Annexe B

The Government of Papua New Guinea

VACCINE SUPPORT

This Decision Letter sets out the Programme Terms of a Programme

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>2.</td>
<td>Grant Number: 15-PNG-09a-X / 15-PNG-08d-Y</td>
</tr>
<tr>
<td>3.</td>
<td>Date of Decision Letter: 10 June 2014</td>
</tr>
<tr>
<td>4.</td>
<td>Date of the Partnership Framework Agreement: 29 November 2013</td>
</tr>
<tr>
<td>5.</td>
<td>Programme Title: NVS, Measles second dose Routine</td>
</tr>
<tr>
<td>6.</td>
<td>Vaccine type: Measles</td>
</tr>
<tr>
<td>7.</td>
<td>Requested product presentation and formulation of vaccine: Measles second dose</td>
</tr>
<tr>
<td>8.</td>
<td>Programme Duration¹: 2015</td>
</tr>
<tr>
<td>9.</td>
<td>Programme Budget (indicative) (subject to the terms of the Partnership Framework Agreement):</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Programme Budget (US$)</th>
<th>2015</th>
<th>Total²</th>
</tr>
</thead>
<tbody>
<tr>
<td>US$43,500</td>
<td></td>
<td>US$43,500</td>
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</tbody>
</table>

10. Vaccine Introduction Grant: US$187,500 payable up to six months before the introduction.

¹ This is the entire duration of the programme.
² This is the total amount endorsed by GAVI for the entire duration of the programme. This should be equal to the total of all sums in the table.
11. **Indicative Annual Amounts (subject to the terms of the Partnership Framework Agreement):** US$43,500

<table>
<thead>
<tr>
<th>Type of supplies to be purchased with GAVI funds in each year</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Measles vaccines doses</td>
<td>124,000</td>
</tr>
<tr>
<td>Number of AD syringes</td>
<td>109,300</td>
</tr>
<tr>
<td>Number of re-constitution syringes</td>
<td>13,700</td>
</tr>
<tr>
<td>Number of safety boxes</td>
<td>1,375</td>
</tr>
<tr>
<td>Annual Amounts (US$)</td>
<td>US$43,500</td>
</tr>
</tbody>
</table>

12. Procurement agency: UNICEF.

13. Self-procurement: Not applicable.

14. **Co-financing obligations: Reference code:** According to the Co-Financing Policy, The Government of Papua New Guinea is a graduating country.

The following table summarises the Co-Financing Payment(s) and quantity of supply that will be procured with such funds in the relevant year.

<table>
<thead>
<tr>
<th>Type of supplies to be purchased with Country funds in each year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of vaccine doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of AD syringes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of re-constitution syringes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of safety boxes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value of vaccine doses (US$)</td>
<td>US$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Co-Financing Payments (US$) (including freight)</td>
<td>US$</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15. **Operational support for campaigns:** Not applicable

<table>
<thead>
<tr>
<th>Grant amount (US$)</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>US$</td>
</tr>
</tbody>
</table>

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3 This is the amount that GAVI has approved. Please amend the indicative Annual Amounts from previous years if that changes subsequently.
16. The Country shall deliver the following documents by the specified due dates as part of the conditions to the approval and disbursements of the future Annual Amounts: Not applicable

<table>
<thead>
<tr>
<th>Reports, documents and other deliverables</th>
<th>Due dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Progress Report or equivalent</td>
<td>To be agreed with GAVI Secretariat</td>
</tr>
</tbody>
</table>

17. Financial Clarifications: N/A

18. Other conditions: Not applicable.

Signed by,

[Signature]

On behalf of the GAVI Alliance
Hind Khatib-Othman
Managing Director, Country Programmes
10 June 2014
The Government of Papua New Guinea

VACCINE SUPPORT
This Decision Letter sets out the Programme Terms of a Programme


2. Grant Number: 15-PNG-18a-X / 15-PNG-08e-Y / 15-PNG-20a-Y

3. Date of Decision Letter: 10 June 2014

4. Date of the Partnership Framework Agreement: 29 November 2013

5. Programme Title: NVS, Measles-Rubella Campaign

6. Vaccine type: Measles

7. Requested product presentation and formulation of vaccine: Measles-Rubella, 10 dose(s) per vial, LYOPHILISED

8. Programme Duration: 2015

9. Programme Budget (indicative) (subject to the terms of the Partnership Framework Agreement):

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>Total(^5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programme Budget (US$)</td>
<td>US$2,499,500</td>
<td>US$2,499,500</td>
</tr>
</tbody>
</table>

