

*GAVI Alliance*

**Application Form for Country Proposals**

*For Support to New and Under-Used Vaccines (NVS)*

Submitted by

The Government of

***Papua New Guinea***

Date of submission: **28.05.2011 23:23:31**

**Deadline for submission: 1 Jun 2011**

Select Start and End Year of your Comprehensive Multi-Year Plan (cMYP)

|  |  |  |  |
| --- | --- | --- | --- |
| Start Year | 2011 | End Year | 2015 |

**Revised in January 2011**

**(To be used with Guidelines of December 2010)**

Please submit the Proposal using the online platform [https://AppsPortal.gavialliance.org/PDExtranet](https://appsportal.gavialliance.org/PDExtranet).

Enquiries to: proposals@gavialliance.org or representatives of a GAVI partner agency. The documents can be shared with GAVI partners, collaborators and general public. The Proposal and attachments must be submitted in English, French, Spanish, or Russian.

**Note:** Please ensure that the application has been received by the GAVI Secretariat on or before the day of the deadline.

The GAVI Secretariat is unable to return submitted documents and attachments to countries. Unless otherwise specified, documents will be shared with the GAVI Alliance partners and the general public.

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| **GAVI ALLIANCE****GRANT TERMS AND CONDITIONS****FUNDING USED SOLELY FOR APPROVED PROGRAMMES**The applicant country (“Country”) confirms that all funding provided by the GAVI Alliance 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 the GAVI Alliance. All funding decisions for the application are made at the discretion of the GAVI Alliance Board and are subject to IRC processes and the availability of funds.**AMENDMENT TO THE APPLICATION**The Country will notify the GAVI Alliance in its Annual Progress Report if it wishes to propose any change to the programme(s) description in its application. The GAVI Alliance will document any change approved by the GAVI Alliance, and the Country’s application will be amended.**RETURN OF FUNDS**The Country agrees to reimburse to the GAVI Alliance all funding amounts that are not 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 the GAVI Alliance, within sixty (60) days after the Country receives the GAVI Alliance’s request for a reimbursement and be paid to the account or accounts as directed by the GAVI Alliance.**SUSPENSION/ TERMINATION**The GAVI Alliance 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 programmes described in the Country’s application, or any GAVI Alliance-approved amendment to the application. The GAVI Alliance retains the right to terminate its support to the Country for the programmes described in its application if a misuse of GAVI Alliance funds is confirmed.**ANTICORRUPTION**The Country confirms that funds provided by the GAVI Alliance 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.**AUDITS AND RECORDS**The Country will conduct annual financial audits, and share these with the GAVI Alliance, as requested. The GAVI Alliance 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 Alliance 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 Alliance 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 the GAVI Alliance in connection with any audit.**CONFIRMATION OF LEGAL VALIDITY**The Country and the signatories for the Country confirm that its application, and Annual Progress Report, are accurate and correct and form legally binding obligations on the Country, under the Country’s law, to perform the programmes described in its application, as amended, if applicable, in the APR.**CONFIRMATION OF COMPLIANCE WITH THE GAVI ALLIANCE TRANSPARANCY AND ACCOUNTABILITY POLICY**The Country confirms that it is familiar with the GAVI Alliance Transparency and Accountability Policy (TAP) and complies with the requirements therein.**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 the GAVI Alliance 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 the GAVI Alliance 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 language of the arbitration will be English.For any dispute for which the amount at issue is US$ 100,000 or less, there will be one arbitrator appointed by the GAVI Alliance. For any dispute for which the amount at issue is greater than US $100,000 there will be three arbitrators appointed as follows: The GAVI Alliance 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.The GAVI Alliance will not be liable to the country for any claim or loss relating to the programmes described in the application, including without limitation, any financial loss, reliance claims, any harm to property, or personal injury or death. Country is solely responsible for all aspects of managing and implementing the programmes described in its application. |

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| **Application Specification** |
| Please specify for which type of GAVI support you would like to apply to. |

**Important note**: To enable proper functioning of the form, please first select the cMYP years on the previous page.

**Note:** To add new lines click on the ***New item*** icon in the ***Action*** column. Use the ***Delete item*** icon to delete a line.

| **Type of Support** | **Vaccine** | **Start Year** | **End Year** | **Preferred second presentation[1]** | **Action** |
| --- | --- | --- | --- | --- | --- |
| New Vaccines Support | Pneumococcal (PCV13), 1 doses/vial, Liquid | 2012 | 2015 | Pneumococcal (PCV10), 2 doses/vial, Liquid |  |

**[1]** This "***Preferred second presentation***" will be used in case there is no supply available for the preferred presentation of the selected vaccine ("**Vaccine**" column). If left blank, it will be assumed that the country will prefer waiting until the selected vaccine becomes available.

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# **Executive Summary**

Papua New Guinea has an estimated population of around 6.5 million, 40% under the age of 15. It has more than 800 languages, over 1000 dialects and many ethnic groups, sub-ethnicities, clans and sub-clans spread across its 22 provinces. Papua New Guinea has an annual birth cohort of around 210,000.

Health services in Papua New Guinea (PNG) are provided by the Government and church medical services and are primarily financed by public funds. The poor road infrastructure and rugged terrain pose formidable challenges to the effective delivery of health services nationwide. The leading health problems in Papua New Guinea continue to be communicable diseases, with malaria, tuberculosis, diarrhoeal diseases, and acute respiratory disease as major causes of morbidity and mortality. The increased size and mobility of populations, the growth of larger, denser populations in peri-urban communities, and the relative weakening of health services combine to increase the incidence of communicable diseases.
The official estimates of DTP-3 and Measles 9 month for the year 2010 was 70% and 59% respectively. The coverage estimates for DTP-3 and Measles in Papua New Guinea has been fairly constant or has shown very slow progress over last few years(1).

As part of the new vaccine application to GAVI, Papua New Guinea has planned to conduct the Effective Vaccine Management assessment in May 2011. Papua New Guinea conducted an internal Effective Vaccine Store Management assessment in September 2008. According to the recent estimates done for the cold chain storage capacity in the country, with possible introduction of pneumococcal vaccine in 2012, the cold chain capacity both at national and sub-national level is adequate to accomodate the available and the new vaccine. However, it is anticipated that the proposed EVM exercise in the country will help addressing any relevant quality issue in the cold chain system in the country, if any and which will support further strengthening of the vaccine management in the country.

Under-5 mortality and pneumonia in Papua New Guinea:

In Papua New Guinea, the under-5 mortality rate is 75 per 1000 live births, and the infant mortality rate 54 per 1000 live births(1). With a birth cohort in excess of 160,000 per year, there are more than 10,000 infant and child deaths annually. This rate places PNG in the "high-mid" under -5 mortality quartile.

Pneumonia is the most common causes of serious illness and death in children in PNG, accounting for 30-40% of hospitalizations and deaths (2). WHO estimates that that in 2008, pneumonia accounted for 22% and meningitis accounted for 5% of under-5 mortality in PNG (World Health Statistics 2010). The paediatric hospital reporting system established in provincial hospitals in Papua New Guinea in 2008 enables to record admission, calculate mortality rate and supports monitoring trends in disease burden and outcomes over time. For pneumonia reporting from 8 (eight) hospitals in 2010, case mix varies widely between hospitals. Pneumonia makes upto 20.6% of the admission overall; 31% in highlands hospitals. However, in costal hospitals, pneumonia remains a major killer.

In the absence of vaccination, Streptococcus pneumoniae (pneumococcus) and Haemophilus influenzae are the most common causes of pneumonia death in children, and are also common causes of childhood meningitis and sepsis. Hib vaccine was already introduced in PNG, leaving pneumococcus as the most important cause of child pneumonia and meningitis. About 30% of cases of radiographically proven pneumonia and 45% of pneumonia with bacteraemia are due to S. pneumonia. PNG has been documented to have high rates of pneumonia and other bacterial diseases among children. WHO estimates that in 2000, pneumococcus caused 20,766 cases of pneumonia, 235 cases of meningitis, and 1,165 cases of other invasive disease among children under 5 years old in PNG, resulting in 825 deaths. (Updated estimates for 2008 are under preparation but not yet available) These estimates are based on data from Australia, Fiji, New Zealand, and Kenya. Sentinel meningitis surveillance data from 8 sites in PNG show that 11.9% of probable bacterial meningitis cases among children under 5 years old were due to pneumococcus in the first half of 2010, confirming that pneumococcus is an important cause of childhood invasive bacterial disease in PNG. Studies have found high rates of mortality and neurologic sequelae following bacterial meningitis in PNG(11).

At a conservative estimate there are between 3000-4000 deaths in children from pneumonia annually in PNG, and at least 1000 of these are due to pneumococcal pneumonia. Annual sector review report of National Health information system shows the national rate of pneumonia case fatality is around 3.0% for the last five years (9). However, there exist wide inter-provincial differences, which reflect the illness severity at the time of presentation, available system of practice, staff skills and training and resources in the provincial hospitals and health centres. This gets reflected in the national paediatric hospital reporting of 2010, which shows there is no deaths among 144 admission in Alotau hospital, Milne Bay province to 26 deaths among 170 admission in Kimbe (Case Fatality Rate: 15.3%)(8).

Pneumococcal serotypes in Papua New Guinea: The common pathogenic pneumococcal serotypes as detected in PNG are 2, 5, 6B, 7F, 14, 19F and 23F (7).

Choice of vaccine:

13-valent PCV (PCV13) would remain the choice for PNG because it covers 79% of serotypes present in invasive pneumococcal disease in Oceania, as compared to only 75% of serotypes for 10-valent PCV (PCV10). Source: Pneumococcal Global Serotype Project (no recent local data on invasive serotypes available).

Thus, government of Papua New Guinea plans to introduce 13-valent pneumococcal conjugate vaccine with request of co-financing support from GAVI.
As potential effect of PCV10 conjugated to H. influenzae Protein D (3-6) on pneumonia in Papua New Guinea is still being evaluated as part of extensive research (3) and which has however proven that this vaccine protects against some acute otitis media due to non-typable Hi which is evidently present in lung aspirate in children with pneumonia4, thus government of Papua New Guinea would like to place the request for PCV10 as preferred second presentation and further decision will be taken after the research results are available with government of Papua New Guinea, when the advantage will be made clear by the ongoing research.

Summary on coordination with Interagency Coordination Committee members and preparedness of the country:

The Interagency Coordination Committee members in Papua New Guinea represented by all partner organizations and also by civil society organizations were strongly involved during the discussion and preparation of this proposal. Significant support was provided by all ICC members including technical assistance and providing specific input during the review of the documents. Support was also provided by major research agencies in Papua New Guinea working in the field of pneumonia research.

The Department of Health’s Child Health Plan 2009-2020 and the EPI Comprehensive Multi-year plan 2011-15 commits to the introduction of a pneumococcal conjugate vaccine (PCV), as part of a broader strategy to reduce the large disease burden of pneumonia, meningitis and pneumococcal sepsis in PNG and would request GAVI for co-financing support for next five years. The introduction of PCV will be built on the successful introduction of Hib vaccine in 2008. Other major interventions that form part of the Department of Health’s plans to address pneumonia (10) include: Improvements in the quality of services at community health (aid) posts, to include immunization services and IMCI case management and standard treatment for pneumonia and other common diseases, extension of vitamin A supplementation to the second year of life, expansion of the oxygen concentrator / pulse oximeter program to all hospitals, & improving the quality of hospital care, promotion of exclusive breast feeding, avoidance of early solid feeding, Improvements in the quality of neonatal care and care of low birth weight infants and reducing indoor air pollution, more widespread adoption of the Healthy Islands concept.

The preparedness of the country for the introduction of pneumococcal vaccine in Papua New Guinea can be ascertained from the fact that the national health plan drafted in line with addressing MDG 4 and MDG 5 clearly addresses reduction of child mortality through vaccination as one of the key result areas. Research in Papua New Guinea clearly shows pneumonia as a major childhood killer disease which is also being addressed by a comprehensive intervention of better care and management. There are two existing methods of surveillance of meningitis and encephalitis in Papua New Guinea: laboratory and clinical. In 2007-08 a laboratory-based surveillance system for meningitis was set up in 8 provincial hospital sentinel sites. This system is designed to monitor the effectiveness of the introduction of Hib vaccine, and provide information on the burden of other vaccine preventable meningitis and pneumonia pathogens, particularly S. pneumoniae. These data are aggregated each month, indicating trends in the causes of meningitis by province. As part of sustainability of this surveillance, the latex antigen test kits will be planned to be included on the national medical catalogue of drugs and diagnostics. The hospital-based computer-based clinical surveillance system was established at hospitals with paediatricians that enable standardized reporting of hospital admission data on pneumonia and other common childhood illness, and case fatality rates. Pneumonia cases are sub-divided into all cases and those with severe pneumonia, to give more precise information on case fatality rates by disease severity. This surveillance system will help detect outbreaks, monitor for trends in Pneumococcal and Hi disease, and can be built on over the years to include other aetiology-specific diagnoses if laboratory capacity in provincial hospitals is strengthened. The cold chain preparedness of the country has already been ascertained with installation of two new cold rooms at the national level and replacement of the cold chain equipments at the sub-national level in 2009-10 with support from JICA.
The health system reforms planned in Papua New Guinea; rural health transformation project a joint initiative of Asian Development Bank, AusAID, KOICA with technical support from WHO and UNICEF, which address strengthening of the health system at the community level and these initiatives in Papua New Guinea with also support better reach of the immunization services to the priority group of rural majority and urban poor.

