Application Form for Gavi NVS support

Submitted by

The Government of

Lao People's Democratic Republic

Date of submission: **12 September 2017**

Deadline for submission:

i. 8 September 2017

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

Start Year	2016	End Year	2022

Form revised in 2016

(To be used with Guidelines of December 2016)

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

Gavi
GRANT TERMS AND CONDITIONS

FUNDING USED SOLELY FOR APPROVED PROGRAMMES

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

AMENDMENT TO THE APPLICATION

The Country will notify the Gavi in its Annual Progress Report if it wishes to propose any change to the programme(s) description in its application.The Gavi will document any change approved by the Gavi, and the Country's application will be amended.

RETURN OF FUNDS

The Country agrees to reimburse to the Gavi 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, within sixty (60) days after the Country receives the Gavi's request for a reimbursement and be paid to the account or accounts as directed by the Gavi.

SUSPENSION/ TERMINATION

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

ANTICORRUPTION

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

AUDITS AND RECORDS

The Country will conduct annual financial audits, and share these with the Gavi, as requested. The Gavi reserves the right, on its own or through an agent, to perform audits or other financial management assessment to ensure the accountability of funds disbursed to the Country.

The Country will maintain accurate accounting records documenting how Gavi funds are used. The Country will maintain its accounting records in accordance with its government-approved accounting standards for at least three years after the date of last disbursement of Gavi funds. If there is any claims of misuse of funds, Country will maintain such records until the audit findings are final. The Country agrees not to assert any documentary privilege against the Gavi 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 TRANSPARENCY AND ACCOUNTABILITY POLICY

The Country confirms that it is familiar with the Gavi 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 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 or the Country. The arbitration will be conducted in accordance with the then-current UNCITRAL Arbitration Rules. The parties agree to be bound by the arbitration award, as the final adjudication of any such dispute. The place of arbitration will be Geneva, Switzerland

. The languages of the arbitration will be English or French.

For any dispute for which the amount at issue is US$ 100,000 or less, there will be one arbitrator appointed by the Gavi. 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 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 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.

1. Type of Support requested

Please specify for which type of Gavi support you would like to apply to.

Type of Support	Vaccine	Start Year	End Year	Preferred second presentation[1]
Routine New Vaccines Support	HPV quadrivalent, 1 dose(s) per vial, LIQUID	2019	2022	
Routine New Vaccines Support	RV1, 1 dose/plastic tube, liquid	2019	2022	

[1] Gavi may not be in a position to accommodate all countries first product preferences, and in such cases, Gavi will contact the country and partners to explore alternative options. A country will not be obliged to accept its second or third preference, however Gavi will engage with the country to fully explore a variety of factors (such as implications on introduction timing, cold chain capacity, disease burden, etc.) which may have an implication for the most suitable selection of vaccine.

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Table Annex 4A:

Table Annex 4B: Freight cost as percentage of value

Table Annex 4C: Accelerated transition phase - Minimum country co-payment per dose of co-financed vaccine

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3. Executive Summary

Please provide a summary of your country's proposal, including the following the information:

- For each specific request, NVS routine support or NVS campaign :
  - The duration of support
  - The total amount of funds requested
  - Details of the vaccine(s), if applicable, including the reason for the choice of presentation
  - Projected month and year of introduction of the vaccine (including for campaigns and routine)

- Relevant baseline data, including:
  - DTP3 and Measles coverage data (as reported on the WHO/UNICEF Joint Reporting Form)
  - Target population from Risk Assessments from Yellow Fever and Meningitis A
  - Birth cohort, targets and immunisation coverage by vaccines

- Country preparedness
  - Summary of planned activities to prepare for vaccine launch, including EVM assessments, progress on EVM improvement plans, communication plans, etc.
  - Summary of EVM assessment and progress on EVM improvement plan

- The role of the Coordination Forum (ICC/HSCC or equivalent) and stakeholders' participation (e.g. government, key donors, partners, key implementers, CSOs) in developing this proposal

The Government of Lao PDR, after intensive deliberations in the country's NITAG and ICC and with the consent of all immunization partners, herewith submits its application for Gavi support for HPV and rotavirus vaccines, to be added to the country's National Immunization Program (NIP) schedule in late 2019.

In discussion with the Gavi Secretariat, Lao PDR was invited to submit this application for the total time span of future Gavi support, i.e. up until and including the year 2022 (four years, including the year of introduction of the vaccines). It is to be noted that the present cMYP spans the period 2016 to 2020 and is in the process of being updated for the period 2018 to 2022. At the same time, the Gavi Transition Plan, recently endorsed by the Government of Lao PDR, covers the period 2017 to 2021 (the end of the 'regular' Gavi support period).

HPV Vaccine:

In response to the high burden of cervical cancer disease in Southeast Asia, Lao PDR decided to proceed with introduction of human papillomavirus vaccine (HPV) in October 2019, following the successful completion of its HPV demonstration programme. This timeline will allow for synchronizing the HPV vaccine programme with the academic calendar, as the primary mode of vaccine delivery will be school-based vaccination.

Per the IARC GLOBOCAN 2012 data, it is estimated that there are more than 300 new cases of cervical cancer and almost 200 deaths occurring annually in Lao PDR; cervical cancer is the third most important cause of cancer among women in Lao PDR. Based on consultations with leading in-country gynecologists, it is believed that GLOBOCAN data severely underestimate the actual burden of disease.