10. Vaccine Introduction Grant: US$187,500 payable up to six months before the introduction.

\(^4\) This is the entire duration of the programme.
\(^5\) This is the total amount endorsed by GAVI for the entire duration of the programme. This should be equal to the total of all sums in the table.
11. Indicative Annual Amounts (subject to the terms of the Partnership Framework Agreement):  

<table>
<thead>
<tr>
<th>Type of supplies to be purchased with GAVI funds in each year</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Measles-Rubella vaccines doses</td>
<td>3,544,700</td>
</tr>
<tr>
<td>Number of AD syringes</td>
<td>3,304,400</td>
</tr>
<tr>
<td>Number of re-constitution syringes</td>
<td>390,000</td>
</tr>
<tr>
<td>Number of safety boxes</td>
<td>41,025</td>
</tr>
<tr>
<td>Annual Amounts (US$)</td>
<td>US$2,499,500</td>
</tr>
</tbody>
</table>

12. Procurement agency: UNICEF.

13. Self-procurement: Not applicable.


| Total Co-Financing Payments (US$) (including freight) | US$ |

15. Operational support for campaigns: The support for operational costs for campaign will be disbursed to the Health Sector Improvement Program, National Department of Health of the Government of Papua New Guinea

<table>
<thead>
<tr>
<th>Grant amount (US$)</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>US$1,953,000</td>
</tr>
</tbody>
</table>

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6 This is the amount that GAVI has approved. Please amend the indicative Annual Amounts from previous years if that changes subsequently.
16. The Country shall deliver the following documents by the specified due dates as part of the conditions to the approval and disbursements of the future Annual Amounts:

<table>
<thead>
<tr>
<th>Reports, documents and other deliverables</th>
<th>Due dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Progress Report or equivalent</td>
<td>To be agreed with GAVI Secretariat</td>
</tr>
<tr>
<td>Technical Report for the Campaign</td>
<td>3 months after the end of the campaign</td>
</tr>
<tr>
<td>Report of inquiry for the post campaign coverage</td>
<td>As soon as the report is available</td>
</tr>
<tr>
<td>Annual Situation report for 2014 or identical document</td>
<td>To be agreed with GAVI Secretariat</td>
</tr>
</tbody>
</table>

17. Financial Clarifications: N/A

18. Other conditions: Not applicable.

Signed by,

[Signature]

On behalf of the GAVI Alliance
Hind Khatib-Othman
Managing Director, Country Programmes
10 June 2014
Country: Papua New Guinea
Type of support requested: NVS
Vaccines requested: MR campaign and Measles second dose
Reviewed: Geneva, 7 – 22 November 2013

Basic data for Papua New Guinea in 2012

<table>
<thead>
<tr>
<th>Population UNPD</th>
<th>7,167,010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population 1-14 yrs (UNPD)</td>
<td>2,800,000</td>
</tr>
<tr>
<td>DTP3 coverage JRF official</td>
<td>WHO/UNICEF</td>
</tr>
<tr>
<td>MCV1 coverage JRF official</td>
<td>WHO/UNICEF</td>
</tr>
<tr>
<td>GNI/capita (World Bank, 2012)</td>
<td>$1,790</td>
</tr>
<tr>
<td>Co-financing country group (as GNI/capita has recently risen above US$1,550, PNG is soon to become a “graduating” country and thus ineligible for NVS)</td>
<td>Intermediate</td>
</tr>
</tbody>
</table>

1. Type of support requested

<table>
<thead>
<tr>
<th>Type of support requested</th>
<th>Planned start date (Month, Year)</th>
<th>Duration of support</th>
<th>Vaccine presentation(s) (1st and 2nd choice, if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR campaign</td>
<td>2015</td>
<td>1 year</td>
<td>MR, 10 dose(s) per vial, LYOPHILISED</td>
</tr>
<tr>
<td>Measles second dose</td>
<td>September 2015</td>
<td>2019</td>
<td>Measles second dose</td>
</tr>
</tbody>
</table>

2. In-country governance mechanisms (ICC)
There is an ICC presided by the Deputy Minister of Health and includes NDoH, multilateral agencies (WHO, UNICEF), bilateral agencies (AusAID, JICA), CSO (Society of Paediatrics, Churches of PNG) and Medical School. The terms of reference (functions) and minutes of three last meetings are attached to the proposal.

