
Measles- Rubella (MR)					v	v	v	v		v
TT								v		v
HPV									v**	v**
Vitamin A					v	v	v			

**HPV at age 9—13 is proposed but not yet implemented.
School-entry vaccination at age 7 and 13 are official policy but not fully implemented

Routine immunization coverage trends

Historically and since its inception and until 2006-2007, PNG national immunization programme has made noticeable progress in term of achieving good coverage for most of the antigens and particularly for measles and therefore reducing reported measles incidence and other vaccine preventable diseases in the country. Figure 1 below shows the WHO/UNICEF Joint Estimates for PNG 1980-2017 (the increase

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in MCV1 coverage between 2012 and 2016 was because there were a number of SIAs and SIA dose was recorded as measles routine dose and hence inflated the coverage percentage for these years. Administrative coverage estimates from PNG have been substantially lower; administrative coverage of MCV1 fell to its lowest level in 20 years, achieving only 41% nationally in 2017 (Figure 2).

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Figure 1: WHO/UNICEF joint estimates for Papua New Guinea, 1980—2017

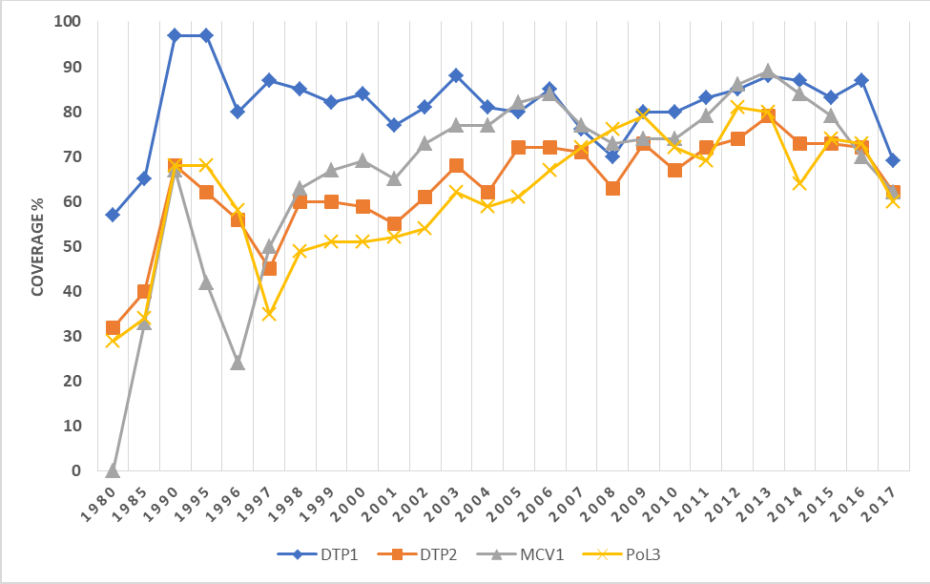
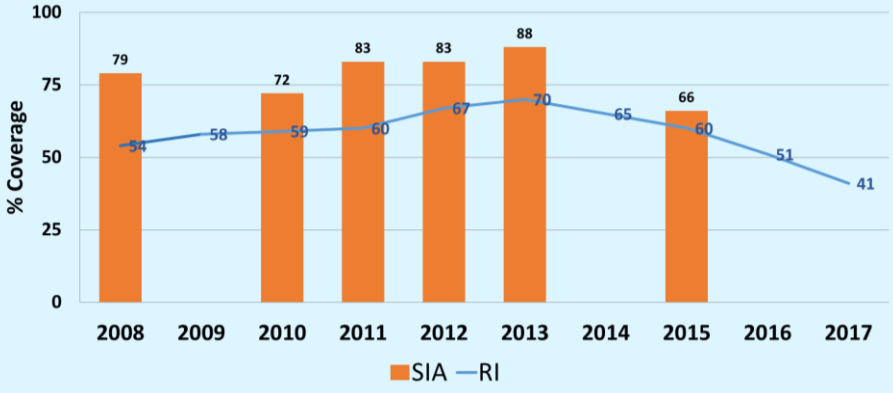
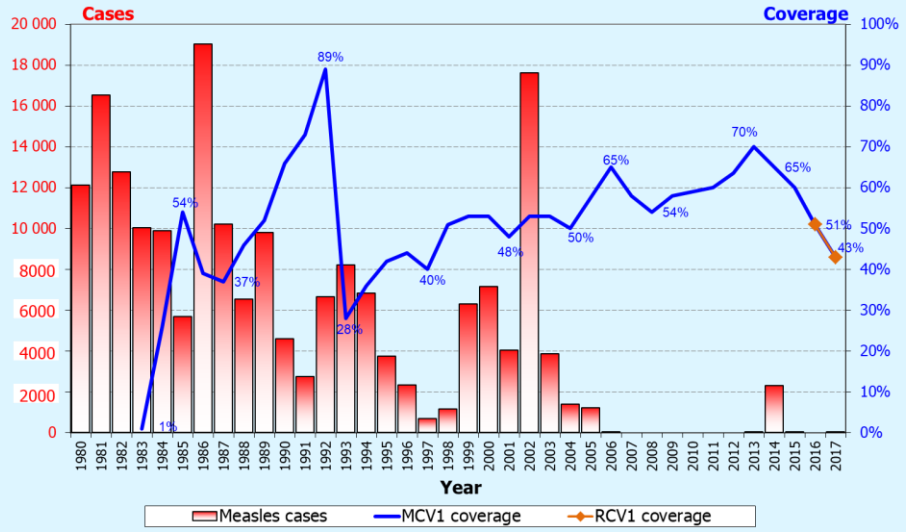


Figure 2: Routine and supplemental immunization coverage with measles-rubella vaccine, Papua New Guinea 2008—2017



Figur3: Confirmed measles cases and MCV1 coverage, Papua New Guinea, 1980—2017



However, data on coverage at the subnational level further illustrate the extent of PNG's chronic challenges in delivering routine vaccine. Since 2006, there has been a decline in the immunization programme performance with coverage for all antigens fallen to shockingly low percentages with almost half of the districts (total of 89 districts in PNG) are reporting DTP3 coverage <50% and 30+ districts are reporting DTP3 coverage in the range between 50-79% and only few districts are reporting DTP3 coverage over 80% (

Figure4,

Table2). Similarly, dropout rates between penta1 and penta3 have been very high and in 2016 14/89 districts (16%) had a dropout rate more than 10%. In 2017, 96% of districts had below 80% MCV1 coverage, and 73% of districts had MCV1 coverage below 50%. Between 2016 to 2017, the number of

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children living in districts with less than 50% DTP3 coverage increased by 40%, from 114,471 to 159,806 (

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Figur5). The completeness of the health facility reports in many provinces for the year 2017 is low. However, in general, all 22 provinces have penta3 coverage <60 % except West New Britain, Milne Bay and NCD.

Figure4: Proportion of districts by DTP3 coverage, Papua New Guinea, 2012—2016

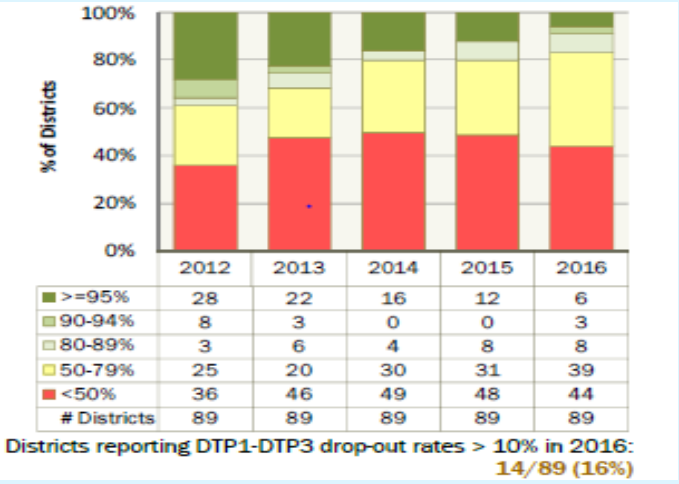

Table2: Proportion of districts according to level of MCV1 coverage, Papua New Guinea, 2015—2017

Proportion of districts with MCV1 coverage 2015-2017			
Year	<50%	50-80%	>80%
2015	38/89 (43%)	27/89 (30%)	24/89 (27%)
2016	52/89 (58%)	29/89 (33%)	8/89 (9%)
2017	65/89 (73%)	20/89 (22%)	4/89 (4%)

Figure 5: Number of children in districts, by category of DTP3 coverage, 2016—2017

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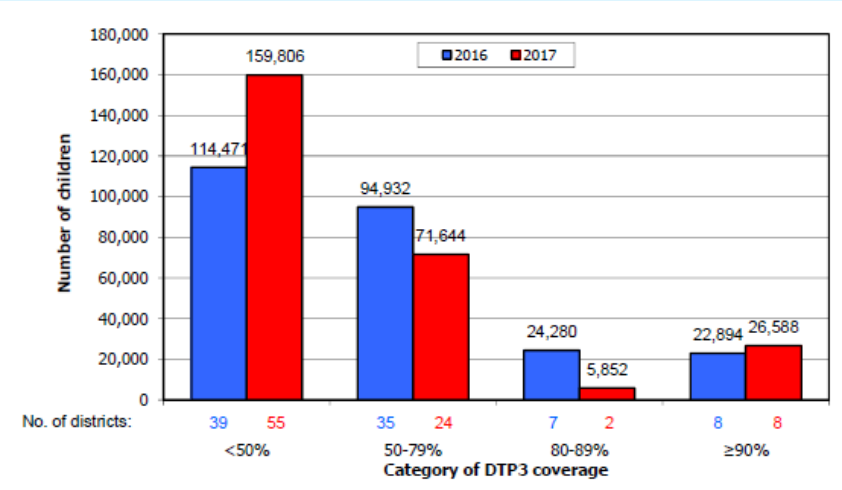

The coverage and equity among the districts unmask a gloomy picture. In 2017, of the 89 districts, eighteen (18) districts have penta3 coverage below 20% (Figure6), twenty-one (21) districts have coverage between 20-40%, twenty-nine (29) districts have coverage between 40-60%, another thirteen (13) districts have coverage between 60-80% and only eight (8) districts have coverage >80%.

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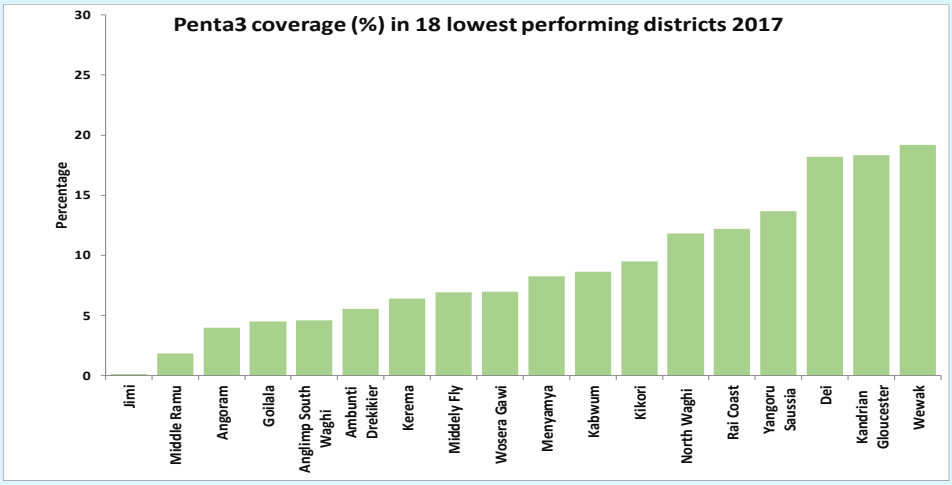
Figure 6: Coverage (%) in the 18 lowest performing districts - 2017 data



Of the 18 lowest performing districts for Penta 3 coverage in 2017, 13 are from 5 most low performing provinces (Jiwaka, Gulf, East Sepik, Southern Highland and Madang provinces). Out of the 89 districts, a

total of 58 have penta3 coverage below 50% in 2017, of which 34 are from the 10 lowest performing provinces (Jiwaka, Gulf, East Sepik, Southern Highland, Madang, Western, Hela, Central, Northern and Bougainville provinces).