Through partnership between the NIP and the Ministry of Education (MOE), two doses of HPV vaccine will be administered to grade 5 girls (approximately 10 years of age) in primary schools in a single academic calendar year – in early October and late April each year. In the first year of introduction, the target population will include all girls aged 10-14 years. As the country will employ a school-based delivery strategy, this age group will correspond to grades 5-9 and out-of-school girls of the above age range.

The HPV vaccine of choice for Lao PDR will be the quadrivalent Gardasil™ vaccine (Merck), including protection against both cervical cancer and also genital warts, given the high incidence of sexually-transmitted

infections in the country.

Lao PDR conducted a successful HPV demonstration programme, vaccinating almost 15,000 girls with quadrivalent HPV vaccine in two provinces, Vientiane Capital and Vientiane Province, achieving 94% and 97% coverage, respectively, according to a population-based household-level coverage survey in 2014. Other evaluations conducted were a post-introduction evaluation (PIE), costing assessment, adolescent health assessment and review of the National Comprehensive Cervical Cancer Prevention and Control Programme. The school-based vaccine delivery strategy used in the demonstration programme required health care workers to visit all primary schools in the two provinces to vaccinate the girls. The vaccination programme was well received by the vaccinated girls, health care workers, community members, teachers and school personnel.

Lao PDR requests a total of USD 1,351,447 for four years (2019-2022) to vaccinate a total of approximately 554,500 girls with two doses of HPV vaccine.

[1] Table Annex 1.1 B does not include the cost for the multi-age cohort; therefore, these costs are not captured here and are estimated to be approximately $3,300,000

Rotavirus Vaccine:

In response to the high burden of rotavirus diarrhea in the country and in the Western Pacific Region, Lao PDR has decided to proceed with the plan to also add rotavirus vaccine (RVV) to its routine immunization programme in the second half of 2019. This timeline will allow the NIP to harness synergies in planning, training and roll-out of the RVV programme alongside the HPV programme.

The Lao PDR NITAG has recommended the use of the 2-dose Rotarix™ product (GlaxoSmithKline), as the logistically most feasible vaccine.

Lao PDR diarrhea surveillance data, along with regional data on the attributable proportion of diarrheal disease due to rotavirus, show that rotavirus infection is responsible for an estimated 600-800 deaths in children under 5 years in the country each year, along with an estimated 3,800-8,500 annual cases of severe diarrhea (i.e., resulting in hospitalization) in children under 5 years. Lao PDR surveillance data provide evidence that rotavirus accounts for the majority of diarrhea cases in children under 5 years that is severe enough to require hospitalization, ranging from 50-56% depending on the year of the study. RVV has the greatest burden in young children, with a large majority of cases affecting children between 6-23 months of age. The vaccines that are currently prequalified, i.e. eligible for procurement using Gavi funds, have been shown to result in a significant decline in hospitalization due to rotavirus disease in children under 5 years ranging from 50-90%.

Stunting prevention is a health priority for the government of Lao PDR. The global literature shows that multiple diarrhea episodes can be associated with stunting. Children with moderate-to-severe diarrhea show a significant reduction in growth, measured by body length, in 2 months after an episode of diarrhea; and prolonged episodes, such as those seen with the severe diarrhea caused by rotavirus, can reduce growth in the 3 months after a diarrhea episode.

Initial studies of RVV usage in nearby Vietnam and Thailand found the two-dose presentation of the vaccine to be cost-effective at prices under $5.6 per dose, ranging up to $9.2 per dose (in 2017 USD). Rotarix™ vaccine is costed for Gavi countries at $4.22 per full, wastage-adjusted immunization course (exclusive of programmatic delivery costs).

Lao PDR requests a total of USD 2,062,599 for four years (2019 – 2022) to vaccinate a total of approximately 863,500 infants with two doses of rotavirus vaccine.

Country Readiness & Effective Vaccine Management (EVM):

A full description of pre-introduction activities is contained in the comprehensive Vaccine Introduction Plan (cVIP) including agreed activities to support HPV and RVV implementation. Given that the introductions are not foreseen before 2019, Lao PDR's NIP will be able to continue to improve country readiness, including the further implementation of the EVM Improvement Plan. As evidenced in the findings of the 2014 EVM assessment, Lao PDR continues to make strides in strengthening supply chain performance at all levels. The EVM assessment generated results below the 80% target; however, the 2014 EVM showed improvement across 8 of the 9 criteria areas, including a 14% improvement in the overall score. The next EVM assessment will take place in 2019 prior to vaccine introduction and five years following the 2014 assessment. The country

will also apply for Gavi CCEOP support in mid-2018.

Stakeholder Participation & Financial Sustainability:

In preparing this application, the NIP benefited from the guidance of the National Immunization Technical Advisory Group (NITAG). This group is composed of experts from the fields of public health, vaccinology, infectious disease, health economics, and more. They reviewed and discussed available evidence and alternative interventions and made a recommendation to the NIP. The NIP then convened a meeting of the Interagency Coordination Committee (ICC) to present the evidence-base, projected health impact, and the financial implications of the introductions. At its meeting of August 17, the Lao PDR ICC – chaired by the Vice Minister of Health – endorsed the application for HPV vaccines and RVV.