Minutes are provided of the meeting where the proposal was “in principle” endorsed by the ICC. The proposal notes that “Significant support was provided by all ICC members including technical assistance and providing specific input during the review of the documents.” However, the minutes are cursory and do not permit assessment of the extent of discussions.

There is no NITAG. However, development of the proposal was supported by the Paediatrics Society of PNG and the Child Health Advisory Committee of the MoH.
3. Situation analysis
PNG has for many years officially accepted DTP3 and MCV1 coverage of roughly 60%. WHO/UNICEF have themselves endorsed these official estimates.

By these estimates, PNG would not normally qualify for GAVI support for MSD. However, WHO staff have communicated with GAVI to endorse evidence from a hepatitis B sero-survey suggesting that PNG's true MCV1 coverage is 86%. The survey had a nationally representative sample of 2,160 children of 4 to 6 years old. Coverage was estimated by card or (in the absence of a card) mother's recall (of an event up to 5 years previously). The IRC is uncertain whether this qualifies as "a recent high-quality coverage survey completed after the most recent WHO/UNICEF estimate" (as required by GAVI guidelines).

Other evidence that has been submitted (from sub-national surveys, from surveys conducted more than 6 years ago, from an insufficiently sensitive surveillance system in the setting of frequent measles SIAs, findings from a non-representative sample of health facilities showing under-reporting of MCV1 and) does not provide sufficient justification to satisfy GAVI requirements.

SIAs in 2008/2009, 2010/2011 and 2012 each covered 83% to 88% of the target populations. The proposal explicitly notes that the coverage estimate for the 2012 SIA is based upon "administrative coverage" rather than a survey. Note: GAVI guidelines specify that, unless MCV1 > 80%, a country must have achieved with the most recent SIA either administrative coverage >= 90% or survey coverage >=80%.

Laboratory surveillance for fever with rash has confirmed between 7 and 37 cases of rubella per year in PNG. The country does not have an established Congenital Rubella Syndrome (CRS) surveillance to assess the burden of CRS in the country although a retrospective review at Port Moresby General Hospital found a significant number of probable cases of CRS.

In the surveillance of acute fever and rash (AFR), progressive increase of rubella positivity was found (2010: 19%; 2011: 25%; 2012: 32%), mostly in those youngsters younger than 15 years of age. Following an outbreak of rubella in children, 24% of pregnant women were IgM positive (2012). The outcome of the pregnancies is still to be known. Another study (2012) reported that more than 90% of women older than 15 years of age had acquired natural immunity. The susceptible population has an annual risk of 23% of acquiring rubella.
4. Overview of national health documents
PNGV50 is a long-term planning of the country. NHP 2011-2020 is aligned with PNGV50, and is the only sector plan to do so. cMYP 2011-2015 is, therefore, aligned with NHP and the long-term PNGV50.

The cMYP covers the period from 2011 to 2015. The costing tool does not reflect the costs of the proposed MR SIA nor introduction of rubella vaccine into the immunisation schedule. The narrative of the cMYP is equivocal about whether and when to introduce rubella vaccination into the immunisation schedule. The narrative of the cMYP makes no mention of any plan to introduce a second dose of measles after 12 months of age.

5. Gender and Equity
Papua New Guinea at the national level has not routinely collected sex disaggregated data for routine immunisation although the proposal states that such information is available at the level of the local health facility. According to the MR Proposal, the National Health Information System in consultation with all development partners and with technical advice from the Child Health Advisory Committee has started the process to incorporate the reporting of routine vaccine doses by sex of the child. The data when made available by the National Health Information System will be analysed by the National EPI unit and steps will be taken to address any disparity.