References:

(1) National Statistics Office. Papua New Guinea Demographic and Health Survey 2006. 1 ed. Port Moresby: National Statistics Office; 2009 and WHO/UNICEF Joint Reporting Form
(2) Duke T, Michael A, Mgone J, Frank D, Wal T, Sehuko R. Etiology of child mortality in Goroka, Papua New Guinea: a prospective two-year study. Bull World Health Organ 2002; 80:16-25.
(3) Dinleyici EC, Yargic ZA. Pneumococcal conjugated vaccine: PHiD-CV. Expert Rev Anti Infect Ther 2009; 9:1063-1074.
(4) Shann F. Pneumonia in children in Papua New Guinea. 1 ed. Washington DC: Pan American Regional Office of the World Health Organisation; 1985.
(5) Prymula R, Schuerman L. 10-valent pneumococcal nontypeable Haemophilus influenzae PD conjugate vaccine: Synflorix. Exp Rev Vaccines 2009; 11:1479-1500.
(6) Silverdal SA, Hogh B, Bergsaker MR, Skerlikova H, Lomel P, Borys D et al. Immunogenicity of a 2-dose priming and booster vaccination with the 10-valent pneumococcal nontypeable Haemophilus influenzae protein D conjugate vaccine. Pediatr Infect Dis J 2009;e276-e282.
(7) Pomat WS, Lehmann D, Sanders RC, Lewis DJ, Wilson J, Rogers S et al. Immunoglobulin G antibody responses to polyvalent pneumococcal vaccine in the highlnds of Papua New Guinea. Infection and Immunity 1994; 62(5):1848-1853.
(8) Draft report of National Paediatric Hospital Reporting System – 2010, Papua New Guinea
(9) 2010 Annual Health Sector Review, National Report, Assessment of sector performance 2005-09
(10) The Papua New Guinea Child Health Policy and Plan 2009-2020. 1 ed. Port Moresby: PNG Department of Health; 2009
(11) Long-term outcome for children with bacterial meningitis in rural PNG (1992-2000); 2005; Journal of Tropical Pediatrics

# **Signatures**

# **Signatures of the Government and National Coordinating Bodies**

# **Government and the Inter-Agency Coordinating Committee for Immunisation**

The Government of Papua New Guinea would like to expand the existing partnership with the GAVI Alliance for the improvement of the infants routine immunisation programme of the country, and specifically hereby requests for GAVI support for Pneumococcal (PCV13) 1 doses/vial Liquid introduction.

The Government of Papua New Guinea commits itself to developing national immunisation services on a sustainable basis in accordance with the Comprehensive Multi-Year Plan (cMYP) presented with this document. The Government requests that the GAVI Alliance and its partners contribute financial and technical assistance to support immunisation of children as outlined in this application.

Tables 6.(n).5. (where (n) depends on the vaccine) in the NVS section of this application shows the amount of support in either supply or cash that is required from the GAVI Alliance. Tables 6.(n).4. of this application shows the Government financial commitment for the procurement of this new vaccine (NVS support only).

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

Please note that this application will not be reviewed or approved by the Independent Review Committee (IRC) without the signatures of both the Minister of Health & Minister of Finance or their delegated authority.

Enter the family name in capital letters.

| **Minister of Health (or delegated authority)** | **Minister of Finance (or delegated authority)** |
| --- | --- |
| **Name** | DR CLEMENT MALAU, SECRETARY FOR HEALTH | **Name** | Ms. ELVA LIONEL, DIRECTOR HSIPB |
| **Date** |  | **Date** |  |
| **Signature** |  | **Signature** |  |

*This report has been compiled by*

**Note:** To add new lines click on the ***New item*** icon in the ***Action*** column. Use the ***Delete item*** icon to delete a line.

Enter the family name in capital letters.

| **Full name** | **Position** | **Telephone** | **Email** | **Action** |
| --- | --- | --- | --- | --- |
| Mr. Steven TOIKILIK | National EPI Manager | (675) 323 0976 | stoikilik@cbsc.org.pg |  |
| Dr. William LAGANI | Manager, Family Health Services | (675) 301 3841 | william\_lagani@health.gov.pg |  |
| Dr. Siddhartha DATTA | Technical Officer-EPI, WHO | (675) 325 7827 | dattas@wpro.who.int |  |
| Dr. Grace KARIWIGA | Maternal and Child Health Officer-UNICEF | (675) 308 7368 | gkariwiga@unicef.org |  |

# **National Coordinating Body - Inter-Agency Coordinating Committee for Immunisation**

We the members of the ICC, HSCC, or equivalent committee**[1]** met on the 05.05.2011 to review this proposal. At that meeting we endorsed this proposal on the basis of the supporting documentation which is attached.

**[1]** Inter-agency Coordinating Committee or Health Sector Coordinating Committee, or equivalent committee which has the authority to endorse this application in the country in question.

The endorsed minutes of this meeting are attached as DOCUMENT NUMBER: 4.

**Note:** To add new lines click on the ***New item*** icon in the ***Action*** column. Use the ***Delete item*** icon to delete a line.

Enter the family name in capital letters.

| **Name/Title** | **Agency/Organisation** | **Signature** | **Action** |
| --- | --- | --- | --- |
| Dr. Paison DAKULALA, Deputy Secretary for Health | National Department of Health |  |  |
| Mr. Enoch POSANAI, Executive Manager, Public Health | National Department of Health |  |  |
| Dr. William ADU-KROW, WHO Country Representative | WHO Country Office |  |  |
| Dr. Bertrand DESMOULINS, UNICEF Country Representative | UNICEF Country Office |  |  |
| Dr. Geoff CLARK, Programme Director Health, AusAID | AusAID |  |  |
| Mr. Noriyuki ITO, Assistant Resident Representative | JICA Country Office |  |  |
| Dr. Paulus RIPA, Paediatrician & Senior Curriculum Development Advisor | School of Medicine, University of PNG |  |  |
| Mr. Joseph SIKA, Representative, Churches Medical Council | PNG Churches Medical Council |  |  |
| Dr. James AMINI, President | Paediatric Society of PNG |  |  |
| Ms. Elva LIONEL, Director, HSIP | Health Sector Improvement Program, NDoH |  |  |
| Ms. Catherine BEACHAM - Senior Program Manager, Burnet Institute Senior Program Manager | Burnet Institute of Australia, PNG Office |  |  |

In case the GAVI Secretariat has queries on this submission, please contact

Enter the family name in capital letters.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | Dr. Paison DAKULALA | **Title** | Deputy Secretary for Health |
| **Tel no** | (675) 301 6776 |
| **Fax no** | (675) 323 6421 | **Address** | National Department of Health, AOPI Centre, Waigani, Port Moresby, Papua New Guinea |
| **Email** | paison\_dakulala@health.gov.pg |

# **The Inter-Agency Coordinating Committee for Immunisation**

Agencies and partners (including development partners and NGOs) supporting immunisation services are co-ordinated and organised through an inter-agency coordinating mechanism (ICC, HSCC, or equivalent committee). The ICC, HSCC, or equivalent committee is responsible for coordinating and guiding the use of the GAVI NVS support. Please provide information about the ICC, HSCC, or equivalent committee in your country in the table below.

**Profile of the ICC, HSCC, or equivalent committee**

|  |  |
| --- | --- |
| **Name of the committee** | ICC  |
| **Year of constitution of the current committee** | 2006 |
| **Organisational structure (e.g., sub-committee, stand-alone)** | Stand Alone |
| **Frequency of meetings** | Once every quarter |

**Composition**

**Note:** To add new lines click on the ***New item*** icon in the ***Action*** column. Use the ***Delete item*** icon to delete a line.

Enter the family name in capital letters.

| **Function** | **Title / Organisation** | **Name** |
| --- | --- | --- |
| **Chair** | Deputy Secretary for Health / National Department of Health | Dr. Paison DAKULALA |
| **Secretary** | Executive Manager, Public Health/ National Department of Health | Mr. Enoch POSANAI |
| **Members** | WHO Country Representative/WORLD HELATH ORGANIZATION | Dr. William ADUKROW  | **Action** |
|  | UNICEF Country Representative/ UNICEF | Dr. Bertrand DESMOULINS |  |
|  | Programme Director Health / AusAID | Dr. Geoff CLARK |  |
|  | Assistant Resident Representative / JICA | Mr. Noriyuki ITO |  |
|  | Paediatrician & Senior Curriculum Development Advisor/ School of Medicine, University of PNG | Dr. Paulus RIPA  |  |
|  | Representative, Churches Medical Council/ PNG Churches Medical Council | Mr. Joseph SIKA |  |
|  | President/ Paediatric Society of PNG | Dr. James AMINI |  |
|  | Director / Health Sector Improvement Program, NDoH | Ms. Elva LIONEL |  |
|  | Senior Program Manager/ Burnet Institute | Ms. Catherine BEACHAM |  |

Major functions and responsibilities of the committee

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| **The Inter-Agency Coordination Committee on EPI chaired by the Secretary for Health will meet at least quarterly to:1. Provide overall guidance and direction to immunization services in PNG2. Coordinate international agencies activities on EPI3. Assist continuous review and updating of national policy and program on immunization4. Assist and review implementation of EPI5. Review necessary information and assist introduction of any new vaccines into immunization systems as appropriate to PNG context6. Assist development of GAVI and other funding proposals and review their progress of implementation.7. Review the implementation of annual EPI plan against the set targets and goal** |

Three major strategies to enhance the committee's role and functions in the next 12 months

|  |  |
| --- | --- |
| **1.** | **The ICC members plans to closely monitor the EPI activities in identified low-performing districts to provide independent assessment of the progress and provide suggestions for improvement** |
| **2.** | **The ICC members to provide support to EPI programme in ensuring financial flow for co-financing by the government of Papua New Guinea to prevent situation of stock outs** |
| **3.** | **The ICC members will review the implementation of pentavalent vaccine during its regular meetings while making efforts to prepare the grounds towards introduction of new vaccines thereby addressing all necessary operational and technical issues related to it.** |

# **National Immunization Technical Advisory Group for Immunisation**

(If it has been established in the country)

We the members of the NITAG met on the to review this proposal. At that meeting we endorsed this proposal on the basis of the supporting documentation which is attached.

The endorsed minutes of this meeting are attached as DOCUMENT NUMBER: .

In case the GAVI Secretariat has queries on this submission, please contact

Enter the family name in capital letters.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** |  | **Title** |  |
| **Tel no** |  |
| **Fax no** |  | **Address** |  |
| **Email** |  |

# **The NITAG Group for Immunisation**

**Profile of the NITAG**

|  |  |
| --- | --- |
| **Name of the NITAG** |  |
| **Year of constitution of the current NITAG** |  |
| **Organisational structure (e.g., sub-committee, stand-alone)** |  |
| **Frequency of meetings** |  |

**Composition**

**Note:** To add new lines click on the ***New item*** icon in the ***Action*** column. Use the ***Delete item*** icon to delete a line.

Enter the family name in capital letters.

| **Function** | **Title / Organisation** | **Name** |
| --- | --- | --- |
| **Chair** |  |  |
| **Secretary** |  |  |
| **Members** |  |  | **Action** |
|  |  |  |  |

Major functions and responsibilities of the NITAG

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|  |

Three major strategies to enhance the NITAG’s role and functions in the next 12 months

|  |  |
| --- | --- |
| **1.** |  |
| **2.** |  |
| **3.** |  |

# **Immunisation Programme Data**

Please complete the tables below, using data from available sources. Please identify the source of the data, and the date. Where possible use the most recent data and attach the source document.

* Please refer to the Comprehensive Multi-Year Plan for Immunisation (cMYP) (or equivalent plan) and attach a complete copy (with an Executive Summary) as DOCUMENT NUMBER 5
* Please refer to the two most recent annual WHO/UNICEF Joint Reporting Forms (JRF) on Vaccine Preventable Diseases.
* Please refer to Health Sector Strategy documents, budgetary documents, and other reports, surveys etc, as appropriate.