The ICC also reviewed and discussed the Gavi Transition Plan on three occasions. This plan is now approved by the Minister of Health and describes the path by which Lao PDR will begin to fully self-finance the immunization programme, including HPV and RVV. The activities included in the plan will ensure that conditions are as favorable as possible to achieve financial sustainability following transition from Gavi support. The Minister of Health has communicated to Gavi leadership that the Government of Lao PDR (GoL) will make an attempt to allocate budget for the increasing costs during the transition period so that by 2022 the GoL is fully self-financing the NIP.

4. Signatures

4.1. Signatures of the Government and National Coordinating Bodies

4.1.1. Government and the Inter-Agency Coordinating Committee for Immunisation

The Government of Lao People's Democratic Republic would like to expand the existing partnership with the Gavi for the improvement of the infants routine immunisation programme of the country, and specifically hereby requests Gavi support for:

HPV quadrivalent, 1 dose(s) per vial, LIQUID; RV1, 1 dose/plastic tube, liquid routine introduction

The Government of Lao People's Democratic Republic commits itself to developing national immunisation services on a sustainable basis in accordance with the Comprehensive Multi-Year Plan presented with this document. The Government requests that the Gavi and its partners contribute financial and technical assistance to support immunisation of children as outlined in this application.

Table(s) **6.2.3, 6.2.4, 6.3.3, 6.3.4** in the Routine New Vaccines Support of this application shows the amount of support in either supply or cash that is required from the Gavi.Table(s) **6.2.3, 6.2.4, 6.3.3, 6.3.4** 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 **April**.

The payment for the first year of co-financed support will be around **April 2019** for HPV quadrivalent, 1 dose(s) per vial, LIQUID, RV1, 1 dose/plastic tube, liquid.

Please note that this application will not be reviewed or recommended for approval by the Independent Review Committee (IRC) without the signatures of both the Minister of Health and Minister of Finance or their delegated authority. These signatures are attached as DOCUMENT NUMBER : 1 and 2 in Section 10. Attachments.

Minister of Health (or delegated authority)		Minister of Finance (or delegated authority)	
Name	Assoc. Prof. BOUNKONG SYHAVONG	**Name**	Somdy DOUANGDY
Date		**Date**	
Signature		**Signature**	

Proof of involvement of the Ministry of Education will also be required for HPV Routine Support. The Ministry of Education will either have to be involved in the ICC process (preferred option) and, for countries choosing

schools as a location for vaccinations, or choosing a school link strategy, the Minister of Education (or delegated authority) must provide its signature. The signature is attached as DOCUMENT NUMBER : 3 in Section 10. Attachments.

Minister of Education (or delegated authority)	
Name	SENGDEUANE LACHANTHABOUN
Date	
Signature	

By signing this application form, we confirm that the requested funding for salaries, salary top-ups/allowances, per diems and incentives does not duplicate funding from other sources (e.g. from other donors).

This report has been compiled by (these persons may be contacted in case the Gavi Secretariat has queries on this document):

Full name	Position	Telephone	Email
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4.1.2. National Coordination Forum (Interagency Coordinating Committees (ICCs), Health Sector Coordinating Committees (HSCCs), and other equivalent bodies)

To be eligible for support, Gavi asks countries to ensure a *basic* functionality of their Coordination Forum (ICC/HSCC or equivalent body). Countries can demonstrate this by adhering to the requirements listed in section 5.2 of the General Guidelines. The information in this section and a set of documents submitted along with this application will help the Independent Review Committee (IRC) to assess adherence.

Profile of the Coordination Forum

Name of the Forum	Interagency Coordinating Committee
Organisational structure (e.g., sub-committee, stand-alone)	Stand-alone

The Terms of Reference for the Coordination Forum is attached as DOCUMENT NUMBER : 4. The Terms of Reference should include all sections outlined in Section 5.2 of the General Guidelines..

Please describe the role of the Coordination Forum and stakeholders' participation (e.g. government, key donors, partners, key implementers, CSOs) in developing this proposal:

The Lao PDR Interagency Coordinating Committee for EPI (ICC) was established in 1992, to facilitate support and coordination of the EPI programme activities and the resolution of programmatic and operational challenges. The key function of the ICC is to bring together on a regular basis the representatives of departments that are responsible for implementing EPI and related public and institutional health activities and those who provide funding and technical assistance for these activities.

Members of the ICC include representatives from the Ministry of Health (MoH); Cabinet Office, Department of Hygiene and Health Promotion (DHHP), National Immunization Program (NIP), Maternal and Child Health Center (MCHC), Department of Communicable Disease Control (DCDC), Department of Health Care (DHC), Department of Planning and International Cooperation (DPIC), Mahosot Hospital, Sethathelart Hospital and Children and Newborn Hospital, National Center for Laboratory and Epidemiology (NCLE), University of Health Sciences (UHS), National Institute of Public Health (NIPH), Ministry of Education (MOE), Ministry of Finance (MOF), WHO, UNICEF, World Bank, Japan International Cooperation Agency (JICA), Korea Foundation for International Healthcare (KOFIH), Clinton Health Access Initiative (CHAI), and the United Nations Population Fund (UNFPA).