The overall penta3 coverage in all provinces decreased in 2017 which is ranging from 5% to 83%. Moreover, coverage is also expected to decrease in 2018 because routine immunization service delivery has been largely negatively affected by the ongoing response to the cVDPV1 outbreak in PNG. Due to the urgency and the increased number of polio cases, priority has been given to the polio SIAs that are occurring every 2-3 weeks in order to interrupt the circulation of vaccine derived polio virus.

There are equally high number of children who were not immunized with Penta3 vaccines in almost all regions of PNG; particularly the Highlands and Momase Regions (Figure7). Firstly, in the highlands region, Jiwaka, Southern Highlands (SHP) and Eastern Highlands Provinces (EHP) experienced a steady increase in the number of unvaccinated children over the past 3 years. Of the total 148,130 penta3 unvaccinated children in the country, 75,697 children are from 6 provinces, 4 of them are in the Highland region.

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Figure7: Penta3 coverage by Province, Papua New Guinea, 2015—2017

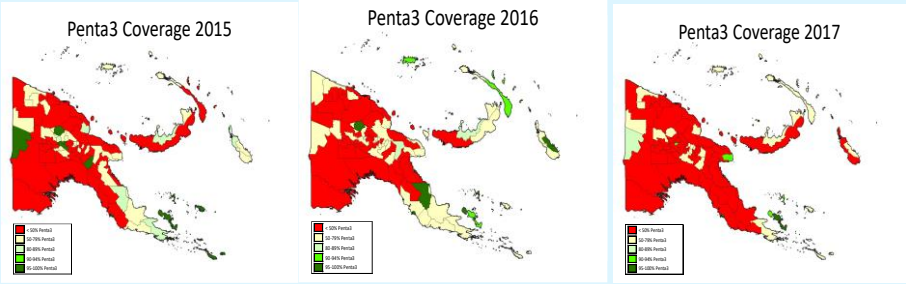
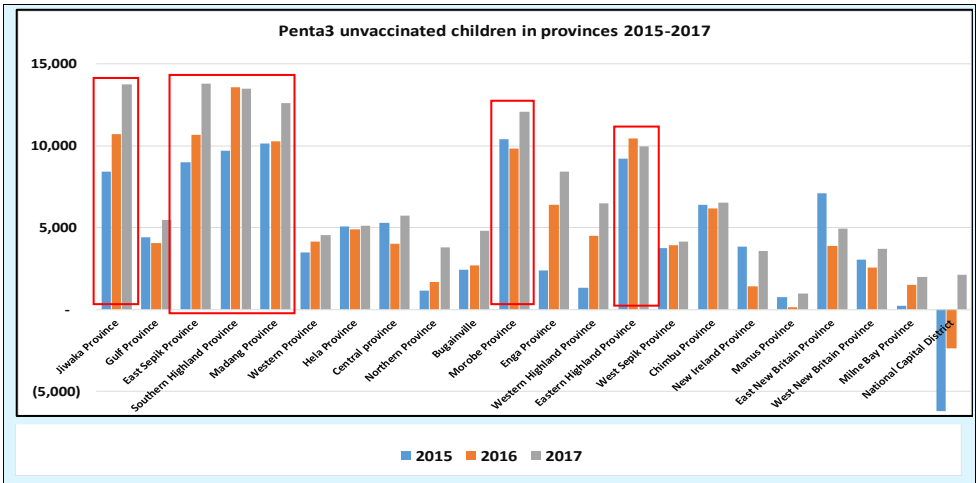


Figure8: Number of children missing Penta3 vaccine by Province, Papua New Guinea, 2015—2017



The rate of conduct of outreach sessions has witnessed a significant decrease in term of number of sessions held versus planned (Figure9). As a result, more and more children are being left out without vaccination and many did not have a chance to complete their series of vaccinations. Table below illustrates the coverage for selected antigens and the number of unvaccinated children for pentavalent and MCV at 9 months old by province.

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Figure 9: Total outreach clinics held/1,000 children <5 years, Papua New Guinea, 2010-2016

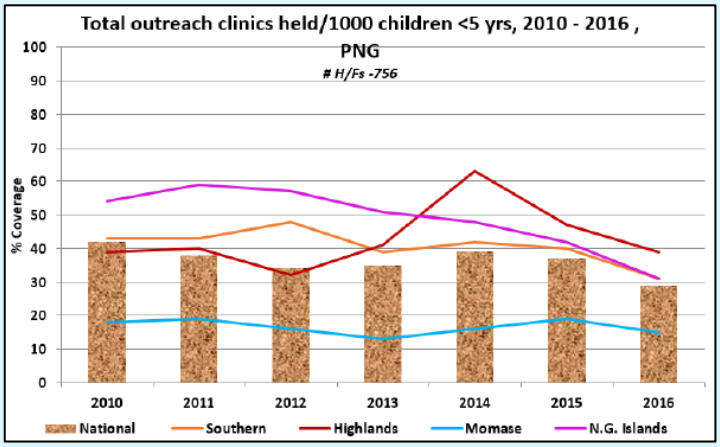

Table 3: Provincial coverage of selected antigen and absolute number of unvaccinated children for Penta3 and MCV, Papua New Guinea, 2017

Province	Coverage (Admin Data)				# Unvaccinated Children	
	Penta3	IPV	PCV3	MCV 9-11M	Penta3	MCV
PNG	57	10	16	47	110940	135500
Morobe	56	14	24	33	9819	15120
Southern Highlands	25	4	9	27	13580	13196
Jiwaka	22	3	14	19	10707	11097
Madang	40	0	0	37	10288	10814
Eastern Highlands	48	8	16	46	10428	10736
East Sepik	31	6	14	35	10651	10014
Enga	59	7	43	48	6405	8073
Chimbu	54	1	1	40	6167	8014
Western Highlands	65	21	37	51	4513	6283
East New Britain	67	30	0	54	3898	5471
Hela	43	11	16	40	4905	5178
North Solomons	69	28	31	45	2717	4839
Western	40	4	8	37	4144	4329
Gulf	29	0	0	27	4082	4168
West New Britain	73	16	18	57	2578	4022
Central	58	3	7	59	4039	4005
West Sepik	54	14	28	55	3949	3873
Milne Bay	84	3	21	72	1530	2667
New Ireland	81	36	20	64	1412	2648
Nat. Capital Dist.	122	11	14	84	-2805	2007
Northern	66	6	5	73	2201	1764
Manus	93	9	12	78	140	463

Gender-related factors play a role in access to routine immunization services in Papua New Guinea, as is seen in other settings. The educational status of women is generally low for most provinces, particularly

for those live in rural areas of the country. As per the Provincial and District Profile Reports compiled by the Institute of Medical Research (2010), most districts that have a much more educated female population (with both rural or urban localities), have a reduced population of unimmunized children.

Routine measles vaccination coverage

Measles vaccine was introduced into PNG's national Immunization Program in 1982. Later a measles dose given to children at the age of 6 months was introduced in 1992 along with periodic measles SIAs almost every two years in order to boost the population immunity against measles. The latter started in 2002. These combinations of opportunities offering measles vaccination at different ages and different times had a significant impact in limiting outbreaks of measles in PNG over a number of years (Figure 0). However, as the PNG EPI programme has started to deteriorate, coverage of measles vaccination in particular has been worse than the coverage of other antigens.

Figure 10: Suspected measles cases and MCV1 coverage in routine and SIAs, Papua New Guinea, 2006—2017

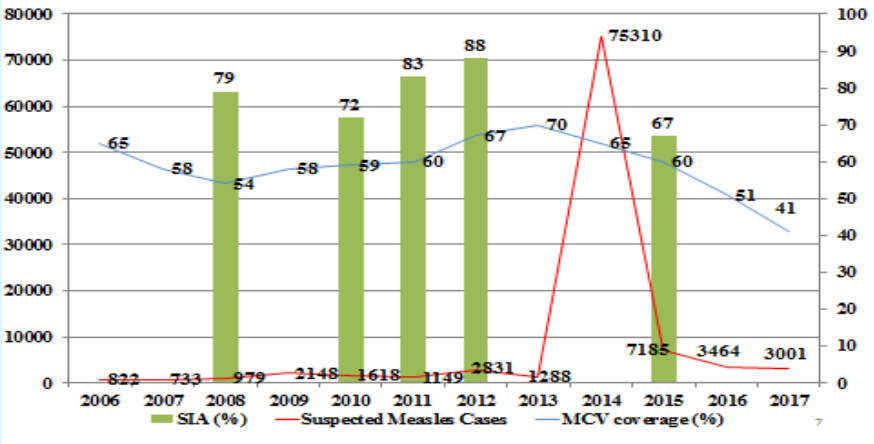

Figure 10 illustrates the steady decline in MCV1 coverage in PNG, to its historic low of 41% administrative coverage in 2017. Figure 1 and Figure 2 show the deterioration in measles coverage and the status of measles vaccination coverage by district since 2015 due to poor leadership, financial constraints (including lack of allocation of operational funds for outreach activities), inadequate human resources and poor cold chain capacity. A total of 52/ 89 districts had coverage <50% in 2017 and hence a total of 153,999 and 182,682 children were not protected with measles vaccine in 2016 and 2017, respectively.

Figure 11: MCV1 coverage by district, Papua New Guinea, 2015—2017

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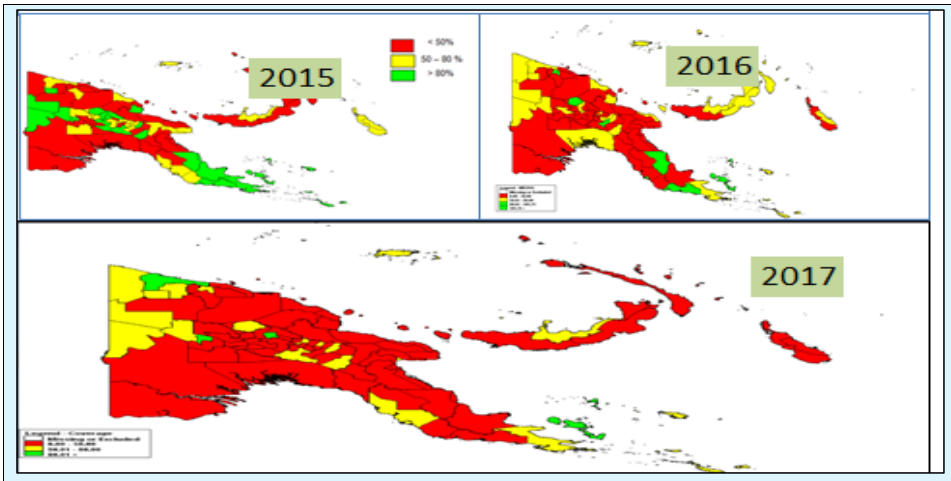
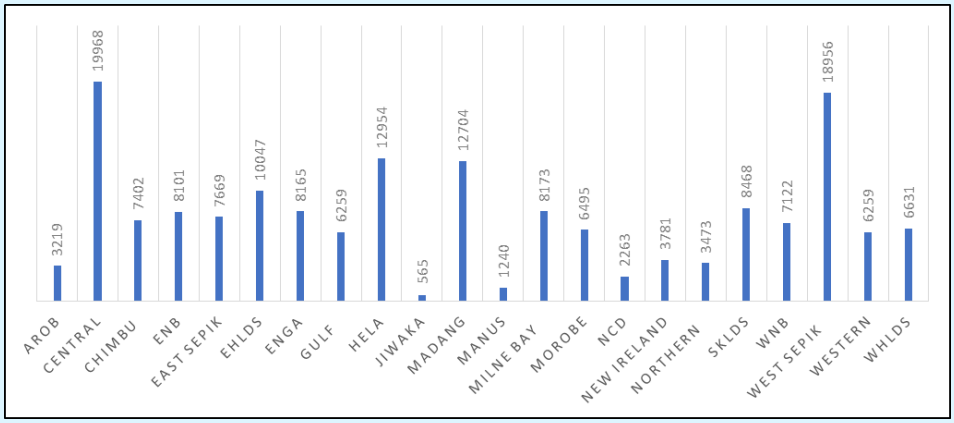


Red: MCV1 <50%; Yellow: MCV1 50%--80%; Green: MCV1 >80%

Figure 12: Absolute number of MCV doses administered to children <12 months of age, Papua New Guinea, 2017



Total doses administered to children <12 months in PNG in 2017: 169,913

Figure 12 shows the coverage of MCV0 (given at the age of 6months) by province for the year 2017. The coverage varies from province to province and district to district depending on leadership & commitment, managerial capacity and financial ability. The national coverage is 47% while NCD (88%) followed by New Britain island (62%). Coverage is directly related to allocation of provincial fund and commitment. The national EPI cannot make them accountable as a part of decentralization policy of

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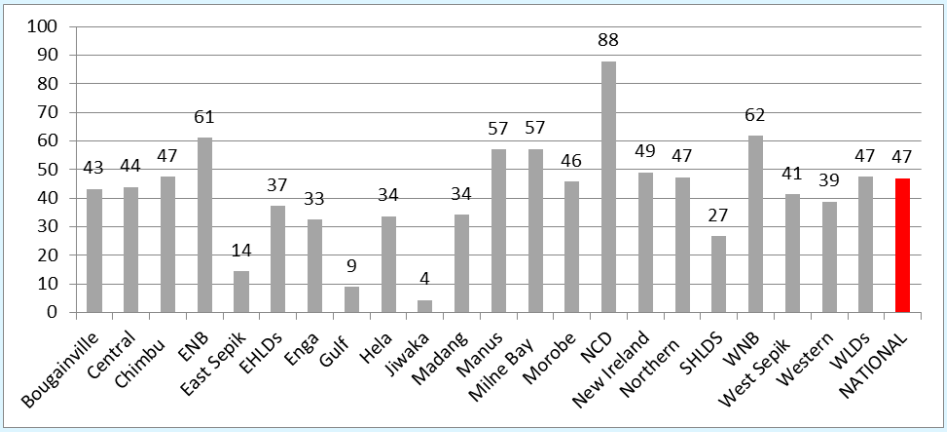
government.