# **Basic facts**

For the year 2010 (most recent; specify dates of data provided)

|  | **Figure** | **Year** | **Source** |
| --- | --- | --- | --- |
| Total population | 7,112,628 |  | 2011 | National Statistical Office, Papua New Guinea |
| Infant mortality rate (per 1000) | 57 |  | 2006 | Demographic Health Survey and Annual Sector Review |
| Surviving Infants**[1]** | 216,637 |  | 2010 | WHO/UNICEF JRF Data |
| GNI per capita (US$) | 1,200 |  | 2010 | World Bank Report |
| Total Health Expenditure (THE) as a percentage of GDP |  | % |  |  |
| General government expenditure on health (GGHE) as % of General government expenditure | 3.20 | % | 2011 | World Bank Report |

**[1]** Surviving infants = Infants surviving the first 12 months of life

Please provide some additional information on the planning and budgeting context in your country; also indicate the name and date of the relevant planning document for health

|  |
| --- |
| **The National Health Administration Act (1997) establishes the National Health Plan (NHP) as a national policy. It applies to the entire country including Provincial and Local-Level Governments. The Act provides for the NHP to be approved by the National Executive Council after considering recommendation by the National Health Board. The National Strategic Plan (NSP) 2010-2050 of Government of Papua New Guinea (GoPNG) promises to provide the next forty year vision and framework for long range planning. A Long Term Development Strategy (LTDS) 2010-2030 is being developed to link the principles and focus areas of the NSP and provide policy direction and sectoral interventions with clear objectives, quantitative targets and baseline indicators. To achieve the intended long term goal, the LTDS proposes five broad strategies which will be detailed in four Medium Term Development Plans (MTDP) over the next twenty years. The National Health Plan 2010-2020 forms the basis of all health planning in the country. The main emphasis of the National Health plan in PNG is towards strengthening primary health care for all and improved service delivery for the rural majority and urban disadvantaged. The National health plan clearly addresses Paris declaration on Aid Effectiveness and harmonization. The planning unit under national department of health provides all technical support to the planning of the national health plan while the national health information system in addition to providing the technical support to data collation and analysis provide strategic support to review of the progress by using disease specific and health system indicators. The budget distribution and allocation by the GoPNG is always reviewed in line with the priorities laid down under the national health plan while also addressing the province specific areas of support.** |

Is the cMYP (or updated Multi-Year Plan) aligned with this document (timing, content, etc.)?

|  |
| --- |
| **Yes, the information herein is aligned to cMYP 2011-15** |

Please indicate the national planning budgeting cycle for health

|  |
| --- |
| **The department of health under the leadership of Secretary for Health with support from all development partners starts the annual national implementation plan preparation from the month of May/June of the preceding year. In this process, each planning and technical unit in national department health involving all program units with technical support from the supporting partners develops the programme specific programme implementation plan. It is always ensured that the programme unit plans are in line with national health plan of the country and all the programmes address the building blocks of the national health plan. The programme unit implementation and budget plans are approved by the respective executive managers. The National department of health submits the plan to ministry of finance and treasury by the month of August / September for review of the budget and fund allocation from the government treasury which contributes to the recurrent expenditure of the department of health. In the month of the November, the consolidated planning, implementation and budget plan is submitted to National Executive Council for approval of the parliament, which when approved and shared with all programme officers in National Department of health for effective implementation.** |

Please indicate the national planning cycle for immunisation

|  |
| --- |
| **The national EPI unit, as part of the national department of Health is the planning unit for the immunization related activities and is the parent unit towards preparing the immunization programme of the country. During the third quarter of the year, the national EPI unit aligns its activities with that of the Provincial Annual Implementation plan and advices the provincial planners towards the national priorities and shares the national plan of action. During the preparation of the annual national EPI plan, the national EPI unit is supported by all partners working in the field of immunization namely WHO, UNICEF, AusAID and JICA and national EPI unit upon costing the annual implementation plan shares the shortfall in terms funding to partners. The national EPI unit, based on the discussion with all partners identifies the specific areas of support by partners to national EPI plan. Based on the alignment of the national Annual Implementation plan with the provincial implementation plan, the national EPI unit submits the same to the department of health for its usual approval process which then becomes part the national planning and budget for health as described in the preceding section.** |

Please indicate if sex disaggregated data (SDD) is used in immunisation routine reporting systems

|  |
| --- |
| **Gender disintegrated coverage figures is recorded at health facility; however, the data is not reported or collated by National Health information system.** |

Please indicate if gender aspects relating to introduction of a new vaccine have been addressed in the introduction plan

|  |
| --- |
| **As the government of Papua New Guinea doesn't place a gender preference to the services provided under the National health services including immunization services, thus children of either sex have will have equal access to immunization services in Papua New Guinea** |

# **Current vaccination schedule**

Traditional, New Vaccines and Vitamin A supplement (refer to cMYP pages)

**Note:** To add new lines click on the ***New item*** icon in the ***Action*** column. Use the ***Delete item*** icon to delete a line.

| **Vaccine****(do not use trade name)** | **Ages of administration****(by routine immunisation services)** | **Given in****entire country** | **Comments** | **Action** |
| --- | --- | --- | --- | --- |
| BCG | At Birth  | Yes |  |  |
| DTP-Hib-HepB vaccine | 1, 2 and 3 months | Yes |  |  |
| OPV (Sabin) | 1, 2 and 3 months | Yes |  |  |
| Hepatitis B Birth Dose | Within 24 Hours of Birth | Yes |  |  |
| Measles | 6 months | Yes |  |  |
| Measles | 9 months | Yes |  |  |
| Tetanus Toxoid | School Entry (7 Years) and School Exit (13 Years) | Yes | For school going children |  |
| Tetanus Toxoid | Two doses in first pregnancy, four weeks apart, then one dose every subsequent pregnancy until fifth pregnancy | Yes | For Pregnant women |  |
| **Vitamin A** | 6 and 12 Months  | Yes |  |

# **Trends of immunisation coverage and disease burden**

(as per last two annual WHO/UNICEF Joint Reporting Form on Vaccine Preventable Diseases)

| **Trends of immunisation coverage (percentage)** | **Vaccine preventable disease burden** |
| --- | --- |
| **Vaccine** | **Reported** | **Survey** | **Disease** | **Number of reported cases** |
|  | 2009 | 2010 | 2006 |  |  | **2009** | **2010** |
| **BCG** | 80 | 80 | 90 |  | **Tuberculosis** | 2,242 |  |
| **DTP** | **DTP1** | 84 | 84 | 88 |  | **Diphtheria** | 0 | 0 |
| **DTP3** | 70 | 70 | 67 |  | **Pertussis** | 2,932 | 4,949 |
| **Polio 3** | 70 | 70 | 69 |  | **Polio** | 0 | 0 |
| **Measles (first dose)** | 58 | 59 | 82 |  | **Measles** | 0 | 0 |
| **TT2+ (Pregnant women)** | 35 | 50 | 70 |  | **NN Tetanus** | 125 | 32 |
| **Hib3** | 64 | 70 |  |  | **Hib[2]** | 38 | 72 |
| **Yellow Fever** |  |  |  |  | **Yellow fever** |  |  |
| **HepB3** | 64 | 89 | 75 |  | **HepBsero-prevalence[1]** |  |  |
| **Vitamin A supplement** **Mothers (< 6 weeks post-delivery)** |  |  |  |  |  |
| **Vitamin A supplement** **Infants (>6 months)** | 52 | 54 |  |  |

**[1]** If available

**[2]** **Note**: JRF asks for Hib meningitis

If survey data is included in the table above, please indicate the years the surveys were conducted, the full title and if available, the age groups the data refers to

|  |
| --- |
| **The survey data here refers to the 2006 Demographic and Health Survey. The age group here refer to 12-23 months of age.** |

# **Baseline and Annual Targets**

(refer to cMYP pages)

**Table 1:** baseline figures

| **Number** | **Base Year** | **Baseline and Targets** |
| --- | --- | --- |
| **2010** | **2012** | **2013** | **2014** | **2015** |  |  |
| **Total births** | 216,637 | 228,493 | 234,662 | 240,998 | 247,505 |  |  |
| **Total infants' deaths** | 12,349 | 13,024 | 13,375 | 13,737 | 14,108 |  |  |
| **Total surviving infants** | 204,288 | 215,469 | 221,287 | 227,261 | 233,397 |  |  |
| **Total pregnant women** | 238,301 | 251,342 | 258,128 | 265,098 | 272,256 |  |  |
| **Number of infants vaccinated (to be vaccinated) with BCG** | 170,361 | 194,219 | 211,195 | 216,898 | 222,754 |  |  |
| **BCG coverage (%)[1]** | 79% | 85% | 90% | 90% | 90% |  |  |
| **Number of infants vaccinated (to be vaccinated) with OPV3**  | 124,329 | 180,993 | 194,732 | 204,534 | 210,057 |  |  |
| **OPV3 coverage (%)[2]** | 61% | 84% | 88% | 90% | 90% |  |  |
| **Number of infants vaccinated (or to be vaccinated) with DTP1[3]** | 162,465 | 185,303 | 194,732 | 204,535 | 214,726 |  |  |
| **Number of infants vaccinated (to be vaccinated) with DTP3[3]** | 113,523 | 161,602 | 177,029 | 193,172 | 210,058 |  |  |
| **DTP3 coverage (%)[2]** | 56% | 75% | 80% | 85% | 90% |  |  |
| **Wastage[1] rate in base-year and planned thereafter for DTP (%)** | 5% | 5% | 5% | 5% | 5% |  |  |
| **Wastage[1] factor in base-year and planned thereafter for DTP** | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 |  |  |
| **Target population vaccinated with 1st dose of Pneumococcal** |  | 185,303 | 194,732 | 204,535 | 214,726 |  |  |
| **Target population vaccinated with 3rd dose of Pneumococcal** |  | 161,602 | 177,029 | 193,172 | 210,058 |  |  |
| **Pneumococcal coverage (%)[2]** | 0% | 75% | 80% | 85% | 90% |  |  |
| **Infants vaccinated (to be vaccinated) with 1st dose of Measles** | 111,355 | 161,602 | 177,029 | 193,172 | 210,058 |  |  |
| **Measles coverage (%)[2]** | 55% | 75% | 80% | 85% | 90% |  |  |
| **Pregnant women vaccinated with TT+** | 99,037 | 138,238 | 167,784 | 198,823 | 217,805 |  |  |
| **TT+ coverage (%)[4]** | 42% | 55% | 65% | 75% | 80% |  |  |
| **Vit A supplement to mothers within 6 weeks from delivery** |  |  |  |  |  |  |  |
| **Vit A supplement to infants after 6 months** |  | 140,055 | 154,901 | 170,446 | 186,718 |  |  |
| **Annual DTP Drop-out rate[ ( DTP1 - DTP3 ) / DTP1 ] x 100[5]** | 30% | 13% | 9% | 6% | 2% |  |  |

**[1]** Number of infants vaccinated out of total births

**[2]** Number of infants vaccinated out of total surviving infants

**[3]** Indicate total number of children vaccinated with either DTP alone or combined

**[4]** Number of pregnant women vaccinated with TT+ out of total pregnant women

**[5]** The formula to calculate a vaccine wastage rate (in percentage):[ ( A – B ) / A ] x 100. Whereby: A = the number of doses distributed for use according to the supply records with correction for stock balance at the end of the supply period; B = the number of vaccinations with the same vaccine in the same period.

# **Summary of current and future immunisation budget**

(or refer to cMYP pages)

|  | **Estimated costs per annum in US$ (in thousand US$)** |
| --- | --- |
| **Cost category** | **Base Year** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** | **Year 7** | **Year 8** |
| 2010 | 2012 | 2013 | 2014 | 2015 |  |  |  |  |
| **Routine Recurrent Cost** |
| **Vaccines (routine vaccines only)** | **3,200,000** | **3,251,445** | **4,910,802** | **5,175,754** | **5,516,872** |  |  |  |  |
| **Traditional vaccines** | 3,200,000 | 3,251,445 | 2,935,820 | 2,809,396 | 2,739,444 |  |  |  |  |
| **New and underused vaccines** |  |  | 1,974,982 | 2,366,358 | 2,777,428 |  |  |  |  |
| **Injection supplies** | 134,232 | 143,432 | 196,408 | 217,137 | 235,131 |  |  |  |  |
| **Personnel** | **18,460,118** | **20,465,956** | **21,489,253** | **22,563,715** | **23,691,901** |  |  |  |  |
| **Salaries of full-time NIP health workers (immunisation specific)** | 18,402,775 | 20,402,643 | 21,422,775 | 22,493,913 | 23,618,609 |  |  |  |  |
| **Per-diems for outreach vaccinators / mobile teams** | 57,343 | 63,313 | 66,478 | 69,802 | 73,292 |  |  |  |  |
| **Transportation** |  |  |  |  |  |  |  |  |  |
| **Maintenance and overheads** | 92,000 | 362,000 | 1,087,000 | 170,000 | 92,000 |  |  |  |  |
| **Training** |  |  |  |  |  |  |  |  |  |
| **Social mobilisation and IEC** | 65,600 | 178,560 | 11,616 | 70,778 | 94,055 |  |  |  |  |
| **Disease surveillance** | 237,500 | 232,650 | 171,215 | 188,337 | 303,170 |  |  |  |  |
| **Program management** | 450,800 | 409,800 | 397,180 | 301,898 | 484,088 |  |  |  |  |
| **Other** |  |  |  |  |  |  |  |  |  |
| ***Subtotal Recurrent Costs*** | ***22,640,250*** | ***25,043,843*** | ***28,263,474*** | ***28,687,619*** | ***30,417,217*** |  |  |  |  |
|  |
| **Routine Capital Costs** |
| **Vehicle** | 187,900 | 193,800 | 197,676 | 201,630 | 205,662 |  |  |  |  |
| **Cold chain equipment** | 1,450,084 | 1,654,052 | 1,897,775 | 2,047,485 | 2,235,802 |  |  |  |  |
| **Other capital equipment** |  |  |  |  |  |  |  |  |  |
| ***Subtotal Capital Costs*** | ***1,637,984*** | ***1,847,852*** | ***2,095,451*** | ***2,249,115*** | ***2,441,464*** |  |  |  |  |
|  |
| **Campaigns** |
| **Polio** |  |  |  |  |  |  |  |  |  |
| **Measles** |  | 2,640,549 |  | 2,785,059 |  |  |  |  |  |
| **Yellow Fever** |  |  |  |  |  |  |  |  |  |
| **MNT campaigns** |  |  |  |  |  |  |  |  |  |
| **Other campaigns** |  |  |  |  |  |  |  |  |  |
| ***Subtotal Campaign Costs*** | ***0*** | ***2,640,549*** | ***0*** | ***2,785,059*** | ***0*** |  |  |  |  |
| **GRAND TOTAL** | **24,278,234** | **29,532,244** | **30,358,925** | **33,721,793** | **32,858,681** |  |  |  |  |

# **Summary of current and future financing and sources of funds**

Please list in the tables below the funding sources for each type of cost category (if known). Please try and indicate which immunisation program costs are covered from the Government budget, and which costs are covered by development partners (or the GAVI Alliance), and name the partners (or refer to cMYP).