The ICC meets regularly to discuss NIP issues related to monitoring and supervision, immunization coverage and disease surveillance, vaccine supplies, data management, cold chain management, programme planning, human

resources and education, financial planning and management, provincial affairs and community partnerships.

The ICC Technical Working Group (TWG), a subcommittee of the ICC, is responsible for the technical support and serves as the secretariat of the ICC. It meets monthly as well as prior to and following ICC meetings. Core members of TWG include the following: Senior staff of the Dept. of Hygiene and Prevention; Deputy Director, Maternal and Child Health; National EPI Manager; Representative Curative Department, Representative Pediatrics; Planning and Finance Senior Staff; Epidemiology and Laboratory Deputy Director; WHO/EPI Technical Officer; UNICEF Health and Nutrition Officer; JICA Project Formulation Officer; and ad-hoc members or designees.

4.1.3. Signature Table for the Coordination Forum (ICC/HSCC or equivalent body)

We the members of the ICC, HSCC, or equivalent committee *[1]* met on the **04/08/2017** to review this proposal. At that meeting we endorsed this proposal on the basis of the supporting documentation which is attached. The minutes from the meeting endorsing the proposal and of the meetings of the past 12 months are attached as Document number 5. The signatures endorsing the proposal are attached as Document number 7 (please use the list for signatures in the section below).

Function	Title / Organisation	Name	Please sign below to indicate the attendance at the meeting where the proposal was endorsed	Please sign below to indicate the endorsement of the minutes where the proposal was discussed
Chair	VICE MINISTER, MOH	Prof Phouthone Muonepak		
Secretary	ICC SECRETARY	Dr Anonh Xeuatvongsa		
Members	xxx	xxx		

By submitting the proposal we confirm that the quorum has been met. **Yes**

The minutes from the meeting endorsing the proposal and of the meetings of the past 12 months are attached are attached as DOCUMENT NUMBER : 6.

4.2. National Immunization Technical Advisory Group (NITAG)

Has a NITAG been established in the country ? **Yes**

We the members of the NITAG met on the **26/07/2017** to review this proposal. At that meeting we endorsed this proposal on the basis of the supporting documentation describing the decision-making process through which the recommendations were reached, attached as Document number 31.

4.2.1. The NITAG

Profile of the NITAG

Name of the NITAG	National Immunization Technical Advosry Group
Year of constitution of the current NITAG	2013
Organisational structure (e.g., sub-committee, stand-alone)	Stand Alone
Frequency of meetings	Twice a Year

Function	Title / Organisation	Name
Chair	CHAIR	Prof. Khape Phongsavath
Secretary	EXECUTIVE SECRETARY	Dr. Phonethipsavanh Nouanthong
Members		

Major functions and responsibilities of the NITAG

The NITAG was created by the Ministerial Decree Ref. No. 907/MOH. Cab on 13 May 2013 and reconstituted in 2017. It comprises expertise from different departments of the Ministry of Health and receives advice from technical partners including WHO and UNICEF. The NITAG is chaired and managed by independent experts in public health, epidemiology, infectious disease, vaccinology, health economics, and so forth. The NIP hosts the NITAG Secretariat,

providing technical and administrative support, but none of the NIP staff are members of the NITAG. The group is charged with guiding health authorities and leaders of the NIP on the definition and implementation of national vaccination policies and strategies.

In the absence of a NITAG, countries should clarify the role and functioning of the advisory group and describe plans to establish a NITAG. This document is attached as **(Document Number: 8)**

5. Immunisation Programme Data

5.1 Background information

Please complete the table below, using the most recent data from available sources. Please identify the source of the data, and the date and attach the source document, where possible. The following documents should be referred to and/or attached:

- Comprehensive Multi-Year Plan for Immunisation (cMYP) (or equivalent plan). Please attach as DOCUMENT NUMBER 9.
- New Vaccine Introduction Plan(s) / Plan of Action. Please attach as DOCUMENT NUMBER 12.
- New Vaccine Introduction Checklist, Activity List and Timeline. Please attach as DOCUMENT NUMBER 12.
- Effective Vaccine Management (EVM) assessment. Please attach as DOCUMENT NUMBER 20.
- Two most recent annual WHO/UNICEF Joint Reporting Forms (JRF) on Vaccine Preventable Diseases.
- Health Sector Strategy documents, budgetary documents, and other reports, surveys etc, as appropriate.
- In the case of Yellow Fever and Meningitis A mass preventive campaigns, the relevant risk assessments. Please attach as DOCUMENT NUMBER 24 and DOCUMENT NUMBER 25.

Please use the most recent data available and specify the source and date.

	Figure	Year	Source
Total population	6,492,228	2015	2015 Census
Birth cohort	187,115	2017	Lao PDR Bureau of Statistics
Infant mortality rate (per 1000)	43	2017	Lao PDR Bureau of Statistics (calculated)
Surviving infants*[1]*	179,048	2017	Lao PDR Bureau of Statistics
GNI per capita (US$)	2,150	2016	World Bank Country Profile (Atlas)
Total Health Expenditure (THE) as a percentage of GDP	1.9	2014	World Bank HFSA
General government expenditure on health (GGHE) as % of General government expenditure	3.4	2014	World Bank HFSA

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

5.1.1 Lessons learned

Routine New Vaccines Support

If new or under-used vaccines have already been introduced in your country, please give details of the lessons learned from previous introduction(s) specifically for: storage capacity, protection from accidental freezing, staff training, cold chain, logistics, coverage and drop-out rates, wastage rate, etc., and suggest action points or actions taken to address them. Please refer to previous Post Introduction Evaluations (PIE), if applicable. If they are included in the Introduction Plan, please cite the section only. If this information is already included in NVIP/POA, please reference the document and in which section/page this information can be found.