PNG also provides measles vaccine to children up to 5 years, as a national policy, any child more than 1 year to 5 years whenever comes to health facility for any reason should be given the missed dose of MR vaccine. A supplemental dose is also routinely administered to children aged 6—9 months (MCV0)

Figure 13: Coverage of MCV0 by Province, Papua New Guinea, 2017



Three nationally-representative and two sub-national coverage surveys conducted during 2005—2013 estimated significantly higher immunization coverage, compared to administrative and WUENIC coverage estimates, which consistently under-reported coverage by 10-20%. However, even allowing for significant under-reporting, PNG is undeniably experiencing a longstanding crisis of chronic under-performance of the routine immunization system. Moreover, routine immunization coverage in 2018 is expected to decline further because in addition to the already existing many challenges in the health system and service delivery, the current polio outbreak for cVDPV1 has been prioritized and almost in all districts the RI service delivery has stopped.

Factors related to low routine immunization coverage

In PNG, there is weak data visibility and unavailability of data on immunization related factors. Hence, an accurate cause analysis for immunization system bottleneck is challenging. However, several factors contributing to the low coverage of antigens in provinces and districts can be identified. The coverage and equity assessment is drawing on analyzing possible linkage between low vaccination coverage such as Penta3 and Measles and factors such as under reporting, immunization human resource capacity, conduct of planned outreach sessions, functioning cold chain equipment, etc to see the impact of these factors on the observed underperformance by province.

Moreover, in addition to the funding issue, the HR availability in the provinces is another major issue behind low conduct of outreaches for RI services. The current available data shows that the 10 lowest performing (both penta3 and MR) provinces have overall staff (nursing staff & community health worker) shortage (Figure 4).

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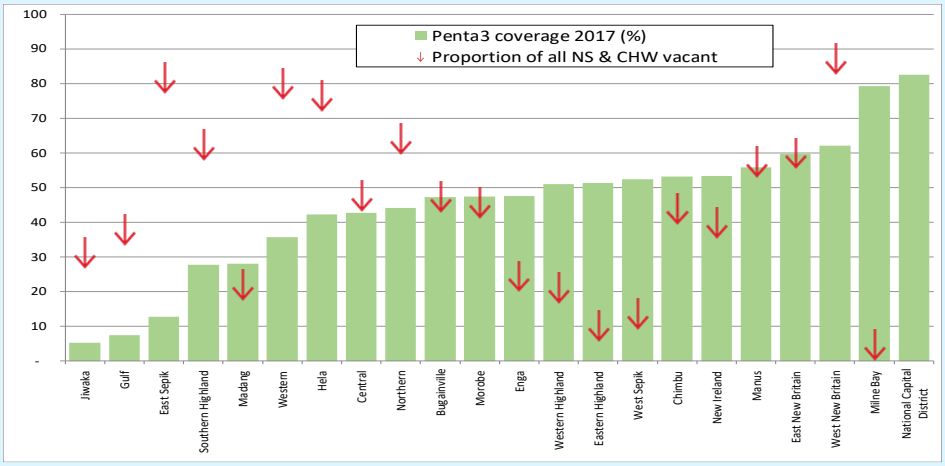
Figure 14: Coverage of penta3 vaccine and proportion of healthcare worker positions that are vacant, Papua New Guinea, 2017



Vaccine availability is an important determinant for high immunization coverage, and Papua New Guinea has substantial weaknesses in this area since many years. Due to the communication challenges, around 90% vaccines are airlifted to provinces, hence, vaccine distribution is highly dependent on 3rd party carrier which is challenging to monitor once vaccines are out of the national store and on way to the provincial stores. Within provinces, many health facilities are not connected by roads and need airlifting of vaccines or using boats. All these factors have been seriously limiting timely vaccine availability at the service delivery level. The cold chain equipment inventory 2017 has demonstrated that the aging cold chain equipment, dependence on absorption refrigerators put additional shortcomings on the iSCM function in the country. 20-40% of the health facilities are having non-functional cold chain equipment/fridges in the 10 lowest performing provinces in 2017.

In summary, high proportion of health facilities with non-functioning cold chain equipment, high number of outreach session missed and high number of immunization staff vacancy among others are main contributing factors to the low performance of immunization programme and major reasons of inequity in immunization coverage in the country.

Leadership, management and coordination

Though the commitment is high at national level, there is variable commitment for implementation of the immunization programme at sub-national level (provinces and districts). Additionally, there is disconnect between planning at the national level and implementation of policies and programmes at the provincial, district and health facility levels; this disconnect is one of the reasons why the targets on outreach immunization sessions set at the national level are not reached. There are decentralization reforms issues in PNG that are widely seen as main contributing factors to health service delivery. Overall, there is a consensus that provinces with well-established provincial health authorities (PHA) show better performance. As of now only 11 provinces have PHA established, work is underway to establish PHA in the remaining 11 provinces. On the other hand, and in linkage to accountability towards communities and continuity of service provision, around 50% of health services in rural areas are provided by the churches; services provided by church organizations are perceived as of better quality and most trusted than the services provided by government-run facilities. In addition, there has been almost total lack of supportive supervision to health facilities which leads to poor planning of routine immunization. This is more seriously seen in rural health facilities which constitute the majority of health facilities in the country.

Financing and funding for outreaches and service delivery

While it is understood that there have been severe budget cuts and reductions in the country health budget to the health sector due to the overall slow macroeconomic progress that PNG is facing since 2012, but however, even from existing allocations, spending by provinces and districts on outreaches services are very small. A combination of delays in fund disbursements from national to subnational levels, plus variable commitment at provincial and district levels results in a severe lack of funds for the outreach program (regularity and frequency), compromising service delivery to the majority of the rural population especially that 60% of the population are only reachable through outreach services, very often requiring overnight by the health teams (so called patrol) and very small proportion of the target population are reached by fixed sites. Many remote locations are only reachable by helicopters or boats, making the outreach operationally very costly. As a result, a declining proportion of planned outreach activities are conducted each year (**Figure**9).

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Inadequate cold chain

PNG has been experiencing serious issues about cold chain and vaccine storage capacity at all level but more severely at subnational level. Out of the 89 districts, only 9% (8) had vaccine storage facilities and the total net storage capacity in primary store is 29.89 m^3 (+2°C to +8°C), which is not sufficient for the introduction of more new vaccines. The preventive and corrective maintenance are inadequate at all levels of the supply chain in the country as per the 2016 EVMA. Moreover, 74% of facilities have no access to grid electricity, as is the most commonly used energy source (40% of all CCEs). Moreover, procurement of gas is costly and decentralized to provinces, but funding allocation from provinces is inadequate leading to frequent gas stock outs in the health facilities. In terms of age, 522 refrigerators

and freezers are more than 10 years old; 342 are aged between 6 and 10 years; 159 are between 1 and 5 years, and out of 1023 refrigerators 50% are PQS non-compliant.

This complex situation of cold chain and logistic capacity has been one of the main bottlenecks and has largely affected the implementation of previous injectable campaigns and has led to high operational cost for these SIAs and RI service delivery, inefficiencies and consequently not being able to reach the required target coverage and large inequities in immunization.

The transportation and distribution of vaccines and supplies to subnational levels is outsourced to a private company called LD logistics who lacks the operational capacity to deliver vaccines and supplies. The vaccine management practices are very poor in PNG and linked to HR capacity as well as to the overall cold chain capacity

Health Information and Immunization data systems

The Health Management Information System (HMIS) is currently under review, since the tools currently used are from twenty years back. There is a great deal of uncertainty around PNG's immunization coverage with evidence of underreporting by facilities e.g. 16% in 2016, and 18% in 2017 reports not received (excluding aid-posts) plus recording issues. There are also uncertainties around population figures and the size of facilities' catchment populations, especially in more remote and rural areas. This means that both the numerator and denominator components of immunization coverage are uncertain, leading to an inability to understand whether or not sufficient populations are being covered. A nationwide survey could possibly address some of these issues around data uncertainty and the ongoing DHS will definitely help, the preliminary results of this survey are not yet available. Moreover, data on immunization supply chain and vaccine stock are not captured anywhere or at least not reported systematically. The NHIS does not monitor the vaccine stock status of the different levels of the supply chain.

Procurement and supply

The 2016 EVMA showed significant issues around almost all of the nine EVM criteria with all of them scoring less than 80% except the storage capacity. Knowledge and skills of staff on vaccine and stock management is limited, with variations by province and facility, but issues of overstock, stock-out of vaccines and safe-injection supplies in health facilities are reported quite often and there is no reliable data on vaccine wastage.

Human resources for health

The health workforce is unevenly distributed among provinces, districts and health facilities, with inadequate skilled health workers in rural areas and shortages of staff; this poses a serious challenge in ensuring quantity and quality of service delivery. Supervisory visits from the provinces to the districts and health facilities are not conducted in a regular manner, challenging a good oversight. The new generation of health workers is very reluctant to work in rural areas, due to the living conditions

(accommodation, schooling and transport). The NDOH annual report 2016 cited that 48% of nursing positions and 45% of the community health workers position are vacant as of 31st January 2017**Error! Reference source not found.**). The existing workforce is also aging and inadequately trained on routine immunization.

Community engagement and demand generation

PNG has limited reference documentation to show evidence on the demand side and the level of knowledge, attitude and perceptions among parents and caregivers about immunization and health services. The lack of regularity in outreach might have created trust issues at the community. In any case, community health workers and village health volunteers have been identified as important players in social mobilization for health. The response to the current polio outbreak required provinces and districts to recruit a large number of volunteers to implement the campaigns but also deliver basic communication and awareness messages around the polio vaccination.

Way forward

To depart from the current situation for routine immunization in PNG, a number of critical and key intervention will need to happen and there are opportunities for PNG and with the support from development partners and donors to collaborate and put more concerted efforts to revitalize routine immunization programme in PNG. Below are a few highlights where these collective efforts are needed:

1. Where outreach happens, coverage improves.

60% of the population can only be reached through mobile and outreach health services, which are costly and complex. There is strong evidence, that where outreach happens regularly, coverage improves. There is overwhelming evidence that the low conduct of outreach is mainly due lack of adequate funding (among other health system issues)

The SIREP model has been proposed as a key strategy to improving immunisation coverage through outreach. Since its introduction in 2015, SIREP lacked adequate funding and it has not been well tested with funding even at small scale. The PNG PSR aims to secure additional funding to drive up rapidly immunisation coverage in 6 provinces through increasing the resources available to ensure outreach and mobile clinics can happen at least four time per year. The recent polio response has indicated that when funds are available and there is strong leadership, achieving high coverage is possible in PNG.