**Note:** To add new lines click on the ***New item*** icon in the ***Action*** column. Use the ***Delete item*** icon to delete a line.

|  | **Estimated costs per annum in US$ (in thousand US$)** |
| --- | --- |
| **Cost category** | **Funding source** | **Base Year** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** | **Year 7** | **Year 8** |
|  | **2012** | **2013** | **2014** | **2015** |  |  |  |  |
| **Routine Recurrent Cost** |
| Current Immunization Programme (Vaccine) | Government |  | 1,425,436 | 1,489,934 | 1,543,834 | 1,587,978 |  |  |  |  |  |
| Current Immunization Programme (Vaccine) | GAVI |  | 1,826,009 | 1,445,886 | 1,265,561 | 1,151,466 |  |  |  |  |  |
| Introduction of New Vaccine (Vaccine) | Government |  |  | 169,284 | 202,831 | 238,065 |  |  |  |  |  |
| Introduction of New Vaccine (Vaccine) | GAVI |  |  | 1,805,698 | 2,163,527 | 2,539,363 |  |  |  |  |  |
| Current Immunization Programme (Injection Supplies) | Government |  | 88,391 | 99,128 | 109,129 | 115,889 |  |  |  |  |  |
| Current Immunization Programme (Injection Supplies) | GAVI |  | 55,042 | 57,842 | 60,754 | 63,781 |  |  |  |  |  |
| Introduction of New Vaccine (Injection Supplies) | Government |  |  |  |  | 5,546 |  |  |  |  |  |
| Introduction of New Vaccine (Injection Supplies) | GAVI |  |  | 39,438 | 47,253 | 49,916 |  |  |  |  |  |
| Personnel Cost (Salary) | Government |  | 27,442,628 | 28,814,760 | 30,255,498 | 31,768,273 |  |  |  |  |  |
| Personnel Cost (Per-diem) | Government |  | 63,313 | 66,478 | 69,802 | 73,292 |  |  |  |  |  |
| Operational Cost as service delivery, Advocacy & Communications, Surveillance, Programme management | Government |  | 1,600,000 | 1,800,000 | 2,000,000 | 2,200,000 |  |  |  |  |  |
|  |  |
| **Routine Capital Costs** |  |
| Cold Chain Equipment | Government |  | 44,000 | 48,400 | 53,240 | 58,564 |  |  |  |  |  |
|  |  |
| **Campaigns** |  |
| Vaccine + Injection Supplies and Operational cost | Government |  | 600,000 |  | 600,000 |  |  |  |  |  |  |
| **GRAND TOTAL** |  | **33,144,819** | **35,836,848** | **38,371,429** | **39,852,133** |  |  |  |  |  |

# **New and Under-Used Vaccines (NVS)**

Please summarise the cold chain capacity and readiness to accommodate new vaccines, stating how the cold chain expansion (if required) will be financed, and when it will be in place. Please indicate the additional cost, if capacity is not available and the source of funding to close the gap.

|  |
| --- |
| **National Cold Chain Capacity: The national vaccine store has installed two additional cold rooms during the H1N1 vaccine deployment in 2010 which has been subsequently being used for the routine EPI programme. At present the national vaccine store has 6 (six) Walk-in cold rooms with a gross capacity of 184 m3 with four having a capacity of ~ 40 m3 while other two having a capacity of ~ 17 m3. The Area Medical Store also has 7 (seven) freezers (MF314 make) of 264 litres each. All the freezers were replaced in the 2008 at the national vaccine store. The total net storage volume of vaccines including diluents required per fully immunized child in PNG with current immunization schedule is 94.7 cm3 at national level store while at service delivery level it would be 125.5 cm3 while with the potential introduction of pneumococcal vaccine, the total net storage volume of vaccines will be 132.4 cm3 and 163.2 cm3 respectively. The total volume of vaccine of each shipment including buffer with the proposed introduction of pnuemococcal vaccine is 29 m3 while the available net storage capacity at national level is 45 m3. At the provincial vaccine store, the available net storage capacity is 10329 litres while the current vaccine schedule requires 3688 litres and with the potential introduction of pneumococcal vaccine, the net storage requirement will be 5436, which will be adequate for the available capacity.Provincial and district vaccine store capacity: Each provincial and identified district vaccine store has an average of 1 (one) Freezer (MF314 make) of 108 litres capacity and 2 (two) refrigerators (MK304 make). The cold chain equipments in the all twenty provincial vaccine store have been replaced in 2009. The health facilities in the country and the district store as of now, has got adequate cold chain storage capacity to accomodate the currently used vaccines in the national immunization schedule and also to accomodate the new vaccine (PCV-13). The national department of health plans to replace the cold chain equipment in the provincial vaccine store and district vaccine store in 2011, based on the Effective Vaccine Management assessment of 2011, if need be. Financing the cold chain capacity of the country: The national department of health based on the national updated inventory and baseline data of CMYP towards the cold chain requirement, has submitted the cold chain request for support to AusAID and JICA. JICA in its commitment to the cold chain support has agreed to support the country for next five years. AusAID has already committed procurement of the cold chain equipments for the year 2010. The government of Papua New Guinea will bear the cost of the installation and distribution of the cold chain equipments and ensure the national department have annual maintenance contract with a reliable in-country agency for both preventive and curative maintenance.The cMYP 2011-15 does not explicitely outline the cold chain capacity calculation and during the framing of the cMYP it was felt that the cold chain capacity is adequate, hence only replacement and maintenance of the cold chain equipment was adhered to. However, with the completion of the EVM assessment in the country, the findings and the calculation sheet will be added as an addendum to the base document.** |

Please give a summary of the cMYP sections that refer to the introduction of new and under-used vaccines. Outline the key points that informed the decision-making process (data considered etc)

|  |
| --- |
| **Introduction of new and under-used vaccines gets addressed in cMYP 2011-15 under section 3 sub-section 3.6. The sub-section refers: Introduce the vaccination against Streptococcus pneumoniae and human papillomavirus to the routine EPI schedule and surveillance of new Vaccine preventable diseases when available. This refers not only to the introduction of the new vaccine but also makes significant reference to surveillance of vaccine preventable diseases.The cMYP for PNG was drafted in 2010 with initial planning and consultation starting in later half of 2009. Hence the prices used for vaccines and other logistics estimates are relevant at the point of time of preparation of the document. The decisions of GAVI on co-financing contribution and changes in prices of the vaccines and logistics that has taken place after the preparation of the document is not reflected in the present version of the cMYP. However, as detailed in the ICC minutes of 2011 (First ICC Minutes of 2011), the changes will be reflected as an addendum to the base document.The section under 3.6 details that Papua New Guinea has made significant contribution and improvement towards providing newer vaccines to all children of the country. The country introduced Haemophilus influenzae b (Hib) into the national EPI schedule in 2008. The country has established Meningitis-Encephalitis Surveillance to assess the impact of the vaccine introduction and also to plan for the introduction of pneumococcal vaccine in the country. The country has also established rotavirus surveillance at Institute of Medical Research, Goroka. The disease burden of pneumococcal disease in Papua New Guinea is widely researched and documented. EPI unit of National Department of Health endorses the concern expressed by the Paediatric Society of PNG and researchers that introduction of pneumococcal vaccine should be introduced in the country by 2013.Key points towards decision making process:Disease burden statistics on pneumonia in Papua New Guinea: The existing data on pneumonia in PNG and the data from various research conducted in PNG since 1960 clearly indicates that a combined intervention addressing both prevention through pneumococcal vaccine and treatment through better case management will have a significant impact in reduction of child deaths in PNG, thereby contributing to MDG4 goal.Pneumonia is the most common cause of serious illness and death in children in PNG, accounting for 30-40% of hospitalizations and deaths (1). WHO estimates that that in 2008, pneumonia accounted for 22% and meningitis accounted for 5% of under-5 mortality in PNG (World Health Statistics 2010). In the absence of vaccination, Streptococcus pneumoniae (pneumococcus) and Haemophilus influenzae are the most common causes of pneumonia death in children, and are also common causes of childhood meningitis and sepsis. Hib vaccine was already introduced in PNG, leaving pneumococcus as the most important cause of child pneumonia and meningitis. PNG has been documented to have high rates of pneumonia and other bacterial diseases among children. WHO estimates that in 2000, pneumococcus caused 20,766 cases of pneumonia, 235 cases of meningitis, and 1,165 cases of other invasive disease among children under 5 years old in PNG, resulting in 825 deaths. (Updated estimates for 2008 are under preparation but not yet available). These estimates are based on data from Australia, Fiji, New Zealand, and Kenya. Sentinel meningitis surveillance data from 8 sites in PNG show that 14% of probable bacterial meningitis cases among children under 5 years old were due to pneumococcus in 2010, confirming that pneumococcus is an important cause of childhood invasive bacterial disease in PNG. Studies have found high rates of mortality and neurologic sequelae following bacterial meningitis in PNG.Annual sector review report of National Health information system shows the national rate of pneumonia case fatality is around 3.0% for the last five years (5). However, there exist wide inter-provincial differences, which reflect the illness severity at the time of presentation, available system of practice, staff skills and training and resources in the provincial hospitals and health centres. This gets reflected in the national paediatric hospital reporting of 2010, which shows there is no deaths among 144 admission in Alotau hospital, Milne Bay province to 26 deaths among 170 admission in Kimbe (Case Fatality Rate: 15.3%)(4).Risk factors for pneumococcal infections in PNG:The high rates of pneumonia and meningitis in PNG are linked to factors that favour bacterial transmission and increased susceptibility to infection. Risk factors include malnutrition, low birth weight and prematurity (2), parental smoking, absence of breast feeding and feeding of solid and semi-solid feeds in the first weeks or months of life (3), pollution from wood smoke in poorly ventilated houses, poor general hygiene, and HIV. Many of these environmental exposures are more common in the Highlands, where pneumonia is more common than in coastal PNG. In PNG early onset of dense upper respiratory tract colonisation with S. pneumoniae and Hi occurs. Most children acquire these two bacteria in the first month or two of life. Simultaneous carriage of multiple pneumococcal serotypes is common. In one study the median onset of any pneumococcal carriage in PNG infants was 18 days, with carriage rates of 61% at 1 month of age. Pneumococcal nasopharyngeal carriage remains high throughout childhood and pneumococcal pneumonia, bacteraemia and meningitis are associated with early and prolonged duration of carriage.References:(1) Duke T, Michael A, Mgone J, Frank D, Wal T, Sehuko R. Etiology of child mortality in Goroka, Papua New Guinea: a prospective two-year study. Bull World Health Organ 2002; 80:16-25.(2) Lehmann D, Heywood P. Effect of birthweight on pneumonia-specific and total mortality among infants in the highlands of Papua New Guinea. PNG Med J 1996; 39:274-283. (Abstarct)(3) Anga G, Vince JD, Kaupa M. Early Introduction of Solids and Pneumonia in Young Infants in Papua New Guinea: A Case Control Study. J Trop Paediatr 2008; 54(3):192-195. (Abstract)(4) Draft report of National Paediatric Hospital Reporting System – 2010, Papua New Guinea(5) 2010 Annual Health Sector Review, National Report, Assessment of sector performance 2005-09Experience from other interventions in the country:The country has already an experience with introduction of pentavalent vaccine in 2009. The country did a detailed preparatory plan for the introduction of pneumococcal vaccine and the introduction of the pneumococcal vaccine will be build up based on the experience with pentavalent vaccine introduction in the country. This introduction was fairly successful in the country; however, the national department of the health (NDOH) is taking effective measures including implementation of reaching every district strategy in all provinces and districts and institutionalizing the role of supportive supervision with a possible integration of maternal and child health to address the concerns identified by National EPI unit in reaching the unimmunized children in the country.Existing Surveillance system on S. pneumonia in Papua New Guinea:A multi-site Meningitis Encephalitis Surveillance is in place in Papua New Guinea since 2009 in eight provincial hospitals. This M E surveillance system established in country detects principally Haemophillus influenzae b and Streptococcus pneumonia. The continuation of this surveillance will provide an indication of decrease in disease burden in the country after successful introduction. Organizations conducting research on pneumonia will provide support to NDOH on various data on disease burden and the vaccine presentations and their efficacy. The PNG Institute of the Medical Research is one of the pioneer institutes in the country and has been engaged in research on pneumonia in PNG for the past 40 years.Vaccine procurement, Efficacy, safety & quality of vaccine:As per the laid down EPI policy of Papua New Guinea, the country procures only WHO pre-qualified vaccines which ensures country procures quality and safe vaccines to be used in the routine EPI programme. As for the co-financing mechanism established towards the pentavalent vaccine in the country, the same is procured through UNICEF procurement mechanism. This ensures sustainability and effective delivery mechanism. The issue of supply and availability also gets addressed as the co-financing amount of vaccines is procured through efficient UNICEF supply mechanism. The same would be put to place and adopted for the new vaccine introduction in the country.Economic Sustainability by Government of Papua New Guinea:The Government of Papua New Guinea is committed to sustain the funding of the new vaccine and the support to this vaccine has already being planned and costed in the cMYP through to 2015. The same has been endorsed by the Secretary for Health and the national EPI unit has shared the same with finance and budget department of the national government for its continuation of financial support within the government health budget.** |