Lessons Learned	Action Points
1. Recent PCV-13 roll-out experienced challenges including: hesitancy from providers and vaccine recipients due to multiple simultaneous injections [Gavi 2017 JA Report]; similar issues with multiple vaccine injections at the same-visit issues were reported when IPV was administered at 14 weeks	1. Communication strategies and materials, along with locally tailored social mobilization efforts, are being developed to address this issue at health worker and caregiver levels; although RVV is delivered with DTP 1 and with DPT 2, it is an oral vaccine and so should not present a substantial concern to providers and caregivers. HPV vaccine is offered at an age which does not present such concerns.
2. Lao PDR has experienced measles outbreaks in recent years. In addition to forming the basis for the country to implement a second dose of measles vaccine, these outbreaks highlight the importance of having a strong, functioning surveillance system in the years following new vaccine introductions.	2. Lao PDR will continue to monitor the rotavirus disease burden at its WHO-supported sentinel surveillance site after vaccine introduction. Lao PDR has placed VPD surveillance centrally in the context of the new surveillance activity work plan 2016-2020 (indicator-based surveillance)
3. Training: The PIE conducted in 3 representative provinces in 2011 after introduction of Penta (DTP-HepB-Hib) provided the most significant opportunity to learn lessons for health worker training for new vaccine introductions. The level of training of health workers varies considerably in Lao PDR, including technical and clinical knowledge of disease syndromes, and technical skills in supply forecasting. Remote health centers had the greatest difficulties. Health workers stated they felt the quality of training decreased with a cascade model (i.e. train the trainers model), once it reached the health center level. Staff also reported that they did not receive training or information on how to correct mistakes or support underperforming areas, and suggested this could be included with training for a new vaccine introduction and lead to a high return for moderate additional effort/inputs.	3. Training materials that provide adequate level of detail on clinical aspects of HPV and rotavirus disease, and that can be used by and useful to an audience across a varying level of technical backgrounds, will be developed. These will also include aspects of vaccine supply management policies and procedures to ensure that facility management staff are up to date on best practices and can predict and avert stock-outs. Specific to RVV, training needs to give clear guidance on how to recognize, work up and treat or refer intussusception cases identified in infants or children after they receive RVV, along with how to report such cases to the country AEFI system and to the regional IS network. Training will allow sufficient time to practice and receive correction on the proper method of giving vaccines and filling out associated records. Attention will be paid to decreasing the amount of cascade training, e.g. by sending more central trainers to districts and health centers to conduct training. Attention will be paid to keeping trainings small enough that there is a high trainer-to trainee ratio, as well as to combining vaccine-specific training with training that focuses on tasks identified as an area of weakness for a particular district or facility, e.g. how to calculate coverage or how to read a vaccine vial monitor (VVM.)
4. Pre-implementation planning: The Penta PIE likewise identified that the vaccine was meant to be introduced nationally at one unified time. However, provinces experienced more of a phased introduction, due in part to a combination with tetanus toxoid (TT) activities in some districts.	4. Efforts will be made to establish a rigorous pre-implementation planning process, drawing on external resources to ensure that introduction dates and competing priorities are clearly mapped and barriers identified ahead of time (e.g. the Rotavirus Accelerated Vaccine Introduction Network (RAVIN) may have the potential to offer in-country longer-term TA for implementation planning etc.).
5. Educational Materials: The Penta PIE likewise recommended that new materials be printed for a new vaccine – log books, child vaccination cards, etc.	5. The NIP will ensure that community and caregiver materials are appropriate for illiterate populations (e.g. continue working with cartoonists to develop communication materials, in accordance with Lao PDR law on printed health and immunization materials) and vaccination cards are updated with HPV and RVV fields.

5.1.2 Health planning and budgeting

Please provide information on the planning and budgeting cycle in your country

The fiscal year in Lao PDR runs from January to December.

Please indicate the name and date of the relevant planning document for health

The current health planning document is the Lao Health Sector Reform 2016-2025, Ministry of Health. Also of relevance is the 8th National Socio-Economic Development Plan 2016-2020, Ministry of Planning and Investment.

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

The current cMYP covers 2016-2020. A comprehensive Vaccine Introduction Plan (cVIP) was developed for 2019-2022 as an amendment to the existing cMYP to reflect additional information and details of the introductions of HPV and RV vaccines. It is understood that the present cMYP ends in 2020, while the overall Gavi support for the country according to the recently endorsed Transition Plan ends in 2021. With the introduction of the two new vaccines in 2019, Gavi support for both vaccines will extend to 2022 for these vaccines only. The cMYP is in the process of being updated to reflect the above issues and a new cMYP spanning the period 2018 to 2022 will be available in 2018.