According to a report commissioned by UNICEF, PNG has very high numbers of men to women at every age group. There are almost 331,000 boys aged 10 to 14, and only 290,000 girls in the same age category. Papua New Guinea also has high rates of child marriage, with higher rates in rural areas. The Rapid Coverage Monitoring evidence in the Report on Integrated Measles Supplementary Immunisation Activity, 2012 was “gender neutral” in that it did not identify whether the caretaker responsible for taking children for immunisation was male or female nor did it dig deeply into why 12% of children were not vaccinated during this particular campaign in this region (“knew about campaign but were too busy” 31%; “other reasons” 21%). It is highly likely that gender equity barriers need to be addressed.

It is recommended that PNG undertake a study to determine whether the low status of women affects their ability as mothers to take their children for routine or campaign immunisation.

6. Proposed activities, budgets, financial planning and financial sustainability- Total budget is defined for the cMYP: The cMYP 2011-2015 financial plan shows a gap of US$18.5 million (10.4%) of the total cost of US$178 million. How the government plans to address this gap should be clarified.
**Financing for the MR campaign and MR routine:** The template specifies that GAVI funding to support the campaign will be limited to US$1,952,549. In contrast, the narrative of the proposal asks GAVI to provide US$2,920,000 for operational cost of MR campaign. A note from the ICC has been inserted into the proposal: "The support of US$ 0.65 is far less than the actual cost per beneficiary in PNG. The operational cost in conducting campaigns in PNG is considerably higher due to cost of transportation to remote locations."

In addition to GAVI support for MR campaign operations, PNG is also eligible for an MR Vaccine Introduction Grant (VIG). This should be the same size as the VIG for MSD (US$187,328). However, the proposal calls for an MR VIG of US$ 201,835. The budget for GAVI support to the MR campaign includes US$1,400,000 for transportation. The proposal specifies that an additional US$1,250,000 will be required from other sources (GoPNG, AusAID, WHO, UNICEF) to cover training (gap = US$128,000), IEC (US$54,000), surveillance and monitoring (US$50,000) and planning (US$80,000). Remarkably, the entire budget for the post-campaign survey ($500,000) is to come from as yet unknown non-GAVI sources.

As evidence that the country will finance the introduction of RCV into their routine programme, the proposal includes a letter from the Secretary for Health but none of the supporting documentation specified by GAVI guidelines (commercial contract, integration of RCV into the cMYP, an MoU committing donors to finance procurement, a letter from the Minister of Finance).

**MSD:** GAVI is to support US$187,328 as VIG for MSD. This is budgeted for appropriate activities. The proposal specifies that an additional US$380,000 will be required from other sources (GoPNG, AusAID, WHO, UNICEF) to cover training (gap = US$40,000), programme management (gap = US$230,000), surveillance and monitoring (gap = US$108,000).

7. **Specific comments related to requested support**

**MR campaign:** The proposal justifies the age group to be targeted for the MR campaign by noting a study that found that 90% of women more than 15 years of age have acquired natural immunity.

A phased approach will take place in two phases: from April to June 2015 then from July to September 2015.

The proposal includes appropriate plans for the campaign, for introduction of RCV into the routine schedule and for developing CRS surveillance. The proposal includes a relatively strong plan for assuring that the MR campaign will benefit routine immunisation.
Post campaign evaluation: It has not been the practice in PNG to conduct nationwide coverage surveys either to assess routine vaccination (the most recent DHS or MICs was in 2006) or for any of the numerous SIAs that have been conducted. This is clearly unfortunate, given the current uncertainty about vaccination coverage. A post-campaign coverage survey is a priority. A document accompanying the proposal notes that “an independent post-campaign coverage survey using a standardised methodology would be conducted after the completion of the planned MR campaign. This will also encompass the assessment of all routine immunisation coverage. The findings from the survey will be used to strengthen the routine immunisation programme.” Yet the budget for GAVI support of the MR campaign includes no funding for such a survey. Funds for such a survey (estimated to cost US$500,000) will have to be raised from as yet unspecified sources (GoPNG vs. AusAID vs. UNICEF or WHO). To assure high quality sampling and data collection, the coverage survey should be done entirely separately from the rapid convenience assessment performed during the campaign.