# **Capacity and cost (for positive storage)**

|  |  | **Formula** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** | **Year 7** | **Year 8** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2012** | **2013** | **2014** | **2015** |  |  |  |  |
| **A** | **Annual positive volume requirement, including new vaccine (litres or m3)****m3** | **Sum-product of total vaccine doses multiplied by unit packed volume of the vaccine** | 29 | 29 | 30 | 30 |  |  |  |  |
| **B** | **Existing net positive cold chain capacity (litres or m3)****m3** | **#** | 45 | 45 | 45 | 45 |  |  |  |  |
| **C** | **Estimated minimum number of shipments per year required for the actual cold chain capacity** | **A / B** | **1** | **1** | **1** | **1** |  |  |  |  |
| **D** | **Number of consignments /****shipments per year** | **Based on national vaccine shipment plan** | 2 | 2 | 2 | 2 |  |  |  |  |
| **E** | **Gap (if any)** | **((A / D) - B)** | -31 | -31 | -30 | -30 |  |  |  |  |
| **F** | **Estimated additional cost of cold chain** | **US$** |  |  |  |  |  |  |  |  |

Please briefly describe how your country plans to move towards attaining financial sustainability for the new vaccines you intend to introduce, how the country will meet the co-financing payments, and any other issues regarding financial sustainability you have considered (refer to the cMYP)

|  |
| --- |
| **The National government of Papua New Guinea procures all vaccines in the national EPI schedule from its government budget. A reflection of the budget summary for the year 2010, shows government provides 77% of the total immunization expenditure in the country. This provides basis to consider that the government financial system is robust to provide support to new vaccine initiative in Papua New Guinea. As the new vaccine introduction will be in a co-financing mode from year 1, this will provide sufficient time for the planning and budget process of the country to accommodate the additional cost of the vaccine for the national immunization programme. Also, it is noteworthy that PNG has been providing more the required co-financed amount towards the pentavalent vaccine with GAVI from the first year itself amounting to 0.68.**  |

# **Assessment of burden of relevant diseases (if available)**

**Note:** To add new lines click on the ***New item*** icon in the ***Action*** column. Use the ***Delete item*** icon to delete a line.

| **Disease** | **Title of the assessment** | **Date** | **Results** |
| --- | --- | --- | --- |
| Pneumococcal meningitis | Sentinel meningitis surveillance, reported to Western Pacific Region invasive bacterial disease surveillance network | 2010 | 11.9% of probable bacterial meningitis cases were due to pneumococcus in the first half of 2010. |  |
| Bacterial meningitis | Aetiology and clinical signs of bacterial meningitis in children admitted to Goroka Base Hospital, PNG, 1989-1992 | 1999 (Annals of Tropical Paediatrics) | Of children under 5 with bacterial meningitis confirmed by positive culture (blood or CSF) or CSF antigen tests, 44% had Hib and 46% had pneumococci. 23% of pneumococci had intermediate resistance to penicillin. Case fatality for bacterial meningitis was 34%. Among 47 typeable pnemococcal isolates, 19 serogroups were identified (serotyping not done). |  |
| Bacterial meningitis | Long-term outcome for children with bacterial meningitis in rural PNG (1992-2000) | 2005 (Journal of Tropical Pediatrics) | Major neurological sequelae were found in 63% of children surviving bacterial meningitis in Rabaul |  |
| Meningitis and encephalitis | Aetiology of febrile encephalopathy among children at Port Moresby General Hospital, PNG | 2007-2008 | Of 146 children up to 11 years old admitted with suspected meningitis or encephalitis, 33 (23%) had bacterial meningitis and half (16) of these had pneumococcus. Case fatality for bacterial meningitis was 3%, but 38% of survivors had long-term sequelae. |  |
| Child mortality | Etiology of child mortality in Goroka, PNG: A prospective 2-year study | 2002 (WHO Bulletin) | Among children aged 1-59 months, the most common causes of death were pneumonia (57%), sepsis (33%), marasmus (23%), and meningitis (20%). |  |

If new or under-used vaccines have already been introduced in your country, please give details of the lessons learned from storage capacity, protection from accidental freezing, staff training, cold chain, logistics, drop-out rate, wastage rate etc., and suggest action points to address them

**Note:** To add new lines click on the ***New item*** icon in the ***Action*** column. Use the ***Delete item*** icon to delete a line.

| **Lessons Learned** | **Action Points** |
| --- | --- |
| Time lag in actual introduction of DTP-HepB-Hib vaccine in country: ~ 9 years while the disease burden of Hib was already known in Papua New Guinea | Sharing of research results on other vaccine preventable disease in Papua New Guinea with national decision makers with shortening of time lag between planning and actual introduction of vaccine |  |
| Availability of appropriate formulation of vaccine & extended lead time in vaccine procurement and supply affected routine EPI: This relates to initial application by PNG for quadrivalent vaccine and then the further decision to change over to liquid formulation of pentavalent vaccine | PNG will apply subsequently for new vaccines based on available formulation of the vaccines, while research on other possible formulations will be carried out if required.  |  |
| New financial mechanism of Vaccine procurement: Transition from 100% govt. procurement on credit to advance payment to UNICEF for procurement on co-financing norms | National Department of Health (NDOH) will adhere to co-financing the GoPNG amount from government recurring fund as is done for all routine vaccine while the new vaccine procurement will be included as a line budget item to accommodate the advance payment norms for the co-financing amount |  |
| Introduction of the new vaccine in the national immunization schedule lead to training of the health workers on vaccine presentation, vaccine delivery and AEFI | Similar process of training of health workers will be conducted and the opportunity of introduction of the new vaccine will be used to sensitize the health workers on technical update on new vaccine and also on routine EPI |  |
| Cold Chain inventory update and re-assessment of cold chain capacity was done during planning and implementation of the DTP-HepB-Hib vaccine | NDOH plans to conduct Effective Vaccine Management exercise in the country before new vaccine is introduced in the country, so that the vaccine management and cold chain issues are addressed |  |
| Introduction of DTP-HepB-Hib also strengthened the Adverse Events following immunization in the country; as all health workers in the country were sensitized on AEFI reporting | Formulation of AEFI policy and guidelines on AEFI. Reporting of AEFI will be strengthened |  |

Please list the vaccines to be introduced with support from the GAVI Alliance (and presentation)

|  |
| --- |
| **Pneumococcal Vaccine (PCV-13) liquid presentation is being requested as part of this application.Introduction of other vaccines in the national immunization schedule will be decided based on the vaccine preventable surveillance data available within the country. The decision will be lead by the Child Health Technical Advisory Committee and ICC already established in the country.Papua New Guinea is already conducting surveillance on rotavirus diarrhoea. Plans are underway to start surveillance on Japanese Encephalitis, Human Papilloma Virus and Congenital Rubella Syndrome.** |

# **6.****3.1. Requested vaccine ( Pneumococcal (PCV13), 1 doses/vial, Liquid )**

As reported in the cMYP, the country plans to introduce Pneumococcal (PCV13), 1 doses/vial, Liquid vaccine.

# **6.****3.2. Co-financing information**

If you would like to co-finance higher amount than minimum, please overwrite information in the “*Your co-financing*” row.

**Note:** Selection of this field has direct impact on automatic calculations of support you are requesting and should not be left empty.

|  |  |
| --- | --- |
| **Country group** | Intermediate |

|  | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** | **Year 7** | **Year 8** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2012 | 2013 | 2014 | 2015 |  |  |  |  |
| **Minimum co-financing** | 0.20 | 0.23 | 0.26 | 0.30 |  |  |  |  |
| **Your co-financing (please change if higher)** | 0.20 | 0.23 | 0.26 | 0.30 |  |  |  |  |

# **6.****3.3. Wastage factor**

Please indicate wastage rate:

Countries are expected to plan for a maximal wastage rate of:

* 50% - for a lyophilised vaccine in 10 or 20-dose vial,
* 25% - for a liquid vaccine in 10 or 20-dose vial or a lyophilised vaccine in 5-dose vial,
* 10% - for a lyophilised/liquid vaccine in 2-dose vial, and
* 5% - for a liquid vaccine in 1-dose vial

**Note:** Selection of this field has direct impact on automatic calculations of support you are requesting and should not be left empty.

|  | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** | **Year 7** | **Year 8** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2012 | 2013 | 2014 | 2015 |  |  |  |  |
| **Vaccine wastage rate in %** | 5% | 5% | 5% | 5% |  |  |  |  |
| **Equivalent wastage factor** | 1.05 | 1.05 | 1.05 | 1.05 |  |  |  |  |

# **6.3.4. Specifications of vaccinations with new vaccine**

|  | **Data from** |  | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** | **Year 7** | **Year 8** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2012** | **2013** | **2014** | **2015** |  |  |  |  |
| **Number of children to be vaccinated with the first dose** | Table 1 | # | 185,303 | 194,732 | 204,535 | 214,726 |  |  |  |  |
| **Number of children to be vaccinated with the third dose[1]** | Table 1 | # | 161,602 | 177,029 | 193,172 | 210,058 |  |  |  |  |
| **Immunisation coverage with the third dose** | Table 1 | # | 75.00% | 80.00% | 85.00% | 90.00% |  |  |  |  |
| **Estimated vaccine wastage factor** | Table 6.(n).3**[3]** | # | 1.05 | 1.05 | 1.05 | 1.05 |  |  |  |  |
| **Country co-financing per dose[2]** | Table 6.(n).2**[3]** | $ | 0.20 | 0.23 | 0.26 | 0.30 |  |  |  |  |

**[1]** 2nd dose if Measles vaccine or Rotavirus 2-dose schedule

**[2]** Total price per-dose includes vaccine cost, plus freight, supplies, insurance, visa costs etc.

**[3]** Where (n) depends on the vaccine

# **6.3.5. Portion of supply to be procured by the country (and cost estimate, US$)**

|  |  | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** | **Year 7** | **Year 8** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2012** | **2013** | **2014** | **2015** |  |  |  |  |
| **Number of vaccine doses** | # | 39,000 | 38,200 | 45,300 | 54,900 |  |  |  |  |
| **Number of AD syringes** | # | 41,600 | 40,400 | 47,900 | 58,000 |  |  |  |  |
| **Number of re-constitution syringes** | # |  |  |  |  |  |  |  |  |
| **Number of safety boxes** | # | 475 | 450 | 550 | 650 |  |  |  |  |
| **Total value to be co-financed by country** | $ | **146,000** | **143,000** | **170,000** | **205,500** |  |  |  |  |

# **6.3.6. Portion of supply to be procured by the GAVI Alliance (and cost estimate, US$)**

|  |  | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** | **Year 7** | **Year 8** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2012** | **2013** | **2014** | **2015** |  |  |  |  |
| **Number of vaccine doses** | # | 690,700 | 582,800 | 606,800 | 629,600 |  |  |  |  |
| **Number of AD syringes** | # | 737,500 | 616,400 | 641,800 | 666,000 |  |  |  |  |
| **Number of re-constitution syringes** | # |  |  |  |  |  |  |  |  |
| **Number of safety boxes** | # | 8,200 | 6,850 | 7,125 | 7,400 |  |  |  |  |
| **Total value to be co-financed by GAVI** | $ | **2,587,000** | **2,182,500** | **2,272,500** | **2,358,000** |  |  |  |  |

# **6.3.7. New and Under-Used Vaccine Introduction Grant**

Please indicate in the tables below how the one-time Introduction Grant**[1]** will be used to support the costs of vaccine introduction and critical pre-introduction activities (refer to the cMYP).

**Calculation of lump-sum for the Pneumococcal (PCV13), 1 doses/vial, Liquid**

If the total is lower than US$100,000, it is automatically rounded up to US$100,000

| **Year of New Vaccine Introduction**  | **Births (from Table 1)** | **Share per Birth in US$** | **Total in US$** |
| --- | --- | --- | --- |
| 2012 | 228,493 | 0.30 | 100,000 |

**[1]** The Grant will be based on a maximum award of $0.30 per infant in the birth cohort with a minimum starting grant award of $100,000

**Cost (and finance) to introduce the Pneumococcal (PCV13), 1 doses/vial, Liquid (US$)**

**Note:** To add new lines click on the ***New item*** icon in the ***Action*** column. Use the ***Delete item*** icon to delete a line.

| **Cost Category** | **Full needs for new vaccine introduction in US$** | **Funded with new vaccine introduction grant in US$** |
| --- | --- | --- |
| **Training** | 100,000 | 20,000 |
| **Social Mobilization, IEC and Advocacy** | 58,000 | 40,000 |
| **Cold Chain Equipment & Maintenance** | 192,000 |  |
| **Vehicles and Transportation** |  |  |
| **Programme Management** | 250,000 | 20,000 |
| **Surveillance and Monitoring** | 126,000 | 8,000 |
| **Human Resources** |  |  |
| **Waste Management** |  | 2,000 |
| **Technical assistance** |  | 10,000 |
|  |  |  |  |
| **Totals** | 726,000 | 100,000 |

# **Procurement and Management of New and Under-Used Vaccines**

**Note:** The PCV vaccine must be procured through UNICEF

1. Please show how the support will operate and be managed including procurement of vaccines (GAVI expects that most countries will procure vaccine and injection supplies through UNICEF)

|  |
| --- |
| The government of Papua New Guinea as per its national EPI policy procures only WHO pre-qualified vaccine for its routine EPI programme. As in DTP-HepB-Hib vaccine, the pneumococcal vaccine and the injection supplies will be procured through UNICEF. The new vaccine support will be outlined as a line-item in national vaccine financing of the national health budget under national implementation plan of EPI programme. |

1. If an alternative mechanism for procurement and delivery of supply (financed by the country or the GAVI Alliance) is requested, please document
* Other vaccines or immunisation commodities procured by the country and descriptions of the mechanism used.
* The functions of the National Regulatory Authority (as evaluated by WHO) to show they comply with WHO requirements for procurement of vaccines and supply of assured quality.