2. Improve cold chain and supply chain systems

Substantial support on cold chain expansion and extension has been made as part of the ongoing rehabilitation for the cold chain system in PNG using HSS1 and DFAT fund as well as additional CCE support for the polio response. In addition, cold chain maintenance and repair is continuing to happen at all sites needing repair and maintenance as part of the polio response plan. The country is in the process of planning for the CCEOP deployment in 2019-2020. All of these investments in cold chain equipment are expected to largely resolve one of the major bottlenecks in the health system and contribute to making potent vaccines accessible to children across the country but particularly in remote areas where the majority of PNG population lives (it is expected that the storage and freezing capacity will be adequate for routine service delivery and SIAs if any)

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On the other supply chain strengthening fundamentals, mSupply is the electronic logistics management information system endorsed and supported by the National Department of Health. The eLMIS is supporting stock integration into warehouses and stores, and making available real time stock information to all programs, and has reduced the fragmentation of the old paper based LMIS. It has so far demonstrated positive results, but it has not been without challenges.
The mSupply program scale-up has been completed at 25 locations to-date (June 2018) and the NDOH plans includes scale up to 32 sites by 2020. An 'EPI Store' has been created in mSupply which allows the EPI program to see any time where their commodities are and be able to more easily move stock from one location, to another based on needs and demands. Quantification and forecasting will become easier, and will ensure that the efficacy and quality of programme commodities can be assured to service delivery points.

The current expansion of the mSupply system is funded by Global Fund, and technical assistance is funded by Australia (DFAT). Further expansion to facility level is planned at a later stage, and a version of mSupply – mSupply light - will be piloted with support under the new ADB HSSDP program in supported provinces.

Support for iSC leadership and capacity building for cold chain and vaccine handlers is also part of the PSR plans and with additional resources that are expected from Gavi, DFAT and other partners, it is hoped that PNG will continue implementation of the EVMA IP.

3. **Use the PHA reforms to strengthen fund flow for service delivery and improve programme planning, management and leadership**

The 2007 Provincial Health Authorities (PHA) Act enabled the establishment of PHAs, integrating the public health and curative services as "one system tasol" qualifying the provinces to streamline the governance, management and finances structures under a single health institution with the management and control of health resources in an effort to improve access to services.
Of the twenty-two provinces, twelve have established their respective PHAs with the aim of integrating services at provincial level that will allow for effective coordination of resources and support, and better health services planning and implementation. Recently, the Government approved for full primary health service funding, including health function grants to flow directly to Provincial Health Authorities, rather than through Provincial Administrations. Thus, giving greater control over their resources to support service delivery. This also means that health function grants can be rolled over at the end of the fiscal year, rather than returning to treasury. This can act as a protective buffer to delayed release of funds in Q1 and Q2 of every year.

PHAs will also be supported by the Department of Finance to implement the new Integrated Finance Management System, IFMS, which will improve the Provinces ability to monitor and track expenditures.
The country is in the early stages of developing the essential packages of care across the different levels of service that cover preventative, promotive, curative and rehabilitative care. Currently, the services provided are disjointed as they are program-based and different levels of service delivery are able to provide only the minimum standards of care. Finalising these packages with the support of WHO will help with not only better quality of care, but improve resource prioritisation

4. Building the National EPI Programme capacities to lead, manage, coordination and monitor the immunisation programme.

One of the recent positive developments at NDOH is the appointment of the manager for the national immunization programme. This position was vacant for considerably long time which has left the programme without leadership and lacking the needed day-to-day coordination between NDOH and development partners. The Programme Manager brings a strong epidemiology and field experience background to the role, and within weeks of joining has had to deal with the outbreak of circulating vaccine derived polio virus. Both WHO and UNICEF are working closely with the EPI programme and the new Manager to deal effectively and efficiently with the outbreak. Continued management support will be required over the short-term, but the appointment is welcomed by all partners.

Based on the Annual Sector Reviews in line with the National Health plan 2011-2020, there is evidence to suggest provinces that have established a PHA are seeing better health outcomes.

The rollout of the Provincial Health Authorities to all 22 Provinces is an opportunity to strengthen Provincial leadership as well as to strengthen provincial public health teams, inclusive of EPI.

Moreover, there has also been substantial investment at both national and subnational levels to strengthen the immunization system to support the country to cope with the ongoing polio outbreak, i.e. operational infrastructure and technical expertise. A national and Provincial EOC (NEOC and PEOC) was established in each of the 22 Provinces, within an incident command structure led by the National EOC. International staff from WHO, UNICEF, and US-CDC have been mobilized to provide support to the national level and some provinces with coordination, outbreak management, surveillance, risk communication, vaccine management, logistics, finance and administration. These investments will be further leveraged as the foundation for revitalization plans for the programme in PNG.

5. Equity focused service delivery

With support from UNICEF, there has been successful initiatives for equity-focused immunisation programming" through systematic bottleneck analysis (BNA) using UNICEF's 10-determinants framework. These initiatives have been introduced in selected provinces (East Sepik as well as equity programming in urban settlements of NCD. They are locally contextualised initiative aligned with joint WHO/UNICEF Reach Every Community (REC) approach to develop detailed sub-district, LLG and health facility level micro-plan focused to implement immunization outreach.

UNICEF has also supported the NDOH to develop "an immunisation coverage and equity analysis paper" using 2015, 2016 and 2017 data to monitor, track and guide the further development and implementation of equity-focused programme aligned with the National Health Plan's (2011–2020) equity agenda of reaching the urban disadvantaged and the rural poor.

More broadly, WHO is working with the NDOH and the Provinces to support service delivery transformation and developing service delivery networks (potentially being supported under a IDA-18 World Bank Loan) to improve equity-focused integrated care. This includes actions to improve the continuum of care, centeredness of care and competencies of health workers which promote equity-focused services.

6. More roles to be played by Village Health Volunteers

To alleviate the shortage of CHWs and Nurses at the front-line of service delivery, the Village Health Volunteer Program can be strengthened. The NDOH has recently reviewed the VHV policy with the view to developing a cadre of village health volunteers skilled to a national standard and delivering health promotion activities in partnership with their communities and local health care providers to achieve

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Health Vision 2050.

7. Demand generation

Lessons learnt from recent immunisations campaigns in PNG, including the integrated campaigns response for the earthquake-affected provinces of Southern Highlands and Hela provinces as well as from the ongoing Polio outbreak response campaigns underline the critical role of key community influencers that include religious and community leaders as well as birth attendants and community village mobilizers (where they exist) in effectively mobilising care-givers to immunise their children.

There is an urgent need for a systematic approach to demand creation if PNG and firstly a knowledge, attitudes practices and behaviour (KAPB) study is needed to generate accurate data on how people receive and give information and to unmask the prevalent critical social norms and attitudes pertinent to immunisation demand is urgently needed. Secondly, it is imperative to develop a data-driven and budgeted routine communication strategy and a plan to guide implementation of all routine immunization communication activities from national to district and lower level. At the same time institutional support is needed for the rather weak health promotion and education unit.

In summary, an effective community engagement framework for PNG need to build on four key players that are critical to the establishment of a quality service delivery, demand creation and getting all eligible children immunised. These include care takers, health workers, local influencers (i.e. religious leaders, community leaders and traditional birth attendants) and policy makers (i.e. relevant district and provincial technical and political leaders) with clear strategies for each of them based on a data-driven routine immunisation strategy and plan.

8. Rollout of eNHIS to strengthen data reporting, timeliness and use for decision making.

The pilot of the eNHIS (digitisation of NHIS data collection forms) under the Rural Primary Health Service Delivery Project has shown that near real-time capability can be developed for reliable health data collection, data analysis and data presentation in five of the 22 Provinces across 184 health facilities. The decision has been made by the NDOH to rollout the eNHIS to all Provinces and transition from the paper-based NHIS over the next three years. WHO will continue to provide technical assistance for the central level support to the Performance, Monitoring and Research Brnach, and the new ADB Health Services Sector Development Program will also include a health systems information specialist to support the DOH and PHAs to develop sustainable health information systems, and to report on, and use, integrated data effectively to support decision making including managerial, planning, policy, and strategy, ensuring cohesion between data sets, and with DOH and GOPNG government systems, and support CRVS.

In addition to this the development of District Health Service Profiles will help with advocacy efforts to improve resource allocation and service delivery performance.

Overall, an enhanced model of oversight, management and delivery is proposed to oversee implementation of the transition framework activities and establish accountability mechanisms to underpin longer term, sustainable improvements of the EPI.

It is proposed that current ICC be strengthened through revised terms of reference and membership. The GoPNG's Minister for Health would be Chair of the ICC and membership would bring together the GoPNG's Departments of Finance, the Treasury and Planning and development partners' collective expertise, as well as an independent auditor. The Gavi Secretariat would also be invited to participate. The strengthened ICC would provide greater leadership and oversight to EPI activities, and better align and increase advocacy efforts and development partner activities.

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Table4: Lesson learned from MR Campaign in 2015-2016 and previous injectable campaigns:

Lesson learned from earlier campaigns	Proposed mitigation measures and action points for the upcoming campaign
SIA strategies: to a large extent, the strategies followed for the SIAs 2012-2015 were not necessarily practical and well adopted by each province. It has been clearly documented that a time-bound activity with an SIA approach rather than routine service delivery approach for an MR SIA is perceived to be better in bring good results.	• The 2019 proposed SIA will be integrated with the 4th round of polio NIDs which follows an SIA approach in a time-bound activity. The current polio response has been implemented in SIAs for a period of 2-3 weeks for provinces to complete the activity and report the results. • The planning for the 2019 MR-OPV SIA will start from now (Q4 of 2018) to allow for enough time for this injectable campaign and it will benefit from the existing infrastructure that has been developed for the polio response.
Coordination and daily follow up meeting at national level was key to discuss and respond to the issues reported by provinces	• The existing NEOC for polio will be maintained to also coordinate the MR-OPV SIA planning and implementation • An MR-OPV SIA coordination within the NEOC will be identified to work side by side with the polio and GPEI coordinator • One of the advantages of the current system is the establishment of provincial EOC (PEOC). This PEOC will also be retained to coordinate the MR-OPV SIA and will be supported by an international expert for each province
Participation of schools in the 2015 MR catch up campaign was not optimal especially that the mobilization was for children aged 9 months -<15 years and though school enrolment in PNG is not high (~70%) but nevertheless, not properly reaching all schools in the 2015 SIA has contributed to low coverage of the campaign, school teachers and community/religious leaders gives good return at grass root level. Their participation helps in creating community awareness and build trust.	Leveraging the current investment made in social mobilization for the polio response including engagement of school teachers, church organizations Pastor to be part of community awareness and social mobilization. • The same strategies will be retained and utilized again: School teachers, community and religious leaders will be trained to play their part in the community awareness and social mobilization for the campaign building on their successes and active participation during the polio NIDs. • In addition, there is already a good network of social mobilizers and volunteers at each district and HF level who have been trained to support the polio response. This network of mobilizers will be further expanded and strengthened with additional training to ensure success of social mobilization efforts at community and school

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	levels.
Adequate resources allocated for the 2012 measles-TT SIA and the timely disbursed fund was key for the success of the SIA.	It is planned that the follow up campaign of 2019 will be fully funded with co-financing from NDOH, Gavi, DFAT and other development partners.
Provinces supported with international experts had better chances to do better planning, microplanning, implementation of the campaign and consequently reached better coverage	NDOH and development partners will leverage the existing structure that is created for the polio campaigns and the presence of international consultants who will be extended to also support the upcoming integrated MR-OPV SIA.
Very good coordination was in place with Church Health Services Organization at national and subnational level. For the 2012 SIA, Provincial church health services were asked to come to Port Moresby for a coordination and mobilization meeting with NDOH and development partners to clarify roles and expectations from them to support the SIA.	Same level or coordination will also be applied and sought enough time a head of the upcoming MR-OPV campaign. NDOH and partners will seek participation of Church Health Services at national and provincial level and develop plan to cascade these coordination meetings in all provinces and districts.
Supervisory mechanism not fully implemented at all levels and often few provinces receive extensive supervision due to lack of adequate supervisors from national and PHA level.	A well-designed supervision and monitoring system will be established for the MR-OPV SIA with clear TORs, tools and adequate training for supervisors and monitors at all levels. This will leverage the presence of existing international consultants that are currently supporting the polio response.
Though it was not properly implemented across catchment areas, but the integration of routine antigens with the SIA presented an excellent opportunity to reaching the population that was never reached during routine EPI program; and to large extent, it did not necessarily affect any other routine health programmes.	Fixed sites will continue to provide the routine vaccines during the MR-OPV SIA, as per national schedule during the MR-OPV SIA. In addition, NDOH and partners will also carefully study the different scenarios and possibilities to add routine immunization antigens in outreach patrol and mobile clinics at least in the hard to reach areas. the additional HR and logistic arrangements will be put in place to accommodate this need.
• Rapid Convenient Monitoring (RCM) was not widely implemented specially by provincial and district supervisors • Data was not analyzed for coverage/supervision and immediate action like mop up did not take place. • Lack of proper management to of SIA data and feedback from provinces as well as late reporting by provinces	• There will be a target of number of RCM for each province/district and catchment area to meet every day and the MR-OPV SIA coordinator at national level will be responsible for making sure that provinces and districts meet their RCM target and data to be reported on daily basis to the NEOC by phone (SMS) or emails. • UNICEF and WHO will coordinate with NDOH to ensure that adequate number of external and internal independent monitors will be deployed to the field to support RCM. • There will also be 2 data managers assigned at