The enclosed cMYP costing tool now includes costs for both new vaccines, but will need to be revised during the cMYP updating process later this year.

Please indicate the national planning budgeting cycle for health

The national budgeting cycle for health covers 12 months, with the budget year beginning on July 1st of each year and ending on June 30 of the following year. The NIP budget cycle is a 2-year cycle.

Please indicate the national planning cycle for immunisation

The national planning cycle for immunization is synchronized with the national budgeting cycle for health.

5.1.3 Coverage and equity

Please describe any health systems bottlenecks or barriers to access, utilisation and delivery of immunisation services at district level (or equivalent), for example geographic, socio-economic and/or gender-related barriers. Please indicated if there are specific populations of concern. If available, please provide subnational coverage and equity data highlighting geographic, socio-economic, gender-related, or other barriers and any other relevant categories of vulnerable or high-risk populations.

Administrative data show an increase in coverage of all routine vaccines used in Lao PDR from 2014 to 2015. The present cMYP outlines priority strategies and activities to improve the quality of immunization service delivery at the sub-provincial level. By 2015, 79% of 148 districts had achieved 80% DTP3 coverage; however, routine coverage reports for 2016 point to a decline in coverage for the majority of routine vaccines used in the country. 2016 district-level data showed below-average DTP3 coverage in 61 districts (41% of the 148 districts). The 2015 EPI Coverage Survey found that 9% of children nationally lack evidence of ever receiving a routine vaccination.

Geographic Barriers: Differences in access/utilization/delivery have been noted between rural and urban populations. Lao PDR experienced pertussis outbreaks in 2016 that were primarily concentrated among ethnic Hmong communities, highlighting the persistence of disparity in access to health and immunization service delivery and utilization. The 2011-2012 Lao Social Indicator Survey (LSIS) found that half of urban children received all vaccinations (54%), compared to only 39% of rural children. Nearly half of the children in the Southern region received all vaccinations (48%), compared with 45% in the Northern region and only 40% in the Central region. A wide degree of variation was observed across the country by province; the LSIS found the lowest coverage in Phongsaly and Savannakhet, where fewer than 25% had received all the recommended vaccinations; with the highest coverage found in Xayabury at 79%.

Socio-Economic Barriers: The 2011-2012 LSIS found that full vaccination coverage increased directly with increases in maternal education – a marker of family wealth and economic resources. While only 24% of children with mothers with no education were fully vaccinated, 73% of children with mothers with higher educational levels were vaccinated. Similarly, only 29% of children in the lowest wealth quintile were fully vaccinated, compared with 61% of children in the highest wealth quintile, even though vaccinations are provided free of charge.

The LSIS also assessed the role of ethnicity in immunization coverage. Children of Hmong-Mien headed households had the lowest vaccination coverage compared with children in other ethno-linguistic households; in the former households, only 20% received all vaccinations and as many as 35% received no vaccinations. Several outbreaks observed in recent years – diphtheria, pertussis, measles and vaccine derived poliomyelitis – were primarily observed in the Hmong community. Inadequate access to immunization services by all sections of the population due to barriers on both the supply and demand sides is considered to be a main contributor of those outbreaks.

The NIP is creating materials specific to these ethnic groups, with voice recordings and animations, to micro-target hard-to-reach and low-coverage populations. This strategy also focuses on increasing the involvement of local community leaders, village chiefs and village health volunteers to educate the parents/caregivers on the benefits of immunization at the community level. Video animation will also be utilized by health care workers as an education aid at the village level after having been oriented on how to educate parents/caregivers.

Gender Barriers: The 2011-2012 LSIS found that immunization coverage did not vary by child's gender. No significant

gender barriers to access, utilization or delivery of immunization services were identified in the country.

To address the above barriers to coverage and equity, the NIP and technical partners have undertaken numerous targeted activities including (but not limited to):

1. Reinforced training on development of microplans to strengthen service delivery to hard-to-reach communities;
2. On-going monitoring and supportive supervision to low-performing/priority districts;
3. Provision of adapted mid-level EPI manager training materials to Lao PDR context;
4. Developed and tailored communications materials in local languages to address ethnic groups;
5. Interpersonal communication (IPC) training of healthcare workers and community volunteers in targeted districts to better address ethnic disparities in access and uptake.

Support for improving coverage and equity through integrated outreach services is provided as part of a new World Bank and UNICEF-supported program covering 50 priority districts in 14 provinces utilizing a results-based framework with disbursement-linked indicators. This Healthy Village Program includes MCH and nutrition services and preferentially targets less-well served provinces with a pro-equity approach. The promotion of integrated outreach services also attempts to mainstream EPI into the broader set of health services.

These issues are also addressed in detail in the Rotavirus Vaccine Introduction Plan, in the HPV Vaccine Introduction Plan and in the comprehensive Vaccine Introduction Plan. Coordinated training activities with the roll-out of HPV and RV vaccines will reinforce best practices in immunization as well as the importance of timely administration for all vaccines in the national schedule.

Please explain how the proposed NVS support (activities and budget) will be used to improve coverage and equity of routine immunisation with reference to specifically identified health systems bottlenecks and/or specific populations of concern. For countries that will be receiving Gavi HSS and/or CCEOP funding concurrently with NVS funds, please also highlight how NVS funds will support/complement/leverage specific activities or investments included in those other grants.