|  |
| --- |
|  |

1. Please describe the introduction of the vaccines (refer to cMYP)

|  |
| --- |
| The section 3-6 of the comprehensive multi-year plan (cMYP) of EPI for Papua New Guinea outlines the introduction of vaccine against Streptococcus pneumoniae. The section is named: Introduce the vaccination against Streptococcus pneumoniae and human papillomavirus to the routine EPI schedule and surveillance of new Vaccine preventable diseases when available.Reference here is made to the introduction of pneumococcal vaccine sub-section.The disease burden of pneumococcal disease in Papua New Guinea is widely researched and documented. EPI unit of National Department of Health endorses the concern expressed by the Paediatric Society of PNG and researchers in introduction of pneumococcal vaccine in the country by 2013.In order to substantiate the progress made towards the introduction of the new vaccine in the country and also to measure the progress made following introduction of Hib vaccine, it is been envisaged to strengthen the existing Meningitis Encephalitis Surveillance in the country.Indicators and Targets as outlined in cMYP are:• # suspected meningitis cases identified in the Paediatric Sentinel Surveillance System• Pneumococcal vaccine national coverage after its introduction in the routine immunization services: >80The following strategies will be carried out in 2011-2015 to achieve the above cMYP Target for each Indicator. Key Activities for implementation of each Strategy are outlined with their implementation timeline.• Develop a national system of vaccination, including standard and policy, introduction plan, performance and monitoring for Streptococcus pneumoniae• Develop a national system of vaccination for other vaccine preventable diseases (supported by disease burden and characteristics identified through proposed surveillance system)• Use "World Pneumonia Day" and other important occasions (National Health Week) as an opportunity for strengthening advocacy of pneumococcal vaccination in PNG• Strengthen capacity of major provincial hospitals to conduct bacterial meningitis Surveillance and laboratory testing• Strengthen the existing Bacterial Meningitis Surveillance system• Procure and distribute sufficient pneumococcal vaccine starting in 2012/2013• Maintain cold chain capacity for Pneumococcal vaccine and HPV vaccine• Enhance coordination capacity of NDOH and the Provincial Health Office in new and underutilized vaccines (Hib, Pneumococcal and HPV) activities |

1. Please indicate how funds should be transferred by the GAVI Alliance (if applicable)

|  |
| --- |
| Banking Form attached |

1. Please indicate how the co-financing amounts will be paid (and who is responsible for this)

|  |
| --- |
| The co-financing of the pneumococcal vaccine will be supported by government of Papua New Guinea through its recurrent fund. |

1. Please outline how coverage of the new vaccine will be monitored and reported (refer to cMYP)

|  |
| --- |
| The national department of health plans to strengthen its technical support to provinces and districts to the priority district in developing and implementing its annual micro plan and providing Supportive Supervision as part of its reaching every child initiative based on reaching every district strategy.As part of the national health information system reporting by the health facilities and provincial health system, it is planned to revise the national immunization schedule and to incorporate pneumococcal vaccine coverage in its routine reporting format. As part of the national EPI team half-yearly feedback on the routine EPI coverage for the routine EPI coverage including DTP-HepB-Hib, it is planned the pneumococcal vaccine coverage will also be monitored and feedback will be provided to the provinces on its half-yearly performance against the target.  |

# **Vaccine Management (EVSM/EVM/VMA)**

When was the last Effective Vaccine Store Management (EVSM) conducted?September - 2008

When was the last Effective Vaccine Management (EVM) or Vaccine Management Assessment (VMA) conducted? -

If your country conducted either EVSM, EVM, or VMA in the past three years, please attach relevant reports. (Document N°)

A VMA report must be attached from those countries which have introduced a New and Underused Vaccine with GAVI support before 2008.

Please note that EVSM and VMA tools have been replaced by an integrated Effective Vaccine Management (EVM) tool. The information on EVM tool can be found at <http://www.who.int/immunization_delivery/systems_policy/logistics/en/index6.html>

For countries which conducted EVSM, VMA or EVM in the past, please report on activities carried out as part of either action plan or improvement plan prepared after the EVSM/VMA/EVM.

|  |
| --- |
| Activities from Recommendations done in past or planned:1. Pre-shipment and arrival procedures.• Update the local VAR to capture VVM status: VAR form updated and in use in National Vaccine Store and vaccine request and indent form being used in provinces and district• Create a filing system to document the Lot release certificate : Separate folder for each province and district vaccine store in place in National Vaccine Store2. Maintain correct storage temperatures.• Encourage temperature monitoring of the equipments that holds vaccines and document the copies for references : Temperature Monitoring chart in place for each equipment in National Vaccine Store and in the provincial vaccine store3. Building, equipment and transport• Install more fire extinguishers in the building: Fire-extinguishers in place in national vaccine store, but inadequate coverage in province vaccine store• Organize and out-source the servicing of the standby generator set and vaccine chillers to a contractor: Generator outsourcing done for National Vaccine• Organize to raise the roofing of the housing of the chiller compressors: Two new cold rooms installed in National Vaccine store• Organize basic computer training for the vaccine management staff: Planned in 2011/124. Effective maintenance• Organize and do up a maintenance plan : Maintenance and repair of cold chain equipments will be organized as an annual maintenance contract; this is being planned • Reflect the maintenance cost in the AAP: This is being proposed to provinces to reflect in Provincial AAPs5. Effective stock management: Supervisory visit to health facilities as part of Reaching Every Child initiative in PNG is addressing the stocking of vaccines (Quantitative and Qualitative)6. Reliable delivery to intermediate stores• Set up a system for managing short shipments to the intermediate stores: Monthly vaccine indent and as-when-required vaccine indent in place from National Vaccine store• Procure and ensure freeze indicators are used in all deliveries to the intermediate stores: Planned to institutionalize after training in 20127. Effective operating procedures• Organize and have in place the SOP for vaccine and vaccine store management: The cold chain manual for the country is being planed in line with revision of National EPI policy and guidelines• Organize for the training of the SOP: Training will be planned as the SOP is drafted8. Financial and human resources• Organize and employ one Pharmacist or Pharmacy Technician to be the OIC of the Vaccine Store: National re-structure on the process and this will be considered• EPI Unit to reflect in its AAP the funding for vaccine distribution to the intermediate stores : National EPI AAP already has reflected funding for vaccine distribution• EPI Unit to do regular visit and support to the Primary vaccine store: Supervisory visit to provinces and district also includes cold chain system monitoring |

When is the next Effective Vaccine Management (EVM) Assessment planned? May - 2011

*Under new guidelines, it will be mandatory for the countries to conduct an EVM prior to an application for introduction of new vaccine.*

# **Additional Comments and Recommendations**

Comments and Recommendations from the National Coordinating Body (ICC/HSCC)

|  |
| --- |
|  |

# **Annexes**

# **Annex 1**

# **Annex 1.1 – Pneumococcal (PCV13), 1 doses/vial, Liquid**

**Table 1.1 A** - Rounded up portion of supply that is procured by the country and estimate of related cost in US$

| **Required supply item** |  | **2012** | **2013** | **2014** | **2015** |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Number of vaccine doses** | *#* | 39,000 | 38,200 | 45,300 | 54,900 |  |  |  |  |
| **Number of AD syringes** | *#* | 41,600 | 40,400 | 47,900 | 58,000 |  |  |  |  |
| **Number of re-constitution syringes** | *#* |  |  |  |  |  |  |  |  |
| **Number of safety boxes** | *#* | 475 | 450 | 550 | 650 |  |  |  |  |
| **Total value to be co-financed by the country** | *$* | 146,000 | 143,000 | 170,000 | 205,500 |  |  |  |  |

**Table 1.1 B** - Rounded up portion of supply that is procured by GAVI and estimate of related cost in US$.

| **Required supply item** |  | **2012** | **2013** | **2014** | **2015** |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Number of vaccine doses** | *#* | 690,700 | 582,800 | 606,800 | 629,600 |  |  |  |  |
| **Number of AD syringes** | *#* | 737,500 | 616,400 | 641,800 | 666,000 |  |  |  |  |
| **Number of re-constitution syringes** | *#* |  |  |  |  |  |  |  |  |
| **Number of safety boxes** | *#* | 8,200 | 6,850 | 7,125 | 7,400 |  |  |  |  |
| **Total value to be co-financed by the country** | ***$*** | **2,587,000** | **2,182,500** | **2,272,500** | **2,358,000** |  |  |  |  |

**Table 1.1 C** - Summary table for Pneumococcal (PCV13), 1 doses/vial, Liquid

|  | **Data from** |  | **2012** | **2013** | **2014** | **2015** |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Number of Surviving infants** | *Table 1* | # | 215,469 | 221,287 | 227,261 | 233,397 |  |  |  |  |
| **Number of children to be vaccinated with the third dose[1]** | *Table 1* | # | 161,602 | 177,029 | 193,172 | 210,058 |  |  |  |  |
| **Immunisation coverage with the last dose** | *Table 1* | # | 75.00% | 80.00% | 85.00% | 90.00% |  |  |  |  |
| **Number of children to be vaccinated with the first dose** | *Table 1* | # | 185,303 | 194,732 | 204,535 | 214,726 |  |  |  |  |
| **Number of doses per child** |  | # | 3 | 3 | 3 | 3 |  |  |  |  |
| **Estimated vaccine wastage factor** | *Table 6.(n).3***[2]** | # | 1.05 | 1.05 | 1.05 | 1.05 |  |  |  |  |
| **Number of doses per vial** |  | # | 1 | 1 | 1 | 1 |  |  |  |  |
| **AD syringes required**  |  | # | Yes  | Yes  | Yes  | Yes  |   |   |   |   |
| **Reconstitution syringes required**  |  | # | No  | No  | No  | No  |   |   |   |   |
| **Safety boxes required**  |  | # | Yes  | Yes  | Yes  | Yes  |   |   |   |   |
| **Vaccine price per dose** |  | $ | 3.500  | 3.500  | 3.500  | 3.500  |   |   |   |   |
| **Country co-financing per dose** | *Table 6.(n).2***[2]** | $ | 0.20  | 0.23  | 0.26  | 0.30  |   |   |   |   |
| **AD syringe price per unit** |  | $ | 0.053  | 0.053  | 0.053  | 0.053  |   |   |   |   |
| **Reconstitution syringe price per unit** |  | $ |   |   |   |   |   |   |   |   |
| **Safety box price per unit** |  | $ | 0.640  | 0.640  | 0.640  | 0.640  |   |   |   |   |
| **Freight cost as % of vaccines value** |  | % | 5.00  | 5.00  | 5.00  | 5.00  |   |   |   |   |
| **Freight cost as % of devices value** |  | % | 10.00  | 10.00  | 10.00  | 10.00  |   |   |   |   |

**[1]** 2nd dose if Measles vaccine or Rotavirus 2-dose schedule

**[2]** Where (n) depends on the vaccine

# **Table 1.1 D** - Estimated number of doses for Pneumococcal (PCV13), 1 doses/vial, Liquid associated injection safety material and related co-financing budget (page 1)

|  |  | **Formula** | **2012** | **2013** |
| --- | --- | --- | --- | --- |
|  |  |  | **Total** | **Government** | **GAVI** | **Total** | **Government** | **GAVI** |
| A | **Country Co-finance** |  | 5.34% |  |  | 6.14% |  |  |
| B | **Number of children to be vaccinated with the first dose[1]** | Table 1 (baseline & annual targets) | 185,303 | 9,895 | 175,408 | 194,732 | 11,960 | 182,772 |
| C | **Number of doses per child** | Vaccine parameter | 3 | 3 | 3 | 3 | 3 | 3 |
| D | **Number of doses needed** | B \* C | 555,909 | 29,684 | 526,225 | 584,196 | 35,880 | 548,316 |
| E | **Estimated vaccine wastage factor** | Table 6.(n).3. in NVS section**[2]** | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 |
| F | **Number of doses needed including wastage** | D \* E | 583,705 | 31,168 | 552,537 | 613,406 | 37,674 | 575,732 |
| G | **Vaccines buffer stock** | (F - F of previous year) \* 0.25 | 145,927 | 7,792 | 138,135 | 7,426 | 457 | 6,969 |
| I | **Total vaccine doses needed** | F + G | 729,632 | 38,960 | 690,672 | 620,832 | 38,130 | 582,702 |
| J | **Number of doses per vial** | Vaccine parameter | 1 | 1 | 1 | 1 | 1 | 1 |
| K | **Number of AD syringes (+ 10% wastage) needed** | (D + G) \* 1.11 | 779,038 | 41,598 | 737,440 | 656,701 | 40,333 | 616,368 |
| L | **Reconstitution syringes (+ 10% wastage) needed** | I / J \* 1.11 |  |  |  |  |  |  |
| M | **Total of safety boxes (+ 10% of extra need) needed** | (K + L) / 100 x 1.11 | 8,648 | 462 | 8,186 | 7,290 | 448 | 6,842 |
| N | **Cost of vaccines needed** | I \* vaccine price per dose | 2,553,712 | 136,359 | 2,417,353 | 2,172,912 | 133,453 | 2,039,459 |
| O | **Cost of AD syringes needed** | K \* AD syringe price per unit | 41,290 | 2,205 | 39,085 | 34,806 | 2,138 | 32,668 |
| P | **Cost of reconstitution syringes needed** | L \* reconstitution price per unit |  |  |  |  |  |  |
| Q | **Cost of safety boxes needed** | M \* safety box price per unit | 5,535 | 296 | 5,239 | 4,666 | 287 | 4,379 |
| R | **Freight cost for vaccines needed** | N \* freight cost as % of vaccines value | 127,686 | 6,818 | 120,868 | 108,646 | 6,673 | 101,973 |
| S | **Freight cost for devices needed** | (O + P + Q) \* freight cost as % of devices value | 4,683 | 251 | 4,432 | 3,948 | 243 | 3,705 |
| T | **Total fund needed** | (N + O + P + Q + R + S) | 2,732,906 | 145,927 | 2,586,979 | 2,324,978 | 142,792 | 2,182,186 |
| U | **Total country co-financing** | I \* country co-financing per dose | 145,927 |  |  | 142,792 |  |  |
| V | **Country co-financing % of GAVI supported proportion** | U / T | 5.34% |  |  | 6.14% |  |  |