**MSD:** The proposal calls for “Introduction of MSD in the National Immunisation Schedule in Q4 2015 as MR vaccine.” As this is to start in September an MSD coverage target of 33% is proposed for 2015. The GAVI financed vaccines and logistics will be procured and supplied through UNICEF.

A document that accompanies the proposal notes that “Measles-rubella case-based surveillance in PNG has low sensitivity, not yet meeting the target indicator of >2 non-measles febrile rash cases per 100,000 population.” The proposal notes that the national EPI Unit is taking steps to strengthen this surveillance.

The proposal notes plans for “Formulation of AEFI policy and guidelines on AEFI. Reporting of AEFI will be strengthened”.

**Vaccine management and cold chain capacity:** PNG conducted its last EVM in May 2011. The scores on various criteria were relatively low. The progress report shows that as of April 2013, 47% of 17 tasks in the improvement plan at national level had been completed and 55% of 20 tasks at provincial/district levels had been completed. The proposal notes that “An analysis of the cold chain capacity for the introduction MR was undertaken which found that there was sufficient cold chain storage capacity at all levels of vaccine storage to absorb the requirements of the MR.”

**Waste management:** Some health facilities (unspecified percentage) have incinerators whereas others (unspecified percentage) burn and bury vaccination waste.

8. Country document quality, completeness, consistency and data accuracy
1. The cMYP needs to be updated to reflect addition of MR and MSD after 12 months.
2. The proposal indicates in several places that "Measles second dose, 10 dose(s) per vial, Lyophilised" is the preferred vaccine for the MSD. This contradicts repeated statements in the proposal such as "Introduction of MSD in the National Immunisation Schedule in Q4 2015 as MR vaccine".
3. The country is requesting a larger grant for operational support of the MR campaign than is permitted by GAVI guidelines.
4. The VIG for MR (US$201,835 requested) should be the same as the VIG for MSD (234,160 births x US$0.80 = US$187,328).

9. Overview of the proposal

Strengths:

1. GAVI support for MSD after 12 months will enable PNG authorities to update their immunisation schedule to make measles immunisations more effective and consistent with international recommendations.
2. During previous measles SIAs, PNG has achieved coverage of more than 80% by administrative statistics.
3. PNG has plans to strengthen surveillance for CRS and measles/rubella (which now falls short of targets) and acknowledges the need to strengthen surveillance and response to AEFI.
4. The proposal includes a relatively strong plan for how the proposed MR campaign may strengthen routine immunisation activities.

Weaknesses:

1. Many years of official estimates and WHO/UNICEF estimates have suggested that MCV1 is < 80% based upon administrative statistics. It is unfortunate that a high quality nationwide coverage survey using standard methods has not been performed for more than 6 years.
2. Data from the 2012-2013 hepatitis B sero-surveys suggest that the MCV1 is greater than 80%. However, the resulting immunisation coverage estimates depend in part upon recall of immunisation events that took place up to 5 years before the survey. A full report from this survey (including an adequate description of the questionnaire and sampling methodology) is not yet available. The IRC must decide whether this is an acceptable methodology. Other evidence presented (sub-national surveys, surveys older than 5 years, findings from an insufficiently sensitive surveillance system in a setting of frequent SIAs, findings from a non-representative sample of health facilities showing under-reporting of MCV1), while supporting the argument that MCV1 has been under-reported, does not explicitly satisfy the requirements of GAVI guidelines.
3. Administrative estimates from recent SIAs have suggested that coverage has been less than 90%. In the absence of findings from a survey documenting SIA coverage (of at least 80%) these administrative estimates do not, by themselves, satisfy the GAVI requirements for MR campaign support. Note that WHO SAGE and GAVI requirements for at least 80% MCV1 or at least 80% SIA coverage (by survey; or 90% by administrative data) are designed to protect against the possibility of a "paradoxical
effect” whereby pockets of girls go unimmunised for many years and then become infected with rubella during pregnancy.

4. PNG has indicated that it will find it difficult to finance the MR campaign with the funds specified by GAVI guidelines. The funding gap of US$1,250,000 is substantial.

5. Funding for an essential post-campaign coverage survey remains uncertain.

6. The application lacks the minimum documentation required to demonstrate that the country can finance the introduction of RCV into their routine programme.