The NIP and technical partners have identified health systems bottlenecks that need to be resolved in order to increase coverage and improve equity, including targeting ethnic populations that are noted to have particular barriers to immunization service access. Some of the related issues were addressed in the section above.

Additionally, the NIP has overseen enhancements to the EPI communication strategy, methods and activities planned to implement the strategy to address coverage and equity. Some of the key communication strategies are advocacy, interpersonal communication, and social media and community mobilization, building the communication capacity of local staff. Higher governmental officials, including line ministries, the leadership of mass organizations such as the Lao Front for National Construction and the Lao Women's Union, media agencies and other stakeholders will continue to be involved in advocacy meetings to share information on the importance of immunization, highlighting the gaps in coverage, and their contributions in increasing demand for ethnic populations. The Lao mass organizations are strong allies with powerful advocates that can help in convincing communities about the benefits and safety of immunization. Interpersonal Communication (IPC) training is being provided for health workers as well as for community leaders and village health volunteers; materials to support effective IPC include Q&As, flip charts on immunization in local languages, and a job-aid (standing banner) to remind caregivers of key messages and of the immunization schedule. Improvement of micro planning and drafting of an immunization law are also underway, both of which will assist in resolving some of the bottlenecks towards improved access and utilization of immunization.

In order to enhance the communication capacity, UNICEF has placed a Communication for Development (C4D) national consultant with NIP supporting the implementation of the country's integrated routine and supplementary immunization communication strategy and action plan. This consultant will develop materials for health workers and community leaders, specific to the vaccines being introduced.

At the same time, and in order to assure sustained vaccine supply and distribution to the periphery, the cold chain and vaccine stock management has been improved. This includes regular national and provincial level vaccine and logistics stock management data collection, which is incorporated and analyzed at district levels for monitoring and decision making on stock management. Two new regional vaccine stores have been installed and are operational; more than 90% of health centers in the country now have vaccine refrigerators. UNICEF continues to support the NIP in the area of cold chain and logistics, including vaccine forecasting, procurement services, distribution, and monitoring of vaccines and vaccination commodities. Additionally, there is on-going procurement (in 2017) of 159 refrigerators (specifically ice-lined refrigerators) and 120 vaccine carriers in view of the implementation of the cold chain improvement plan. Lao PDR will continue to assess its cold chain capacity and inventory at all levels to determine what additional investments are required to support new vaccine introduction. This will include possible system design and stock management issues to improve monitoring of stock at the national and sub-national levels. Importantly, the country has plans in place to switch from PCV13 single dose vial to a four-dose vial presentation in early 2018; this will make available an additional 25cm3 cold chain volume per three-dose course of the vaccine before HPV and RVV are added to the immunization schedule.

Please describe what national surveys take place routinely in country to assess gender and equity related barriers. Highlight whether this application includes any activities to assess gender and equity related barriers.

National surveys to assess gender and equity are not routinely done; however, WHO and UNICEF assisted the NIP in identifying barriers to routine immunization in four major ethnic groups (Lao Lum, Hmong, Akha and Kamu) in 2017. Taking into account the findings of this assessment, priority is given to increase access, utilization and delivery of immunization in hard-to-reach areas via the Reach Every Community Approach (REC) and enhanced communications and social mobilization approaches with audio messages in the four local languages.

A Multiple Indicator Cluster Survey (MICS) is being conducted in 2017 among 23,400 households in all 18 provinces. Preliminary results will be available in December 2017, and will include high quality immunization data and related child health indicators, allowing the NIP to develop targeted interventions designed to improve immunization service coverage and equity.

The Gavi Transition Plan includes plans to conduct a baseline and endline Knowledge, Attitude, and Practices (KAP) study on immunization among parents, caregivers and service providers with special emphasis on ethnic minorities. Results from his study, intended to be conducted in 2018, will assist the NIP to further shape and adapt its plans to address social and behavioral barriers to immunization uptake in these populations.

Please indicate if sex disaggregated data is collected and used in immunisation routine reporting systems.

Sex disaggregated data is not currently collected by the national immunization programme for routine immunization. The country does, however, collect data on tetanus vaccination for pregnant women.

Is the country currently in a situation of fragility (e.g. insecurity, conflict, post-conflict, refugees/and or displaced persons and recent, current or potential environmental disaster, such as flooding, earthquake or drought or others)? If Yes, please describe how these issues may impact your immunisation programme, planning for introduction of routine vaccines or campaigns and financing of these activities.

Not applicable for Lao PDR

5.1.4 Data quality

To support country efforts to strengthen the availability, quality and use of vaccination coverage data for strengthened programme management, Gavi requires that countries applying for all types of Gavi support to undertake routine monitoring of vaccination coverage data through an annual desk review; conduct periodic (once every five years or more frequently where appropriate) in-depth assessments of routine administrative vaccination coverage data; conduct periodic (at least once every five years) nationally representative vaccination coverage surveys; and develop and monitor plans for improving vaccination coverage data quality as a part of their own core work plans.

5.1.5 HPV specific facts

Countries applying for HPV that have already conducted a demonstration or pilot programme, should include details on specific lessons learned for HPV vaccine delivery.