**[1]** 2nd dose if Measles vaccine or Rotavirus 2-dose schedule

**[2]** Where (n) depends on the vaccine

# **Table 1.1 D -** Estimated number of doses for Pneumococcal (PCV13), 1 doses/vial, Liquid associated injection safety material and related co-financing budget (page 2)

|  |  | **Formula** | **2014** | **2015** |
| --- | --- | --- | --- | --- |
|  |  |  | **Total** | **Government** | **GAVI** | **Total** | **Government** | **GAVI** |
| A | **Country Co-finance** |  | 6.94% |  |  | 8.01% |  |  |
| B | **Number of children to be vaccinated with the first dose[1]** | Table 1 (baseline & annual targets) | 204,535 | 14,201 | 190,334 | 214,726 | 17,202 | 197,524 |
| C | **Number of doses per child** | Vaccine parameter (schedule) | 3 | 3 | 3 | 3 | 3 | 3 |
| D | **Number of doses needed** | B \* C | 613,605 | 42,601 | 571,004 | 644,178 | 51,604 | 592,574 |
| E | **Estimated vaccine wastage factor** | Table 6.(n).3. in NVS section**[2]** | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 |
| F | **Number of doses needed including wastage** | D \* E | 644,286 | 44,731 | 599,555 | 676,387 | 54,185 | 622,202 |
| G | **Vaccines buffer stock** | (F - F of previous year) \* 0.25 | 7,720 | 536 | 7,184 | 8,026 | 643 | 7,383 |
| I | **Total vaccine doses needed** | F + G | 652,006 | 45,267 | 606,739 | 684,413 | 54,828 | 629,585 |
| J | **Number of doses per vial** | Vaccine parameter | 1 | 1 | 1 | 1 | 1 | 1 |
| K | **Number of AD syringes (+ 10% wastage) needed** | (D + G) \* 1.11 | 689,671 | 47,882 | 641,789 | 723,947 | 57,995 | 665,952 |
| L | **Reconstitution syringes (+ 10% wastage) needed** | I / J \* 1.11 |  |  |  |  |  |  |
| M | **Total of safety boxes (+ 10% of extra need) needed** | (K + L) / 100 x 1.11 | 7,656 | 532 | 7,124 | 8,036 | 644 | 7,392 |
| N | **Cost of vaccines needed** | I \* vaccine price per dose | 2,282,021 | 158,435 | 2,123,586 | 2,395,446 | 191,895 | 2,203,551 |
| O | **Cost of AD syringes needed** | K \* AD syringe price per unit | 36,553 | 2,538 | 34,015 | 38,370 | 3,074 | 35,296 |
| P | **Cost of reconstitution syringes needed** | L \* reconstitution price per unit |  |  |  |  |  |  |
| Q | **Cost of safety boxes needed** | M \* safety box price per unit | 4,900 | 341 | 4,559 | 5,144 | 413 | 4,731 |
| R | **Freight cost for vaccines needed** | N \* freight cost as % of vaccines value | 114,102 | 7,922 | 106,180 | 119,773 | 9,595 | 110,178 |
| S | **Freight cost for devices needed** | (O + P + Q) \* freight cost as % of devices value | 4,146 | 288 | 3,858 | 4,352 | 349 | 4,003 |
| T | **Total fund needed** | (N + O + P + Q + R + S) | 2,441,722 | 169,522 | 2,272,200 | 2,563,085 | 205,324 | 2,357,761 |
| U | **Total country co-financing** | I \* country co-financing per dose | 169,522 |  |  | 205,324 |  |  |
| V | **Country co-financing % of GAVI supported proportion** | U / T | 6.94% |  |  | 8.01% |  |  |

**[1]** 2nd dose if Measles vaccine or Rotavirus 2-dose schedule

**[2]** Where (n) depends on the vaccine

# **Annex 2**

Estimated prices of supply and related freight cost: 2011 from UNICEF Supply Division; 2012 onwards: GAVI Secretariat

**Table A -** Commodities Cost

| **Vaccine** | **Presentation** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AD syringe | 0 | 0.053 | 0.053 | 0.053 | 0.053 | 0.053 | 0.053 | 0.053 |
| DTP-HepB | 2 | 1.600 |  |  |  |  |  |  |
| DTP-HepB | 10 | 0.620 | 0.620 | 0.620 | 0.620 | 0.620 | 0.620 | 0.620 |
| DTP-HepB-Hib | WAP | 2.580 | 2.470 | 2.320 | 2.030 | 1.850 | 1.850 | 1.850 |
| DTP-HepB-Hib | WAP | 2.580 | 2.470 | 2.320 | 2.030 | 1.850 | 1.850 | 1.850 |
| DTP-HepB-Hib | WAP | 2.580 | 2.470 | 2.320 | 2.030 | 1.850 | 1.850 | 1.850 |
| DTP-Hib | 10 | 3.400 | 3.400 | 3.400 | 3.400 | 3.400 | 3.200 | 3.200 |
| HepB monoval | 1 |  |  |  |  |  |  |  |
| HepB monoval | 2 |  |  |  |  |  |  |  |
| Hib monoval | 1 | 3.400 |  |  |  |  |  |  |
| Measles | 10 | 0.240 | 0.240 | 0.240 | 0.240 | 0.240 | 0.240 | 0.240 |
| Pneumococcal(PCV10) | 2 | 3.500 | 3.500 | 3.500 | 3.500 | 3.500 | 3.500 | 3.500 |
| Pneumococcal(PCV13) | 1 | 3.500 | 3.500 | 3.500 | 3.500 | 3.500 | 3.500 | 3.500 |
| Reconstit syringe for Pentaval (2ml) | 0 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Reconstit syringe for YF | 0 | 0.038 | 0.038 | 0.038 | 0.038 | 0.038 | 0.038 | 0.038 |
| Rotavirus 2-dose schedule | 1 | 7.500 | 6.000 | 5.000 | 4.000 | 3.600 | 3.600 | 3.600 |
| Rotavirus 3-dose schedule | 1 | 5.500 | 4.000 | 3.333 | 2.667 | 2.400 | 2.400 | 2.400 |
| Safety box | 0 | 0.640 | 0.640 | 0.640 | 0.640 | 0.640 | 0.640 | 0.640 |
| Yellow Fever | WAP | 0.856 | 0.856 | 0.856 | 0.856 | 0.856 | 0.856 | 0.856 |
| Yellow Fever | WAP | 0.856 | 0.856 | 0.856 | 0.856 | 0.856 | 0.856 | 0.856 |

**Note:** WAP - weighted average price (to be used for any presentation: For DTP-HepB-Hib, it applies to 1 dose liquid, 2 dose lyophilised and 10 dose liquid. For Yellow Fever, it applies to 5 dose lyophilised and 10 dose lyophilised)

**Table B -** Commodities Freight Cost

| **Vaccines** | **Group** | **No Threshold** | **200’000 $** | **250’000 $** | **2’000’000 $** |
| --- | --- | --- | --- | --- | --- |
| **<=** | **>** | **<=** | **>** | **<=** | **>** |
| Yellow Fever | Yellow Fever |  | 20% |  |  |  | 10% | 5% |
| DTP+HepB | HepB and or Hib | 2% |  |  |  |  |  |  |
| DTP-HepB-Hib | HepB and or Hib |  |  |  | 15% | 3,50% |  |  |
| Pneumococcal vaccine (PCV10) | Pneumococcal | 5% |  |  |  |  |  |  |
| Pneumococcal vaccine (PCV13) | Pneumococcal | 5% |  |  |  |  |  |  |
| Rotavirus | Rotavirus | 5% |  |  |  |  |  |  |
| Measles | Measles | 10% |  |  |  |  |  |  |

**Table C -** **Intermediate** - Minimum country's co-payment per dose of co-financed vaccine.

| **vaccine** | **2012** | **2013** | **2014** | **2015** |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Pneumococcal(PCV13), 1 doses/vial, Liquid** | 0.20 | 0.23 | 0.26 | 0.30 |  |  |  |

**Table D -** Wastage rates and factors

Countries are expected to plan for a maximal wastage rate of:

* 50% - for a lyophilised vaccine in 10 or 20-dose vial,
* 25% - for a liquid vaccine in 10 or 20-dose vial or a lyophilised vaccine in 5-dose vial,
* 10% - for a lyophilised/liquid vaccine in 2-dose vial, and
* 5% - for a liquid vaccine in 1-dose vial

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Vaccine wastage rate | 5% | 10% | 15% | 20% | 25% | 30% | 35% | 40% | 45% | 50% | 55% | 60% |
| Equivalent wastage factor | 1.05 | 1.11 | 1.18 | 1.25 | 1.33 | 1.43 | 1.54 | 1.67 | 1.82 | 2 | 2.22 | 2.5 |

WHO International shipping guidelines: maximum packed volumes of vaccines

**Table E -** Vaccine maximum packed volumes

| **Vaccine product** | **Designation** | **Vaccine formulation** | **Admin route** | **No. Of doses in the schedule** | **Presentation (doses/vial, prefilled)** | **Packed volume vaccine (cm3/dose)** | **Packed volume diluents (cm3/dose)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| BCG | BCG | lyophilized | ID | 1 | 20 | 1.2 | 0.7 |
| Diphtheria-Tetanus-Pertussis | DTP | liquid | IM | 3 | 20 | 2.5 |  |
| Diphtheria-Tetanus-Pertussis | DTP | liquid | IM | 3 | 10 | 3.0 |  |
| Diphtheria-Tetanus | DT | liquid | IM | 3 | 10 | 3.0 |  |
| Tetanus-Diphtheria | Td | liquid | IM | 2 | 10 | 3.0 |  |
| Tetanus Toxoid | TT | liquid | IM | 2 | 10 | 3.0 |  |
| Tetanus Toxoid | TT | liquid | IM | 2 | 20 | 2.5 |  |
| Tetanus Toxoid UniJect | TT | liquid | IM | 2 | Uniject | 12.0 |  |
| Measles | Measles | lyophilized | SC | 1 | 1 | 26.1 | 20.0 |
| Measles | Measles | lyophilized | SC | 1 | 2 | 13.1 | 13.1 |
| Measles | Measles | lyophilized | SC | 1 | 5 | 5.2 | 7.0 |
| Measles | Measles | lyophilized | SC | 1 | 10 | 3.5 | 4.0 |
| Measles-Rubella freeze dried | MR | lyophilized | SC | 1 | 1 | 26.1 | 26.1 |
| Measles-Rubella freeze dried | MR | lyophilized | SC | 1 | 2 | 13.1 | 13.1 |
| Measles-Rubella freeze dried | MR | lyophilized | SC | 1 | 5 | 5.2 | 7.0 |
| Measles-Rubella freeze dried | MR | lyophilized | SC | 1 | 10 | 2.5 | 4.0 |
| Measles-Mumps-Rubella freeze dried | MMR | lyophilized | SC | 1 | 1 | 26.1 | 26.1 |
| Measles-Mumps-Rubella freeze dried | MMR | lyophilized | SC | 1 | 2 | 13.1 | 13.1 |
| Measles-Mumps-Rubella freeze dried | MMR | lyophilized | SC | 1 | 5 | 5.2 | 7.0 |
| Measles-Mumps-Rubella freeze dried | MMR | lyophilized | SC | 1 | 10 | 3.0 | 4.0 |
| Polio | OPV | liquid | Oral | 4 | 10 | 2.0 |  |
| Polio | OPV | liquid | Oral | 4 | 20 | 1.0 |  |
| Yellow fever | YF | lyophilized | SC | 1 | 5 | 6.5 | 7.0 |
| Yellow fever | YF | lyophilized | SC | 1 | 10 | 2.5 | 3.0 |
| Yellow fever | YF | lyophilized | SC | 1 | 20 | 1.5 | 2.0 |
| Yellow fever | YF | lyophilized | SC | 1 | 50 | 0.7 | 1.0 |
| DTP-HepB combined | DTP-HepB | liquid | IM | 3 | 1 | 9.7 |  |
| DTP-HepB combined | DTP-HepB | liquid | IM | 3 | 2 | 6.0 |  |
| DTP-HepB combined | DTP-HepB | liquid | IM | 3 | 10 | 3.0 |  |
| Hepatitis B | HepB | liquid | IM | 3 | 1 | 18.0 |  |
| Hepatitis B | HepB | liquid | IM | 3 | 2 | 13.0 |  |
| Hepatitis B | HepB | liquid | IM | 3 | 6 | 4.5 |  |
| Hepatitis B | HepB | liquid | IM | 3 | 10 | 4.0 |  |
| Hepatitis B UniJect | HepB | liquid | IM | 3 | Uniject | 12.0 |  |
| Hib liquid | Hib\_liq | liquid | IM | 3 | 1 | 15.0 |  |
| Hib liquid | Hib\_liq | liquid | IM | 3 | 10 | 2.5 |  |
| Hib freeze-dried | Hib\_lyo | lyophilized | IM | 3 | 1 | 13.0 | 35.0 |
| Hib freeze-dried | Hib\_lyo | lyophilized | IM | 3 | 2 | 6.0 |  |
| Hib freeze-dried | Hib\_lyo | lyophilized | IM | 3 | 10 | 2.5 | 3.0 |
| DTP liquid + Hib freeze-dried | DTP+Hib | liquid+lyop. | IM | 3 | 1 | 45.0 |  |
| DTP-Hib combined liquid | DTP+Hib | liquid+lyop. | IM | 3 | 10 | 12.0 |  |
| DTP-Hib combined liquid | DTP-Hib | liquid | IM | 3 | 1 | 32.3 |  |
| DTP-HepB liquid + Hib freeze-dried | DTP-Hib | liquid | IM | 3 | 10 | 2.5 |  |
| DTP-HepB liquid + Hib freeze-dried | DTP-HepB+Hib | liquid+lyop. | IM | 3 | 1 | 22.0 |  |
| DTP-HepB-Hib liquid | DTP-HepB+Hib | liquid+lyop. | IM | 3 | 2 | 11.0 |  |
| DTP-HepB-Hib liquid | DTP-HepB-Hib | liquid | IM | 3 | 10 | 4.4 |  |
| DTP-HepB-Hib liquid | DTP-HepB-Hib | liquid | IM | 3 | 2 | 13.1 |  |
| DTP-HepB-Hib liquid | DTP-HepB-Hib | liquid | IM | 3 | 1 | 19.2 |  |
| Meningitis A/C | MV\_A/C | lyophilized | SC | 1 | 10 | 2.5 | 4.0 |
| Meningitis A/C | MV\_A/C | lyophilized | SC | 1 | 50 | 1.5 | 3.0 |
| Meningococcal A/C/W/ | MV\_A/C/W | lyophilized | SC | 1 | 50 | 1.5 | 3.0 |
| Meningococcal A/C/W/Y | MV\_A/C/W/Y | lyophilized | SC | 1 | 10 | 2.5 | 4.0 |
| Meningitis W135 | MV\_W135 | lyophilized | SC | 1 | 10 | 2.5 | 4.0 |
| Meningitis A conjugate | Men\_A | lyophilized | SC | 2 | 10 | 2.6 | 4.0 |
| Japanese Encephalitis | JE\_lyo | lyophilized | SC | 3 | 10 | 15.0 |  |
| Japanese Encephalitis | JE\_lyo | lyophilized | SC | 3 | 10 | 8.1 | 8.1 |
| Japanese Encephalitis | JE\_lyo | lyophilized | SC | 3 | 5 | 2.5 | 2.9 |
| Japanese Encephalitis | JE\_lyo | lyophilized | SC | 3 | 1 | 12.6 | 11.5 |
| Japanese Encephalitis | JE\_liq | liquid | SC | 3 | 10 | 3.4 |  |
| Rota vaccine | Rota\_lyo | lyophilized | Oral | 2 | 1 | 156.0 |  |
| Rota vaccine | Rota\_liq | liquid | Oral | 2 | 1 | 17.1 |  |
| Rota vaccine | Rota\_liq | liquid | Oral | 3 | 1 | 45.9 |  |
| Pneumo. conjugate vaccine 7-valent  | PCV-7 | liquid | IM | 3 | PFS | 55.9 |  |
| Pneumo. conjugate vaccine 7-valent  | PCV-7 | liquid | IM | 3 | 1 | 21.0 |  |
| Pneumo. conjugate vaccine 10-valent  | PCV-10 | liquid | IM | 3 | 1 | 11.5 |  |
| Pneumo. conjugate vaccine 10-valent  | PCV-10 | liquid | IM | 3 | 2 | 4.8 |  |
| Pneumo. conjugate vaccine 13-valent  | PCV-13 | liquid | IM | 3 | 1 | 12.0 |  |
| Polio inactivated | IPV | liquid | IM | 3 | PFS | 107.4 |  |
| Polio inactivated | IPV | liquid | IM | 3 | 10 | 2.5 |  |
| Polio inactivated | IPV | liquid | IM | 3 | 1 | 15.7 |  |
| Human Papilomavirus vaccine | HPV | liquid | IM | 3 | 1 | 15.0 |  |
| Human Papilomavirus vaccine | HPV | liquid | IM | 3 | 2 | 5.7 |  |
| Monovalent OPV-1 | mOPV1 | liquid | Oral |  | 20 | 1.5 |  |
| Monovalent OPV-3 | mOPV3 | liquid | Oral |  | 20 | 1.5 |  |