	NEOC level to work on SIA data: one for the SIA coverage data and one for the RCM and independent monitoring data. • RCM data will be analyzed and results will be shared on daily basis with senior management at NDOH and development partners and with PEOCs with recommendations for key action and mop up activities. • NDOH and partners will develop SOPs for mop-up vaccination of underperforming villages/communities. • An SIA focal point will be situated at national level integrated within the existing NEOC and supported by a data manager (international expert). TORs will include liaising and communicating with the international consultants in each province and compiling daily SIAs reports and sharing key points with NEOC.
The financial Provincial component not fully committed for the programme	• The 2015 SIA and SIREP was implemented as a routine approach that was not fully funded by external fund. It was anticipated that provinces will use their health function grant to contribute to the routine SIREP implementation but due to delay in fund disbursement the provincial component from the health function grant was not disbursed timely. • Unlike this time, the MR campaign will be implemented leveraging the availability of external fund and also the existing resources and structure from the polio response. • Provinces are contributing to the current polio response and this contr8bution will continue to through Q1-Q2/2019 for the upcoming polio SIA that will be integrated with the MR SIA.
Lack of adequate political support and will in provinces and NDOH.	• NDOH senior management and partners will capitalize on the momentum that has been created for the polio response and develop an advocacy plan at all levels (national, provincial, district and health facility level) to mobilize support for the campaign building on the successes and strong political commitment made for the polio programme. The Polo outbreak is being considered as a wakeup call for all parties and stakeholders (internal and external) particularly at provincial levels. • National steering committee will have meeting

	with Health Minister, PM and try to involve PM and governors in campaign advocacy and launching as well as advocacy with other line departments (education, police, etc…)
Security and safety of SIA staff especially if nursing students will be borrowed to cope with shortfall of skilled injectors for the MR vaccine	NDOH at higher level will seek support and coordination with relevant government departments to ensure safety and security of nursing student and all campaign staff. All team members will be equipped with adequate identification, including ID badges, vests, etc.
Realistic and timely development and submission of microplanning is the key to success. All relevant data e.g. actual target against each outreach post, inventory of resources, social mapping to be readily available beforehand. Microplanning to be reviewed and refined for fine adjustment	• A lot of lessons and experiences on planning and microplanning have been learned and documented from the current polio response. This will be leveraged to guide better planning and microplanning for the MR-OPV campaign. • During the ongoing polio campaign, NDOH and partners will leverage the network of volunteers that is currently supporting the polio response and will start doing micro census and pre-registration for the target population. • Proper and adequate cascade training for microplanning will be conducted at all levels.
Maintaining quality and consistency is difficult in multiple tier cascade training	As indicated above the presence of the international technical experts will be leveraged to ensure high quality cascade training at all levels.
Carrying too many antigens for too many target compromise the programme quality particularly during the SIREP in 2015	• For the integrated MR-OPV SIA and given the shortfall in skilled vaccinators, additional number of volunteers will be recruited to handle the polio vaccination and the available skilled vaccinators will be tasked to give MR and RI antigens during the campaign. • All of the above will be reflected in realistic microplans for each and every district and catchment area. • Microplans for each district and catchment area will be reviewed and the necessary adjustments/additional resources will be made available before the start of the campaign.
Inadequate fund for the Ops cost of the SIREP in 2015 (60% by Gavi)	It is expected that this campaign will be fully funded through Gavi support and contributions from NDOH and other partners.
Denominator issue 2000 census is too low, and 2011 census is to high	• As soon as possible and during the ongoing polio campaign, NDOH and partners will leverage the network of volunteers that is currently supporting the polio response and will start

	doing micro census and pre-registration for the target population. • NDOH and partners will also leverage the existing information available with Rotary international in PNG and the headcount that is available from the malaria Rotarians
• Lack of technical capacity at provincial and district level. • Provinces compliances to technical and Procedural requirements (Plan, Time, operational technique etc.). • One of the 2012 SIA recommendations were: ○ provinces have to form Provincial SIA Committee and Social mobilization committee including selected stakeholders. ○ SIA must not start until all requirements are fulfilled	• In each of the 22 provinces there is at least one (1) international consultant supporting the polio outbreak response. These consultants will be retained and their TORs will be revised to include support to MR-OPV SIA. • Additional technical Assistance will be sought from development partners (WHO, UNICEF, CDC) and adequate amount of budget will be kept for assisting national, provincial, and district managers both for preparatory and implementation phase. • This network of international experts will work side by side with their provincial counterparts to make sure that every and each district and HF catchment is ready for the campaign before the start (provincial and district SIA readiness tool will be strictly used) • PEOC will be retained (as provincial SIA coordination body) and will be given the role to coordinate the technical support to provinces and districts as well as identifying needs for additional TA during the SIA.
Lack of operational capacity of LD logistic responsible for transportation of vaccine and logistics	• National Logistic working group has been formed to address this issue with current contractor of vaccine transportation (LD logistic) • Additional TA at NDOH and partners (UNICEF) will be in placed to oversee and support the logistics work of the SIA and the coordination with LD logistics.
Gaps in cold chain storage capacity at province/district that has led to inconsistent supply of vaccine 1360+668	• Substantial support on cold chain expansion and extension has been made as part of the ongoing rehabilitation for the cold chain system in PNG using HSS1 and DFAT fund as well as additional CCE support for the polio response. • In addition, cold chain maintenance and repair is continuing to happen at all sites needing repair and maintenance as part of the polio response plan. • By Q2/2019 and before the MR-OPV SIA it is expected that the storage and freezing capacity

	will be adequate for the integrated MR-OPV SIA in case there is still deficit it will be managed either by adding more equipment from CCEOP (by Q1/2019) or by applying other measures on the storage and distribution system.
Poor leadership, management capacity at provincial and district level	• NDOH and partners will seek to organize a high-level advocacy meeting with provincial leadership (governors, CEOs, PHAs) to mobilize them for high political and management support.
Lack of mop up	• There will be a provision for mop up is every district district's microplan and budget will be allocated for that. • Mop up will follow a very strict campaign data analysis by NEOC and PEOC, particularly the RCM results
Delay in funding at HF	• HSIP will be requested to monitor disbursement of fund from province to HFs. • NEOC and PEOC will be directly following up with fund disburdenment to subnational level.
Absence of post campaign survey in the past measles/MR SIAs.	• Post-campaign independent coverage survey is planned.

Country documents

2.4.1 Upload country documents

Please provide **country documents** that are relevant for the national immunisation programme and for multiple vaccines, to be taken into account in the review of your application. If you have already provided one or more of these country documents, you do not need to upload it/them again unless the document version changed. If documents cannot be provided, please use the comment functionality to explain why, or by when they will be available.

Note that only general country documents are uploaded here; at the end of section 3 (sub-section "Upload new application documents") you will be required to provide those documents that are specific to the support requested (for example the new vaccine introduction plan and/or campaign plan of action, new budget, application endorsements etc.)

Country and planning documents

!	**Country strategic multi-year plan** Comprehensive Multi-Year Plan for Immunisation (cMYP) or equivalent country strategic plan	No file uploaded
!	**Country strategic multi-year plan / cMYP costing tool**	No file uploaded
!	**Effective Vaccine Management (EVM) assessment**	No file uploaded
!	**Effective Vaccine Management (EVM): most recent improvement plan progress report**	No file uploaded
	Data quality and survey documents: Final report from most recent survey containing immunisation coverage indicators	No file uploaded
	Data quality and survey documents: Immunisation data quality improvement plan	No file uploaded
	Data quality and survey documents: Report from most recent desk review of immunisation data quality	No file uploaded
	Data quality and survey documents: Report from most	No file uploaded

	recent in-depth data quality evaluation including immunisation	
	Human Resources pay scale If support to the payment of salaries, salary top ups, incentives and other allowances is requested	No file uploaded

Coordination and advisory groups documents

	National Coordination Forum Terms of Reference ICC, HSCC or equivalent	No file uploaded
	National Coordination Forum meeting minutes of the past 12 months	No file uploaded

Other documents

	Other documents (optional) Please also provide other country documents to support the review of the applications, for example Health Facility Assessment Reports, Knowledge-Attitude-Practice surveys or other demand-related surveys, if available.	No file uploaded

Measles-rubella follow-up campaign

Vaccine and programmatic data

3.1.1 Choice of presentation and dates

For each type of support please specify start and end date, and preferred presentations.
Measles-rubella follow-up campaign

Preferred presentation	MR, 10 doses/vial, lyo
Is the presentation licensed or registered?	Yes ☒ No ☐
2nd preferred presentation	NA
Is the presentation licensed or registered?	Yes ☒ No ☐
Required date for vaccine and supplies to arrive	01 April 2019
Planned launch date	03rd June 2019
Support requested until	2020

3.1.2 Vaccine presentation registration or licensing

If any of the selected presentations are not yet licensed or registered, please describe the duration of the registration or licensing procedure, whether the country's regulations allow the expedited procedure for national registration of WHO-pre-qualified vaccines, and confirm whether the licensing procedure will be completed ahead of the introduction or campaign.

WHO prequalified vaccine will be used

3.1.3 Vaccine procurement

Gavi expects that most countries will procure vaccine and injection supplies through UNICEF or PAHOs Revolving Fund.

Does the country request an alternative mechanism for procurement and delivery of vaccine supply (financed by the country or Gavi)?

No☒

If you have answered yes, please attach the following in the document upload section:* A description of the mechanism, and the vaccines or commodities to be procured by the country through this mechanism.* A confirmation that vaccines will be procured from the WHO list of pre-qualified vaccines, indicating the specific vaccine from the list of pre-qualification. OR, for the procurement of locally-produced vaccines directly from a manufacturer which may not have been prequalified by WHO, a confirmation should be provided that the vaccines purchased comply with WHO's definition of quality vaccines, for which there are no unresolved quality problems reported to WHO, and for which compliance is assured by a fully functional National Regulatory Authority (NRA), as assessed by WHO in the countries where they are manufactured and where they are purchased.

Target Information

3.2.1 Targets for campaign vaccination

Please describe the target age cohort for the Measles-rubella follow-up campaign:

From	6 Month
To	59 Months

	2019	2020
Total Population	9,322,602 (projected from 2011 census)	9,602,280, (Projected from 2011 census)
Target population to be vaccinated (first or only dose) (#)	1,118,712 (12.5% of total)	1,152,274 (12.5%of total population)
Estimated wastage rates for preferred presentation (%)	20 WMF -1.25%	20 WMF -1.25%

3.2.2 Targets for measles-rubella routine first dose (MR1)

To be eligible for measles and rubella vaccine support, **countries must be fully financing with domestic resources the measles mono-valent vaccine component of MCV1** which is already in their national

immunization schedule, or have firm written commitments to do so. Please provide information on the targets and total number of doses procured for measles first dose.