7. The cMYP narrative and costing tool do not reflect plans for MSD after 12 months and for an MR campaign.

10. Conclusions
In most cases, the IRC defers to the standard WHO/UNICEF process to determine whether a country has met GAVI requirements for immunisation coverage. However, the guidelines specify certain exceptions. The IRC must decide whether the hepatitis B sero-survey of 2012-2013 satisfies GAVI criteria for a “high-quality coverage survey”. A high quality immunisation coverage survey is clearly a priority to assess true coverage with all antigens.

11. Recommendation
NVS: MR campaign, MSD

Recommendation: Approval with conditions

Conditions:

1. To approve either proposal (MR campaign; MSD), the IRC and those advising the IRC require further documentation from the 2012-2013 hepatitis B sero-survey to determine whether the survey meets WHO/UNICEF standards for a high-quality coverage survey and whether it provides sufficient evidence that MCV1 coverage of PNG is >= 80%. In particular, the percentage of children for which immunisations were assessed by card vs recall should be reported on.

2. To approve the proposal for the MR campaign, the IRC needs to review a revised proposal that clearly commits members of the ICC to mobilising sufficient funding for a high quality MR campaign including a high-quality post-campaign coverage survey. GAVI can fund only US$0.65 per child.

3. Please submit an update of the cMYP costing tool and a narrative document summarising updates to the cMYP that reflect PNG plans to drop measles immunisation at 6 months, begin MCV2 immunisation after 12 months of age, combine rubella immunisation with measles immunisation and conduct an MR campaign. (first dose MR, before 12 months of age, MSD only measles, because GAVI will not pay for R second dose).

4. The revised proposal and all supporting documents should consistently specify whether rubella vaccine will be administered with MCV2.

5. GAVI guidelines require that one or more of the following be provided as evidence that the country can finance the introduction of RCV in their routine programme:
a. A commercial contract for purchase of MR vaccine with or without shipping documents, invoice, etc.;
b. Integration of RCV into the cMYP with a corresponding increase in the budget line for vaccines in the health sector budget adequate to cover purchase of RCV;
c. A Memorandum of Understanding between the government and donor(s) (or other written document) committing the donor(s) to support for at least one year the purchase of RCV for use in the routine programme;
d. A letter from the Minister of Finance or Budget ensuring additional funding for RCV purchase.

IRC Review of Country Response to Conditions


12. Review of Country Response to Conditions

Condition 1: To approve either proposal (MR campaign; MSD), the IRC and those advising the IRC require further documentation from the 2012-2013 hepatitis B sero-survey to determine whether the survey meets WHO/UNICEF standards for a high-quality coverage survey and whether it provides sufficient evidence that MCV1 coverage of PNG is \( \geq 80\% \). In particular, the percentage of children for which immunisations were assessed by card vs recall should be reported on.

Comments: The Government of PNG is preparing a detailed report on the recently concluded sero-survey. For sampling, provinces were selected with probability proportionate to size with technical oversight from WHO. The inaccessible districts due to local security issues were excluded a priori from the sampling frame. During the survey a few of the selected villages could not be reached due to either harsh climatic condition during the time of visit and/or local security issues which were beyond the control of the investigators. Immunisation status of children 4 to 6 years of age was assessed by card for 54\% of children and by recall for 46\% of children.

As part of their deliberations, the IRC consulted with GAVI’s rubella immunisation advisor, Dr Susan Reef of CDC. She suggested that the GAVI guidelines were overly conservative in requiring that coverage with the most recent measles SIA be 90\% or higher by administrative estimates. She added that when a catch up campaign takes place at the outset of rubella control activities and achieves a coverage of 80\% or higher by administrative estimates (as with
the previous measles SIAs), international experience suggests that this should eliminate any risk of a paradoxical increase in the incidence of congenital rubella syndrome.

Conclusion: Condition 1 is not met. However, the IRC recommends that GAVI make an exception to its guidelines and provide MR and MSD support based upon measles SIA coverage of greater than 80% based upon administrative estimates.