# **Attachments**

# **List of Supporting Documents Attached to this Proposal**

|  |  |  |  |
| --- | --- | --- | --- |
| **Document** | **Section** | **Document Number** | **Mandatory[1]** |
| **MoH Signature (or delegated authority) of Proposal** |  | **1** | **Yes** |
| **MoF Signature (or delegated authority) of Proposal** |  | **2** | **Yes** |
| **Signatures of ICC or HSCC or equivalent in Proposal** |  | **3** | **Yes** |
| **Minutes of ICC/HSCC meeting endorsing Proposal** |  | **4** | **Yes** |
| **comprehensive Multi Year Plan - cMYP** |  | **5** | **Yes** |
| **cMYP Costing tool for financial analysis** |  | **6** | **Yes** |
| **Minutes of last three ICC/HSCC meetings** |  | **7, 8, 9** | **Yes** |
| **Improvement plan based on EVM** |  | **10** | **Yes** |
| **WHO/UNICEF Joint Reporting Form (JRF)** |  | **11** |  |
| **ICC/HSCC workplan for forthcoming 12 months** |  |  |  |
| **National policy on injection safety** |  |  |  |
| **Action plans for improving injection safety** |  |  |  |
| **Plan for NVS introduction (if not part of cMYP)** |  |  |  |
| **Banking details** |  | **14** |  |

**[1]** Please indicate the duration of the plan / assessment / document where appropriate

# **Attachments**

List of all the mandatory and optional documents attached to this form

**Note:** Use the ***Upload file*** arrow icon to upload the document. Use the ***Delete item*** icon to delete a line. To add new lines click on the ***New item*** icon in the ***Action*** column.

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| **ID** | **File type** | **File name** | **New file** | **Actions** |
| **Description** | **Date and Time** | **Size** |
| 1 | **File Type:**MoH Signature (or delegated authority) of Proposal \***File Desc:**SIGNATURE OF SECRETARY FOR HEALTH | **File name:**[C:\Documents and Settings\dattas.WPRO\Desktop\MOH-MOF SIGNATURE\_NVS APPLICATION.pdf](/PDExtranet_Dev/ObjectEditor/OpenFileItem?editedObjectId=37857666&propertyName=FormAttachments%5b0%5d.FileData)**Date/Time:**26.05.2011 03:34:18**Size:**125 KB |  |  |
| 2 | **File Type:**MoF Signature (or delegated authority) of Proposal \***File Desc:**SIGNATURE OF FINANCE | **File name:**[C:\Documents and Settings\dattas.WPRO\Desktop\MOH-MOF SIGNATURE\_NVS APPLICATION.pdf](/PDExtranet_Dev/ObjectEditor/OpenFileItem?editedObjectId=37857666&propertyName=FormAttachments%5b1%5d.FileData)**Date/Time:**26.05.2011 03:37:53**Size:**125 KB |  |  |
| 3 | **File Type:**Signatures of ICC or HSCC or equivalent in Proposal \***File Desc:**SIGNATURE OF ICC MEMBERS | **File name:**[C:\Documents and Settings\dattas.WPRO\Desktop\ICC SIGNATURE PAGE\_NVS APPLICATION.pdf](/PDExtranet_Dev/ObjectEditor/OpenFileItem?editedObjectId=37857666&propertyName=FormAttachments%5b2%5d.FileData)**Date/Time:**26.05.2011 03:45:03**Size:**133 KB |  |  |
| 4 | **File Type:**Minutes of ICC/HSCC meeting endorsing Proposal \***File Desc:**ICC MINUTES 2\_2011 | **File name:**[C:\Documents and Settings\dattas\My Documents\MEETINGS & PRESENTATIONS\ICC MEETINGS\2011\ICC 2nd MEETING-MINUTES.pdf](/PDExtranet_Dev/ObjectEditor/OpenFileItem?editedObjectId=37857666&propertyName=FormAttachments%5b3%5d.FileData)**Date/Time:**26.05.2011 03:56:02**Size:**627 KB |  |  |
| 5 | **File Type:**comprehensive Multi Year Plan - cMYP \***File Desc:**cMYP 2011-15 PNG | **File name:**[C:\Documents and Settings\dattas\My Documents\cMYP\_PNG\cMYP 2011-2015\_PNG\CMYP FOR PRINTING\PNG cMYP 2011-2015\_FINAL FOR PRINTING.pdf](/PDExtranet_Dev/ObjectEditor/OpenFileItem?editedObjectId=37857666&propertyName=FormAttachments%5b4%5d.FileData)**Date/Time:**26.05.2011 04:03:48**Size:**1 MB |  |  |
| 6 | **File Type:**cMYP Costing tool for financial analysis \***File Desc:**cMYP COSTING TOOL | **File name:**[C:\Documents and Settings\dattas\My Documents\cMYP\_PNG\cMYP 2011-2015\_PNG\PNG cMYP Tables for Costing and Financing\_PNG\_Final.xls](/PDExtranet_Dev/ObjectEditor/OpenFileItem?editedObjectId=37857666&propertyName=FormAttachments%5b5%5d.FileData)**Date/Time:**26.05.2011 04:07:32**Size:**210 KB |  |  |
| 7 | **File Type:**Minutes of last three ICC/HSCC meetings \***File Desc:**ICC MINUTES 3\_2010 | **File name:**[C:\Documents and Settings\dattas\My Documents\MEETINGS & PRESENTATIONS\ICC MEETINGS\2010\ICC Minute No 03-2010.pdf](/PDExtranet_Dev/ObjectEditor/OpenFileItem?editedObjectId=37857666&propertyName=FormAttachments%5b6%5d.FileData)**Date/Time:**26.05.2011 04:17:44**Size:**349 KB |  |  |
| 8 | **File Type:**Minutes of last three ICC/HSCC meetings \***File Desc:**ICC MINUTES 1\_2011 | **File name:**[C:\Documents and Settings\dattas\My Documents\MEETINGS & PRESENTATIONS\ICC MEETINGS\2011\ICC Minute No 01-2011.pdf](/PDExtranet_Dev/ObjectEditor/OpenFileItem?editedObjectId=37857666&propertyName=FormAttachments%5b7%5d.FileData)**Date/Time:**26.05.2011 04:26:36**Size:**580 KB |  |  |
| 9 | **File Type:**Minutes of last three ICC/HSCC meetings \***File Desc:**ICC MINUTES 2\_2011 | **File name:**[C:\Documents and Settings\dattas\My Documents\MEETINGS & PRESENTATIONS\ICC MEETINGS\2011\ICC 2nd MEETING-MINUTES.pdf](/PDExtranet_Dev/ObjectEditor/OpenFileItem?editedObjectId=37857666&propertyName=FormAttachments%5b8%5d.FileData)**Date/Time:**26.05.2011 04:39:04**Size:**627 KB |  |  |
| 10 | **File Type:**Improvement plan based on EVM \***File Desc:**Plan of action for findings from EVSM 2008 attached; Improvement plan for 2011 will be shared on completion of EVM exercise being conducted at this point of time in PNG | **File name:**[C:\Documents and Settings\dattas\My Documents\COLD CHAIN- VACCINE & SUPPLIES\PNG EVSM 2008\EVSM Recommendations & POA\_2008.xls](/PDExtranet_Dev/ObjectEditor/OpenFileItem?editedObjectId=37857666&propertyName=FormAttachments%5b9%5d.FileData)**Date/Time:**26.05.2011 04:51:06**Size:**36 KB |  |  |
| 11 | **File Type:**WHO/UNICEF Joint Reporting Form (JRF)**File Desc:**WHO/UNICEF JRF 2010 | **File name:**[C:\Documents and Settings\dattas\My Documents\JRF REPORTS\JRF 2010\JRF Final 2010\_18.03.2011.xls](/PDExtranet_Dev/ObjectEditor/OpenFileItem?editedObjectId=37857666&propertyName=FormAttachments%5b10%5d.FileData)**Date/Time:**26.05.2011 05:15:22**Size:**339 KB |  |  |
| 12 | **File Type:**other**File Desc:**Calculation of Cold Chain Capacity | **File name:**[C:\Documents and Settings\dattas.WPRO\Desktop\GAVI APPLICATION MATERIALS\_25.05.2011\Capacity Calculation\_PNG\_25.05.2011.xls](/PDExtranet_Dev/ObjectEditor/OpenFileItem?editedObjectId=37857666&propertyName=FormAttachments%5b11%5d.FileData)**Date/Time:**27.05.2011 00:20:18**Size:**17 KB |  |  |
| 13 | **File Type:**other**File Desc:**National Cold Chain Store Capacity Calculation\_Draft for finalization following EVM  | **File name:**[C:\Documents and Settings\dattas.WPRO\Desktop\GAVI APPLICATION MATERIALS\_25.05.2011\EVM\_Assistant\_Tool\_PNG\_AMS\_25.05.2011.xls](/PDExtranet_Dev/ObjectEditor/OpenFileItem?editedObjectId=37857666&propertyName=FormAttachments%5b12%5d.FileData)**Date/Time:**27.05.2011 00:28:01**Size:**1 MB |  |  |
| 14 | **File Type:**Banking details**File Desc:**Signed Banking Details | **File name:**[SIGNED BANKING FORM.pdf](/PDExtranet_Dev/ObjectEditor/OpenFileItem?editedObjectId=37857666&propertyName=FormAttachments%5b13%5d.FileData)**Date/Time:**27.05.2011 06:24:53**Size:**185 KB |  |  |