	2019	2020
Population in the target age cohort (#)	NA	
Target population to be vaccinated (first dose) (#)		
Number of doses procured		

Co-financing information

3.3.1 Vaccine and commodities prices

Price per dose (US$) - Measles-rubella follow-up campaign

	2019	2020
10 doses/vial, lyophilized (including 30% freight cost)	0.85	0.85

Commodities Price (US$) - Measles-rubella follow-up campaign (applies only to preferred presentation)

	2019	2020
AD syringes	0.04	0.04
Reconstitution syringes	0.0571	0.0571
Safety boxes	0.448	0.448
Freight cost as a % of device value	30	30

3.3.2 Country choice of co-financing amount per vaccine dose

The table below shows the estimated financial commitment for the procurement of vaccines and supplies for the country, and the portion of Gavi support

	2019	2020
Country co-financing share per dose (%)	5	5
Minimum Country	0.042	0.042

co-financing per dose (US$) including freight cost		
Country co-financing per dose (enter an amount equal or above minimum) (US$)	0.042	0.042

3.3.3 Estimated values to be financed by the country and Gavi for the procurement of supply

Measles-rubella follow-up campaign

	2019	2020
Vaccine doses financed by Gavi (#)	1,142,484	
Vaccine doses co-financed by Country (#)	60,131	
AD syringes financed by Gavi (#)	66,424	
AD syringes co-financed by Country (#)	3,496	
Reconstitution syringes financed by Gavi (#)	10,912	
Reconstitution syringes co-financed by Country (#)	574	
Safety boxes financed by Gavi (#)	9,019	
Safety boxes co-financed by Country (#)	474	
Freight charges of vaccines+devices financed by Gavi	269,398	

($)	
Freight charges of vccines+devices co-financed by Country ($)	14,159

	2019	2020
Total value to be co-financed (US$) Country	64,674	
Total value to be financed (US$) Gavi	1,228,839	
Total value to be financed (US$)	1,293,513	

3.3.4 Estimated projection of the required domestic financing for the measles monovalent component of MCV1

Countries are required to domestically finance the first dose in their measles containing vaccine routine (MCV1) in order to be able to receive Gavi support for any measles/ measles-rubella programmes. Below is the estimated projection of the required domestic financing for MCV1, based on the information provided in the previous sections.

	2019	2020
Minimum number of doses financed from domestic resources	309,105	
Country domestic funding (minimum) - US$	262,739	

3.3.5 Co-financing payment

Please indicate the process for ensuring that the co-financing payments are made in a timely manner.

Country will pay through direct bank transfer to UNICEF SD. Country also has a balance of fund equal to $1 m as of 27th November 2018 which may be used in case of any unforeseen delay in new transfer

Following the March 2019

regulations of the internal budgeting and financing cycles the Government will annually release its portion of the co-financing funds in the month of:	

The payment for the first year of co-financed support will be made in the month of:

Month	March 2019
Year	

Financial support from Gavi

3.4.1 Campaign operational costs support grant(s)

Measles-rubella follow-up campaign
Population in the target age cohort (#)

1,118,712

Gavi contribution per person in the target age cohort (US$)

7.33

Total in (US$)

8,208,271

Funding needed in country by	February 2019

3.4.2 Operational budget

Total amount - Gov. Funding / Country Co-financing (US$)

Total amount - Other donors (US$)

1,700,400

Total amount - Gavi support (US$)

8,208,271

Amount per target person - Gov. Funding / Country Co-financing (US$)

0.06

Amount per target person - Other donors (US$)

1.52

Amount per target person - Gavi support (US$)

7.33

3.4.3 Financial management procedures

Please describe the financial management procedures that will be applied for the management of the NVS direct financial support, including any procurement to be incurred.

Gavi fund will be disbursed to WHO and UNICEF COs who will then manage the grants and disburse the fund to NDOH/provinces following each organization usual modality of fund disbursement to government.

3.4.4 Fiduciary management

Please indicate whether funds for operational costs should be transferred to the government or WHO and/or UNICEF and when funding is expected to be needed in country. Attach banking form if funding should be transferred to the government. Please note that UNICEF and WHO will require administrative fees as follows.

- UNICEF Tripartite Agreement: 5%
- UNICEF Bilateral Agreement: 8%
- WHO Bilateral Agreement: 7%.

3.4.5 Use of financial support to fund additional Technical Assistance needs

Gavi funds through its Partner Engagement Framework / TCA, tailored and differentiated technical assistance in response to specific country needs. Please review the currently approved technical assistance plan (also referred to as the "One TA plan") with a view to assess that required support for the implementation of the new vaccine support is contained in the approved technical assistance plan. If gaps in technical assistance are identified for the new vaccine support, the additionally required technical assistance may be funded through the vaccine introduction grant or campaign operational costs support. In this case, the relevant costs must be reflected in the budgeting and planning template. In addition, please indicate the programmatic areas for additional technical assistance needs and the respective agencies providing the technical assistance (if already identified) below.

1. International consultants and local are required to support the MR campaign and fever and rash surveillance:

The TORs for the national coordinator will be:

- Under Guidance of WHO EPI Technical officer, the person will coordinate with the NDOH, WHO, UNICEF, External monitors, and Provincial EPI team in terms of preparation, implementation, monitoring and supervision, post campaign survey
- To assist national EPI/NODH on planning, updating measles SIAs guidelines and tools.
- Assist in conducting pre - campaign readiness assessment and take corrective actions
- Provide technical assistant in designing tools for post-campaign assessment based on valid methodology, develop guideline/tools for RCM, train staff, and analysed RCM finding and make valid recommendations for possible repeating of SIAs in underperforming area

The TOR for the provincial TA will be as follows

- TA for developing high quality district and sub district plans for MR immunization campaign and oversee its implementation with special focus on health center micro planning, identification of high risk areas, logistic planning, injection safety, waste management and monitoring of AEFI
- Facilitating coordination between district health, district school offices, NGOs, INGOs, Churches, schools and other partners to ensure establishment of provincial/district level coordination committees
- Training and orientation of health staff, advocacy with schools/church at province and district levels
- Developing, coordinating, and implementing a monitoring plan of the form PHO/DHO another department
- Conduct pre-campaign readiness assessment using the predefined checklist as adopted for PNG (SIA assessment tools) and provide necessary feedback to districts and feed

forward to WCO Papua New Guinea
- Assist and monitor the flow and distribution of training and IEC materials and developing communication plans at district levels
- Supporting case based surveillance for measles and rubella and routine immunization activities using SIA as an opportunity
- Ensure proper follow up and assist in developing a POA for vaccinating the un/under vaccinated children identified during the SIA
- Proving regular feedback to the NDoH and the WHO Papua New Guinea team

2. international consultants and local are required to support communication activities (C4D) and logistic support. The 2 months cost will be covered by GPEI and the Gavi contribution will be one month:

- To provide technical support to EPI and its partners in PNG in communication planning, execution, capacity building, data management/sharing, risk/crisis communication and monitoring to ensure a high-quality MR campaign in 2019.
- To contribute in the development and implementation of social mobilization, community engagement, and communication plans for the MR campaign to support community demand and participation for routine immunization under the existing national and provincial communication strategies.
- To in monitoring, implementation and documentation of the lessons learned and best practices from the MR campaign in PNG

Strategic considerations

3.5.1 Rationale for this request

Describe the rationale for requesting these new programme(s), including the burden of disease. If already included in detail in the Campaign Plan of Action, please cite the sections only.

Justification for Measles-Rubella campaign

This MR-OPV follow up campaign is planned on the basis of the following facts:

1. Annual cohort of birth in the country is about 271,843. As per the 2016 and 2017 JRF estimate, MCV1 coverage was about 51% and 41% respectively, the number of susceptible children accumulated since the last SIA till (2017) equal to more than an annual cohort (336,681) – see Table 5 below. A high-quality campaign is needed as soon as possible in order to prevent a large outbreak of measles, which would gravely stress the fragile health system and incur immediate and long-term costs that would greatly exceed the cost of a preventive campaign.

Table 5: Estimated number of measles-susceptible children born since the last SIA, Papua New Guinea, 2016—2017

Year	Live Birth	Coverage (%) of MRCV 1	Vaccinated with MRCV1	Vaccinated but not sero -converted	Unvaccinated	Unprotected (accumulated susceptible)
2016	271,843	51	138,640	20,796	133,203	153,999
2017	280,402	41	114,965	17,245	165,437	182,682
Total						**336,681**

2. In the past few years, there have been several sporadic measles outbreaks that hit a number of provinces in PNG. West Sepik and Western Province were some of the provinces that suffered these outbreaks. These outbreaks when coupled with the fact that the surveillance systems in the country are also inadequate and the possibility of undetected cases in other areas (the surveillance data from the current cVDPV1 also indicates that the virus has been possibly circulating and remain undetected since 2016). These facts provide a strong epidemiologically indication of the growing immunity gap and risk of a large outbreak.

3. There has been extensive government and partner support in order to contain the ongoing cVDPV1 outbreak. Moreover, emergency coordination and leadership mechanisms (Provincial EOCs) have been developed at all provincial levels for the ongoing cVDPV responses, which appeared paramount in achieving high coverage in polio campaigns. International and national experts are adding to the quality of planning and implementation of OPV response. Planning, preparing and implementing and integrated MR-OPV SIA will require more international experts to be deployed to PNG to assist the subnational level. It is expected that this will strengthen the overall immunization system through improved microplanning for routine immunization while also focusing on promoting equity, communication, and social mobilization for maximum uptake of health interventions;

4. Additionally, the support being brought in for the polio response and the requests for support for

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MR-OPV SIA is expected to provide an opportunity to integrate activities to strengthen routine immunization capacity, such as cold chain repair and maintenance, refresher training, surveillance strengthening, and improved microplanning . In preparing for this SIA, specific efforts will be made to ensure that skilled staff are identified and further trained in order to engage them in the routine immunization programme. The planned MR-OPV SIA would be therefore implemented with an explicit goal of strengthening the routine immunization programme rather than disrupting it.

5. It is in line with PNG cMYP (2016-2020) of page 55 and 59 the Strategic Objective (SO4) is to eliminate measles by 2020 and reducing measles morbidity by 90% and mortality 95% by 2020 in following manner. This also supports the regional goals of measles and rubella elimination that were recently reiterated during the Regional Committee Meeting in October 2017.

A crude estimation of population susceptibility demonstrates the magnitude of PNG's measles accumulated outbreak risk. Assuming routine MR coverage continues at or below 50%, and 85% vaccine effectiveness at 9 months of age, the accumulation of susceptible children exceeds the epidemic threshold at least every two years without supplemental immunization campaigns to help reduce the size of this immunity gap. The many years of chronically low routine immunization coverage in Papua New Guinea have led to rapid accumulation of a large measles immunity gap since the last nationwide outbreak and SIREP Plus supplemental immunization campaign in 2015.

To quantify and visualize the age distribution of measles immunity by birth cohort, a simple model of the population measles susceptibility profile for PNG was created, based on the Measles Strategic Planning Tool v2.0 (

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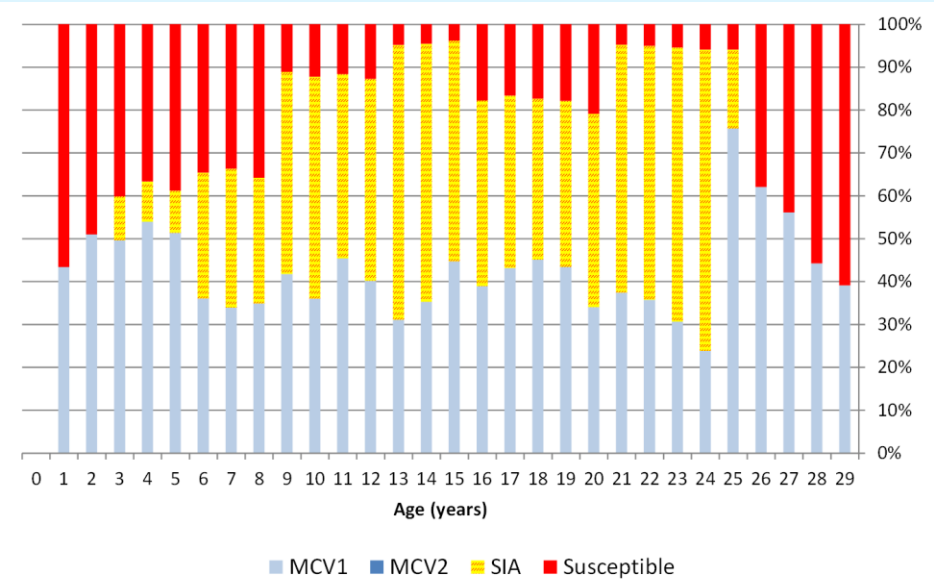
Figure 5). Parameters used to estimate measles population susceptibility include MCV1 coverage with estimated vaccine effectiveness of 85%; MCV SIA coverage (by post-campaign survey or administrative estimates if unavailable) with estimated vaccine effectiveness of 90%; and maternal protection against measles of 50%. Immunity due to natural measles virus infection, and blunted immune response to MCV1 due to previous receipt of MCV0 at 6 months of age. This model suggests that by 2019, at least 35% of children aged 10 and younger will be susceptible to measles. In contrast, children aged 11—17 will have somewhat higher population immunity of at least 85% in 2019, due to reach by a series of relatively high-coverage SIAs targeting these birth cohorts during 2008—2013.