There are several reasons why the hepatitis B sera-prevalence survey would probably not meet WHO/UNICEF standards for a coverage survey:

1. For their annual review of coverage data, WHO/UNICEF typically analyse survey data only for children 12 – 23 months of age for whom recall is less of a problem and they typically require the full report of the survey;
2. In the case of a survey in Papua New Guinea, reliable recall is a special problem since some mothers may not remember whether the immunisation was administered prior to 9 months (in which case the immunisation should not be counted) versus 9 months or greater;
3. Without more details about the number of (low coverage) districts that were excluded from the sampling frame due to insecurity, it is not possible to assess how this may have biased the survey results.

In spite of these limitations, the IRC recommends that, based upon the recommendation of WHO and CDC measles/rubella experts, GAVI should accept the available evidence as sufficient for demonstrating that Papua New Guinea will be able to achieve and maintain adequate coverage with rubella immunisation and measles immunisation.

**Condition 2:** To approve the proposal for the MR campaign, the IRC needs to review a revised proposal that clearly commits members of the ICC to mobilising sufficient funding for a high quality MR campaign including a high-quality post-campaign coverage survey. GAVI can fund only US$0.65 per child.

**Comments:** The Government of PNG has effectively mobilised all the funds required for conducting all the past supplementary immunisation activities (measles, polio and tetanus toxoid). The Government of PNG will make all provisions for the funding gap (both for the MR campaign and post-campaign survey) and the required funds will be borne by the Government and in-country donor partners (AusAID, NZAID, WHO and UNICEF) as needed.
Conclusion: Condition 2 is met.

Condition 3. Please submit an update of the cMYP costing tool and a narrative document summarising updates to the cMYP that reflect PNG plans to drop measles immunisation at 6 months, begin MCV2 immunisation after 12 months of age, combine rubella immunisation with measles immunisation and conduct an MR campaign. (first dose MR, before 12 months of age, MSD only measles, because GAVI will not pay for R second dose).

Comments: The Government of PNG is planning to update its current cMYP (2011-2015) in 2014. The policy of administering measles vaccine at 6 months of age is being reviewed by the CHAC in the light of the introduction of the measles second dose vaccine. Rubella vaccine will be introduced as the second dose of measles at 18-24 months. The recommendations of CHAC on revising the immunisation schedule to include two MR doses at 9 months and 18-24 months will be integrated in the revised cMYP costing tool and also in the EPI manual and policy of the country.

Conclusion: Efforts to meet condition 3 are underway.

Condition 4: The revised proposal and all supporting documents should consistently specify whether rubella vaccine will be administered with MCV2.

Comments: The letter of response has clarified that two doses of MR are to be administered at 9 months and 18-24 months.

Conclusion: Condition 4 is met.
**Condition 5:** GAVI guidelines require that one or more of the following be provided as evidence that the country can finance the introduction of RCV in their routine programme:

a) A commercial contract for purchase of MR vaccine with or without shipping documents, invoice, etc; b) Integration of RCV into the cMYP with a corresponding increase in the budget line for vaccines in the health sector budget adequate to cover purchase of RCV; c) A Memorandum of Understanding between the government and donor(s) (or other written document) committing the donor(s) to support for at least one year the purchase of RCV for use in the routine programme; d) A letter from the Minister of Finance or Budget ensuring additional funding for RCV purchase.

**Comments:** The commitment letter from the Secretary of Health should be respected by IRC as the evidence document that Papua New Guinea will finance the introduction of rubella vaccine in its national immunisation schedule.

**Conclusion:** Condition 5 is met.

**13. Updated recommendation:** Approval

**Recommendations to the country**

1. A high quality immunisation coverage survey that meets WHO/UNICEF standards should be of the highest priority for the national immunisation programme of Papua New Guinea. Until such a survey is completed and the results are available, major uncertainties will persist about true immunisation coverage in the country. As long as such uncertainties persist, it will remain important for Papua New Guinea to conduct periodic, high quality MR SIAs to assure greater than 80% coverage with measles and rubella immunisation.

2. The IRC encourages the Child Health Advisory Committee (CHAC) of Papua New Guinea to carefully consider the advice of WHO’s Strategic Advisory Group of Experts (SAGE) on Immunization (http://www.who.int/wer/2009/wer8435.pdf?ua=1 ). WHO SAGE recommends against administration of measles vaccine to children younger than 9 months of age.