Figure 15: Measles susceptibility profile for population less than 29 years of age in Papua New Guinea, 2017



Therefore, and as recommended by the Regional Verification Commission, PNG has decided to target children aged 6m—<10 years of age to fill the immunity gap and prevent a potentially catastrophic outbreak of measles, which would have high expected morbidity and mortality given the endemic malnutrition and weak health system in PNG

Feasibility of the Measles-Rubella vaccination campaign

The SIREP Plus MR campaign in 2015—2016 was incompletely implemented and failed to reach a high proportion of the target population and thus did not provide adequate protection against measles and rubella; however, the country's experience during the implementation of SIREP 2015-2016 and

other injectable campaigns provided many valuable lessons learned that will be incorporated into the strategic design and specific strategies of the planned MR-OPV campaign in 2019. As of now (22 November, 2018, the ongoing response to cVDPV has included three successful rounds of OPV (two subnational and two nationwide), achieving high coverage Lessons learned from OPV rounds in 2018 will also be incorporated into planning for the integrated MR-OPV campaign in 2019, so that good practices can be continued, and challenges can be overcome.

The ongoing outbreak of cVDPV, though creating some challenges, has led to a massive investment of resources and expert technical assistance. This investment strengthened the existing public health logistical infrastructure that was needed to implement a high-quality vaccination campaign. Two sub-national and two national OPV vaccination rounds have been implemented between July 16—November 25, 2018, achieving relatively high vaccination coverage (over 95%). Team microplanning exercises for the bOPV SIA were repeated and readjusted prior to each of these four rounds, to ensure inclusion of communities that were routinely missed during prior SIAs. Though oral vaccination campaigns are logistically less challenging than campaigns with injectable antigens, the success of the OPV campaigns have demonstrated the feasibility of successfully reaching a high proportion of targeted children in PNG. Thus, the cVDPV outbreak response has generated a unique and transient opportunity to ensure a high performing MR SIA campaign by leveraging this fresh investment of expertise and resources, as well as making effective use of proven successful practices from past rounds of OPV immunization. Further rounds of OPV are planned in 2019 targeting a wide age range of children, creating an opportunity to deliver OPV along with MR vaccine to a maximum of targeted children.

3.5.2 Alignment with country strategic multi-year plan / comprehensive multi-year plan (cMYP)

Please describe how the plans and key assumptions in this request align with the most recent country strategic multi-year plan (cMYP) and other national health and immunisation plans.

The planned campaign is in line with PNG cMYP (2016-2020) of page 55 and 59 the Strategic Objective (SO4) is to eliminate measles by 2020 and reducing measles morbidity by 90% and mortality 95% by 2020 in following manner. This also supports the regional goals of measles and rubella elimination that were recently reiterated during the Regional Committee Meeting in October 2017

Indicator	2016	2017	2018	2019	2020
Increase Measles Rubella coverage	60%	70%	80%	90%	95%

Key activities have been identified for next 5 years as below (cMYP2016-2020):

- Activity 4.1.1: provide integrated service provision management training for front line workers
- Activity 4.1.2: provide MLM training for EPI mangers
- Activity 4.1.3: ensure utilization on the job training methods (mentorship & supportive supervision)
- Activity 4.1.4: develop a list of high risk communities and collaborate with local authorities for household registration for immunization and other health services
- Activity 4.1.5: accelerate service delivery through mobile and outreach sites
- Activity 4.2: Conduct MR SIA in 20018 and 2020

3.5.3 Coordination Forum (ICC, HSCC or equivalent) and technical advisory committee (NITAG)

Provide a description of the roles of the national Coordination Forum (ICC, HSCC or equivalent body) and national immunization technical advisory group (NITAG) in developing this request. If any of Gavi's requirements to ensure basic functionality of the relevant national Coordination Forum (ICC, HSCC or equivalent) were not met, please describe the reasons and the approach to address this. Requirements can be found in the general application guidelines.
In the absence of a NITAG, countries should clarify the role and functioning of the advisory group and describe plans to establish a NITAG.

The ICC chaired by Secretary Health composed of line department of Government of Papua New Guinea and development partners (WHO, UNICEF, DFAT, INGOs), Church Health Service, School of Public Health, Child Health Advisory Committee and the functions include-

- Fostering partnership by coordinating all inputs and resources available from inside and outside the country in order to maximize resources for immunization.
- Advocates political and financial support
- Approve priority areas and proposed interventions to be funded by HSS grant
- Approve the HSS and annual work plans and annual budget
- Provide comments and approve the joint appraisal draft report
- Ensure and monitor timely budget implementation and overall project expenditures applicable to donor expectation
- Monitor the Progress of outcome and output indicators reflected in M&E funded activities

3.5.4 Financial sustainability

Please discuss the financing-related implications of the new vaccine programs requested, particularly how the government intends to fund the additional co-financing obligations. Please mention if any defaults occurred in the last three years and, if so, describe any mitigation measures that have been implemented to avoid future defaults. Additionally has the country taken into account future transition from Gavi support?

Since 2017, the National Department of Health, with the support of partners including Gavi, the World Bank UNICEF and WHO, has started preparations to ensure the financial sustainability of externally funded immunization programs. In a context of tight fiscal space and a moderate economic outlook, the Department is working to address inefficiencies in public health spending. A first positive step in the improvement of public financial management was the decision to transfer funds for operational expenditure (Health Function Grants) directly to provincial authorities, thus reducing bottlenecks in funding flows.

Another important step towards the preparation for future transitions is the attempt to better understand the current efforts in service delivery and the financial implications of absorbing immunization programs to the government budget. Furthermore, in order to increase the transparency of immunization financing and better document co-financing requirements for Gavi programs in the national budget, the Government of PNG introduced in the 2018 national budget an additional line for vaccines.

Finally, the National Department of Health is working on the institutionalization of the transition process by setting up the governance structures required to oversee this process. This has been identified as a first step in a series of activities validated by the Department in order to prepare for the transition and maximize the opportunities to mainstream external funds in a sustainable manner.

3.5.5 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.

SL	**Challenges**	Way forward
1	Very low levels of conducting outreach,	As SIREP has been chosen to be the strategy for RI service delivery, it is believed that a well-funded SIREP programme will provide a good chance for the programme to reach the target population
2	Supervisory mechanism not fully implemented at all levels and often few provinces receive extensive supervision	A well-designed supervision and monitoring system will be established for the MR-OPV SIA with clear TORs, tools and adequate training for

	due to lack of adequate supervisors from national and PHA level.	supervisors and monitors at all levels. This will leverage the presence of existing international consultants that are currently supporting the polio response.
3	National leadership for EPI-NDOH is limited due to staff crisis	PNG already recruited PM EPI and looking for supportive staff
4	Lack of adequate political support and will in provinces and NDOH, poor social mobilization and program communication at provincial, district LLG and health facility level	• NDOH senior management and partners will capitalize on the momentum that has been created for the polio response and develop an advocacy plan at all levels (national, provincial, district and health facility level) to mobilize support for the campaign building on the successes and strong political commitment made for the polio programme. The Polo outbreak is being considered as a wakeup call for all parties and stakeholders (internal and external) particularly at provincial levels. • National steering committee will have meeting with Health Minister, PM and try to involve PM and governors in campaign advocacy and launching as well as advocacy with other line departments (education, police, etc…) • Leveraging the current investment made in social mobilization for the polio response including engagement of school teachers, church organizations Pastor to be part of community awareness and social mobilization. • The same strategies will be retained and utilized again: School teachers, community and religious leaders will be trained to play their part in the community awareness and social mobilization for the campaign building on their successes and active participation during the polio NIDs. • In addition, there is already a good network of social mobilizers and volunteers at each district and HF level who have been trained to support the polio response. This network of mobilizers will be further expanded and strengthened with additional training to ensure success of social mobilization efforts at community and school levels.
5	Ear marked budget not allocated for EPI in the majority of provinces & districts	National advocacy will be a good platform to get written commitment on support

6	Inadequate human resources providing numerous health care services besides immunisation.	Government has a plan to scale up it as per WB recommendation
8	Underutilisation of data in decision making in the health facilities, districts and provinces	Hiring Provincial Coordinator for a period of 6 month will be critical in capacity development of provincial and district EPI team and also leveraging the presence of the international experts from WHO and UNICEF who are currently supporting the polio response.
9	Population denominator issues	• MR-OPV SIA can capitalize on is existing micro plans that have been developed for the polio response and they are for different target age groups for different polio campaigns. • Leveraging the additional resources and technical expertise that will come with the MR-OPV SIA, NDOH, with support from partners, will extensively do mapping for different communities and villages for the MR-OPV SIA. • This work should have been started already for the ongoing polio NIDS and it is assumed that good picture on the target population, who they are, where do they live and how to reach them will have been completed before Q2/2019. • The partnership with Rotary and PNG Red cross volunteers will help further ascertain the target population and microplanning exercise.
10	Coordination and daily follow up meeting at national level was key to discuss and respond to the issues reported by provinces	• The existing NEOC for polio will be maintained to also coordinate the MR-OPV SIA planning and implementation • An MR-OPV SIA coordination within the NEOC will be identified to work side by side with the polio and GPEI coordinator • One of the advantages of the current system is the establishment of provincial EOC (PEOC). This PEOC will also be retained to coordinate

		the MR-OPV SIA and will be supported by an international expert for each province
11	De-motivated work force in the health facilities.	Training as planned in cascade manner will boost the skill motivation of HWs
	• Rapid Convenient Monitoring (RCM) was not widely implemented specially by provincial and district supervisors • Data was not analysed for coverage/supervision and immediate action like mop up did not take place. Lack of proper management to of SIA data and feedback from provinces as well as late reporting by provinces	• There will be a target of number of RCM for each province/district and catchment area to meet every day and the MR-OPV SIA coordinator at national level will be responsible for making sure that provinces and districts meet their RCM target and data to be reported on daily basis to the NEOC by phone (SMS) or emails. • UNICEF and WHO will coordinate with NDOH to ensure that adequate number of external and internal independent monitors will be deployed to the field to support RCM. • There will also be 2 data managers assigned at NEOC level to work on SIA data: one for the SIA coverage data and one for the RCM and independent monitoring data. • RCM data will be analysed and results will be shared on daily basis with senior management at NDOH and development partners and with PEOCs with recommendations for key action and mop up activities. • NDOH and partners will develop SOPs for mop-up vaccination of underperforming villages/communities. • An SIA focal point will be situated at national level integrated within the existing NEOC and supported by a data manager (international expert). TORs will include liasing and communicating with the international consultants in each province and compiling daily SIAs reports and sharing key points with NEOC.

3.5.6 Improving coverage and equity of routine immunisation

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

The extensive engagement of health systems resources and personnel during the cVDPV response has

created substantial challenges for routine immunization and VPD surveillance to function simultaneously. However, there has also been substantial investment at both national and subnational levels to strengthen the immunization system to support the country to cope with the ongoing polio outbreak, i.e. operational infrastructure and concentration of funds and technical expertise. A Provincial EOC (PEOC) was established in each of the 22 Provinces, within an incident command structure led by the National EOC. International staff from WHO, UNICEF, and US-CDC have been mobilized to provide support to the national level and some provinces with coordination, outbreak management, surveillance, risk communication, vaccine management, logistics, finance and administration). This also created a key opportunity for synergy and high coverage of MR vaccination in PNG. These investments will be further leveraged as the foundation for the upcoming integrated MR-OPV campaign and for the RI. Additional technical support and investment will be brought in to not only ensure the success of the MR-OPV campaign but also to sustain these gains in a way that it will strengthen the routine immunization system for the future.

Table 6: Summary of improvements made by government and partners during the ongoing response to cVDPV

- Updated and detailed microplanning and micromapping of communities to guide outreach activities;
- Strengthened procedures and supervised experience for conducting vaccine-preventable disease surveillance in all provinces;
- Provincial advocacy meetings to improve buy in from provincial governments and partners;
- Established strong and tested structures and protocols for command-and control communication between provincial and national coordinators at strategic, technical, and operational levels, through the National Emergency Operations Center, and creation of Provincial Emergency Operations Centers in all 22 Provinces;
- Provision of high-level expert technical support for supervision and monitoring of campaign preparation and implementation at the National level in all 22 Provinces, including:
    - Coordination and outbreak response
    - Surveillance and epidemiology
    - Vaccine management and procurement
    - Logistics
    - Communication for Development
- Nationwide social mobilization and communication activities to increase awareness and demand for immunization through multiple media outlets, including traditional media and interpersonal communication
- Significant logistic and transportation resources have been invested (rental of helicopters, small planes, boats) from global and local partners in reaching remote and inaccessible communities for cVDPV vaccination, where no previous MR campaign team has successfully

reached in prior campaigns

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3.5.7 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.

Recognizing the fact that many villages in PNG's remote districts have not been reached with routine immunization outreaches and other child survival interventions in the past few years, during this MR-OPV SIA, routine immunization antigens will be offered on demand at fixed sites and in highly remote areas (e.g. those that must be reached by helicopter). Guided by the available human resource bandwidth, other child health interventions such as Vitamin A will also be incorporated into fixed site, mobile, and outreach activities.

3.5.8 Indicative major Measles-rubella and rubella activities planned for the next 5 years

Summaries in one paragraph the indicative major Measles-rubella and rubella activities planned for the next five years that are reflected in the annual EPI plan (e.g. Measles-rubella second dose introduction, Measles-rubella or Measles-rubella-rubella follow up campaign, etc.).

To eliminate measles by 2023 by reducing measles morbidity by 90% and mortality 95% by 2023 in following manner the existing cMYP will be amended

Indicator	2018	2019	2021	2022	2023
Increase Measles Rubella coverage	60%	70%	80%	90%	95%

Key activities have been identified for next 5 years as follows:

- Activity 4.1.1: provide integrated service provision management training for front line workers
- Activity 4.1.2: provide MLM training for EPI mangers
- Activity 4.1.3: ensure utilization on the job training methods (mentorship & supportive supervision)
- Activity 4.1.4: develop a list of high risk communities and collaborate with local authorities for household registration for immunization and other health services
- Activity 4.1.5: accelerate service delivery through mobile and outreach sites
- Activity 4.2.1: Conduct MR SIA in 2019 (6M-5 Y)
- Activity 4.2: Conduct MR SIA in 2020 for older age (5-15Y) group and in

another SIA in 2022/2023

Major activities planned for MR SIA 2019:

1. **Advocacy and mobilization of political support:** this will target health officials, religious leaders, education department, social welfare department political leaders MP, LLG president, DDA, Governor, NGOs, journalist, Radio, musical band etc, women group) will be advocated and oriented at National, provincial and district level respectively on upcoming Measles Rubella campaign for all provinces of PNG.
2. **Campaign planning and microplanning:** a total of 38 international experts (from different specialities: SIA coordinators, epidemiologist, C4D,operations, security, risk communication, etc…) will be deployed to provinces and districts and health facilities to support the planning and microplanning for the MR-OP SIA enough time ahead of the campaign. Many of these experts are already on the ground now supporting the polio response.
3. **Training and capacity building:** this will target Chief Executive Officer, Public Health Advisor, Director, Family Health Coordination Officer, vaccine and cold chain officer, Officer in charge –HF, vaccinators and volunteers) will be trained at National, District and Health facility level respectively with proper training material (operational guideline, filed guide, reporting and monitoring materials)
4. **Social mobilization:** This will target teachers, pastor, elders, women group, village leader, music band, tribal leaders) will be oriented on MR campaign to increase community awareness and to create vaccine demand at Health facility level
5. **Print and distribution of IEC materials:** this will target communities in order to create demand and community awareness following communication materials: poster, banner, flag, flyer, TV /Radio spot, newspaper supplement will be generated and publicized
6. **Campaign Launching:** All provinces will formally launch campaign apart from national with the presence of dignitaries, media, elites, Political leaders, MPs, Governor
7. **Campaign Implementation:** A minimum of 26,103 sessions will be needed (static-, Mobile and Outreach Patrol) to vaccinate all targeted children
8. **Campaign Supervision and monitoring:** A total of 31 full time international experts and adequate number of independent monitors (international and national) will be utilized to support all processes of the campaign from preparatory phase and checking of readiness of provinces and districts to implementation phase. Campaign Monitoring through RCM will be extensively implemented leveraging the presence of these international and national monitors
9. **Campaign Monitoring (Mop Up):** provision for mop up activities will be part of each

district microplan following the RCM findings. The Mop up activities will be closely monitored and followed up by both the PEOC and NEOC

10. **Campaign Evaluation (Survey):** A standard WHO post campaign evaluation survey will be implemented.
11. **Technical Assistance:** One National Coordinator (international) will be recruited and will be based in Port Moresby while 22 provincial coordinator (international) will be hired for 6 months (3 months before campaign) and will be based at provincial level each per province. Additionally 10 C4D specialists will also be deployed one per province for priority provinces and in strategic locations for other regions/provinces.

Report on Grant Performance Framework

3.6.1 Grant Performance Framework – Application Instructions

The Grant Performance Framework (GPF) contains all indicators that will be used to monitor programmatic performance for your requested type of support. Targets that were entered for number to be vaccinated in section 3 on the Target Information tab, have been carried over into their respective indicators in the GPF. Based on these numbers, coverage and dropout rate targets were calculated (where applicable). These appear as "calculated targets". If you wish to revise these target values, please revise in the application form – they are not editable in the performance framework. In addition, as a part of your application, there are several items to be filled directly into the GPF. These are broken into required and optional items, below:

Required
1. In addition to the calculated targets, country targets are required to be submitted for outcome indicators. These targets should align to those in your cMYP or NHSP. If these targets are not in your cMYP or NHSP, or are the same as the calculated targets, please enter "NA" for each target value.
2. Additional indicators that appear in the Performance Framework that are not included in the application form. Please enter targets for these indicators.
3. For many indicators, reporting dates have been pre-populated. For those that have not yet been pre-populated, please add reporting dates.

Optional
1. Adding data sources to existing indicators: If there are data sources for indicators that you would like to include, you may add an additional source by clicking on the pencil icon next to the indicator name.
2. Adding new indicators: Gavi requires all countries to report on core indicators, which are already included in the GPF. If you wish to add supplemental indicators to monitor performance, you may do so by clicking the "Add indicator" button at the respective performance level (Outcome, Intermediate Result, or Process).

Please note that the GPF is filtered by default to only show indicators that are relevant to the specific types of support contained in the application. You may view the entire GPF by using the "Grant Status" filter. Please ensure your pop-up blocker is disabled when launching the GPF.

If you have any questions, please send an email to countryportal@gavi.org.

Upload new application documents

3.7.1 Upload new application documents

Below is the list of **application specific documents** that must be provided with your application.

In the case a document cannot be provided, please use the comment box to explain why, or by when it will be available.

Application documents

!	**New vaccine introduction plan (NVIP) and/or campaign plan of action (PoA), including checklist & activity list and timeline** If support for a campaign and routine introduction is requested at the same time, the new vaccine introduction plan and campaign plan of action can be combined into one document to minimise duplication.	No file uploaded
!	**Gavi budgeting and planning template**	No file uploaded
	Most recent assessment of burden of relevant disease If not already included in detail in the Introduction Plan or Plan of Action.	No file uploaded
	Campaign target population (if applicable)	No file uploaded

Endorsement by coordination and advisory groups

!	**National coordination forum meeting minutes, with endorsement of application, and including signatures** The minutes of the national coordination forum meeting should mention the domestic funding of MCV1	No file uploaded
!	**NITAG meeting minutes** with specific recommendations on the NVS introduction or campaign	No file uploaded

Vaccine specific

!	**cMYP addendum** Situation analysis and 5 year plan captured in the cMYP or as an addendum to the cMYP	No file uploaded
!	**Annual EPI plan** Annual EPI plan detailing planning of all measles and rubella-related activities for the current year, including realistic timelines, designated responsible individual(s) and a budget	No file uploaded
	MCV1 self-financing commitment letter If the country is not yet financing the measles monovalent component of MCV1, a letter signed by the Minister of Health and Minister of Finance committing for the country to self-finance MCV1 from 2018 onwards.	No file uploaded

	Measles (and rubella) strategic plan for elimination If available	No file uploaded
	Other documents (optional)	No file uploaded

Review and submit application

Submission Details

Country vaccine funding summary

Please review the estimated projections for new vaccine programmes included in this application.

Active Vaccine Programmes

IPV Routine

	2018	2019	2020	2021	2022
Country Co-financing (US$)					
Gavi support (US$)	318,000	301,927	308,618	315,357	322,137

PCV Routine

	2018	2019	2020	2021	2022
Country Co-financing (US$)	865,502	1,264,020	1,597,136		
Gavi support (US$)	1,016,000	678,149	388,031		

Pentavalent Routine

	2018	2019	2020	2021	2022
Country Co-financing (US$)	550,246	597,763	608,951		
Gavi support (US$)	76,500	64,198	67,534		

Measles SD Routine - Strat 1

	2019	2020	2021	2022
Country Co-financing (US$)	42,456	44,441		
Gavi support (US$)	40,292	42,191		

Total Active Vaccine Programmes

	2018	2019	2020	2021	2022
Total country co-financing (US$)	1,415,748	1,904,239	2,250,528		
Total Gavi support (US$)	1,410,500	1,084,566	806,374	315,357	322,137
Total value (US$) (Gavi + Country co-financing)	2,826,248	2,988,805	3,056,902	315,357	322,137

New Vaccine Programme Support Requested

Measles-rubella follow-up campaign

	2019	2020
Country Co-financing (US$)		
Gavi support (US$)		

	2019	2020
Total country co-financing (US$)		
Total Gavi support (US$)		
Total value (US$) (Gavi + Country co-financing)		

Total Portfolio Overview – Existing Programs + New Vaccine Support Requested (US$)

	2018	2019	2020	2021	2022
Total country co-financing (US$)	1,415,748	1,904,239	2,250,528		

Total Gavi support (US$)	1,410,500	1,084,566	806,374	315,357	322,137
Total value (US$) (Gavi + Country co-financing)	2,826,248	2,988,805	3,056,902	315,357	322,137

Contacts

Person(s) who should be contacted in case Gavi needs to ask for more information in regard to the application.

Name	Position	Phone Number	Email	Organisation

Please let us know if you have any comments about this application

No Response

Government signature form

The Government of Papua New Guinea would like to expand the existing partnership with Gavi for the improvement of the immunisation programme of the country, and specifically hereby requests Gavi support for:

Measles-rubella follow-up campaign

The Government of Papua New Guinea commits itself to developing national immunisation services on a sustainable basis in accordance with the national health and immunisation strategic plans. The Government requests that Gavi and its partners contribute financial and technical assistance to support immunisation of children as outlined in this application.

The co-financing commitments in this application include the amount of support in either supplies or cash that is requested from Gavi, and the financial commitment of the Government for the procurement of this new vaccine.

Please note that Gavi will not review this application without the signatures of both the Minister of Health and Minister of Finance (and Minister of Education, if applicable) or their delegated authority.

We, the undersigned, affirm that the objectives and activities in this request are fully aligned with the national health and immunisation strategic plans (or equivalent), and that funds for implementing all activities, including domestic funds and any needed vaccine co-financing will be included in the annual budget of the Ministry of Health.

We, the undersigned, further affirm that the requested funding for salaries, salary top-ups/allowances, per diems and incentives does not duplicate funding from other sources (e.g. from other donors).

We, the undersigned, further affirm that the terms and conditions of the Partnership Framework Agreement between Gavi and the Country remain in full effect and shall apply to any and all Gavi support made pursuant to this application.[1]

Minister of Health (or delegated authority)	**Minister of Finance (or delegated authority)**
Name	Name
Date	Date
Signature	Signature

For countries requesting HPV support, with a school linked strategy, the signature of the Minister of Education (or delegated authority) is also required.

Minister of Education (or delegated authority)

Name

Date

Signature

[1] In the event the Country has not yet executed a Partnership Framework Agreement, the terms and conditions of this application shall apply to any and all Gavi support made pursuant to this application.