Key programmatic areas	Lessons Learned	How these areas have been addressed in a National Plan
Preparation & planning	Healthcare workers were trained prior to vaccine introduction, but felt training was insufficient. Correct vaccination preparation and techniques were observed, and health care worker knowledge was generally good. Some HCWs and teachers did not know the HPV vaccine schedule. Needles were re-capped in several sites visited, increasing risk of HCW injury. Timing of HPV1 in some schools was late and HPV2 administration was rushed at the end of the academic year, causing some girls to have less than a 6 months interval between doses.	Enhanced training of HCWs will be conducted to ensure awareness of the vaccination schedule, benefits of HPV vaccine, proper vaccine administration technique, not to re-cap needles and to observe girls following vaccination (in close collaboration with and by supervising trained school teachers). Personnel will receive improved orientation about HPV vaccine prior to vaccination activities. Vaccine procurement in country will be coordinated in country to ensure that scheduled vaccination dates are met and HPV vaccination will be coordinated with MoE to ensure vaccination is conducted in time and in conjunction with academic calendar.
Communication & social	Education materials and vaccination cards	Communication between Ministry of Health and

mobilization	were developed prior to programme launch, but information about the target group was inconsistent across materials, generating some confusion about eligibility criteria. Many teachers did not receive materials on HPV vaccine.	Ministry of Education will be enhanced to facilitate and improve planning for vaccination activities.
Delivery strategies	School-based vaccination was effective in achieving high coverage among girls enrolled in school and was well received by girls, parents, teachers and HCW. There was limited outreach to out-of-school girls.	School-based vaccination will remain the primary delivery strategy. Health care staff will work with community health volunteers and leaders to actively search for out-of-school girls. Out-of-school girls will be listed with assistance from village and neighborhood health workers and village leaders and invited to schools for vaccination. Village health workers will also mobilize girls to be vaccinated during regular immunization sessions in schools and at health facilities. Community-based and mass organizations will assist in identifying out-of-school girls and mobilizing them for vaccination.
Coverage	Administrative coverage was reported to be close to 100% in both provinces. However, the target population for coverage calculation was limited to girls enrolled in Grade 5 primary school. A population-based household survey found coverage of 94% in Vientiane Capital and 97% in Vientiane Province for completion of the then 3-dose course.	Administrative coverage was reported to be close to 100% in both provinces. However, the target population for coverage calculation was limited to girls enrolled in Grade 5 primary school. A population-based household survey found coverage of 94% in Vientiane Capital and 97% in Vientiane Province for completion of the then 3-dose course.
Reporting & monitoring	Recording and reporting of vaccination was sometimes done incorrectly (for other vaccines than HPV).	Planning is done to strengthen training to ensure accurate recording and reporting of vaccination data including the vaccine inventory and doses administered for triangulation with administrative coverage data. District and provincial staff will receive training to improve skills in supportive supervision.
Sustainability	HPV vaccination was not integrated with other public health or adolescent interventions during demonstration project. School-based delivery is the optimal strategy in terms of coverage reach for Lao PDR, but is likely to be more costly than health-facility based delivery.	As MOH/NIP has recently endorsed the Gavi transition plan, additional resources will be made available for HPV procurement and delivery as Gavi financing diminishes over the course of the transition period. In the national HPV vaccination programme, the first dose will be delivered during the regular annual school health day in October. To allow for improved integration with other school-based activities, the NIP is working with the MoE and UNFPA to develop a school health education platform in primary and secondary schools. HPV vaccine promotion will be incorporated into the Grade 5 school health curriculum. UNFPA is supporting a multisector initiative to reach adolescent girls, called the “Noi Project”. This initiative seeks to provide comprehensive services for girls age 10 years and older and will target in- and out-of-school girls. HPV vaccination will foster prominently in this initiative. The 2nd dose of HPV will be delivered in April of

		the subsequent year and will be integrated into activities related to the World Immunization Week, when social mobilization and other immunization advocacy activities are implemented. The NIP organizes a Periodic Intensification of Routine Immunization (PIRI) during the World Immunization Week in the identified high-risk areas. Various strategies are applied to address the target populations with outreach as the main strategy to vaccinate children. This program incorporates school-based interventions including social mobilization activities using available resources. This strategy will also be applied for HPV vaccination in the schools. A spacing of 12 month was considered in the discussions of the NITAG, as it would be operationally more efficient, if two grades could receive dose 1 and dose 2 at the same visit. However, after discussion with NIP MoH and MoE, such an approach was considered not feasible, mainly because grade 5 girls are in primary school and grade 6 in secondary school. Lao PDR benefitted from a cost analysis of the HPV demonstration program in two provinces in 2014, which showed financial cost per fully immunized girl (FIG) was USD 5.70, for a two-dose schedule, utilizing the C4P tool. Of note, this value was extrapolated from costing results of a 3-dose demonstration vaccination program, as it was implemented in 2013. In July 2016, national-scale up costing work was completed utilizing the C4P tool, which demonstrated financial cost for FIG is USD 7.03 for a 2-dose schedule, separated by 6 months, administered in a phased approach over three years. A second model, vaccinating two birth cohorts in an annual schedule, found the financial cost to be USD 5.18 for FIG. Importantly, these values do not include vaccine cost. WHO guidance and Gavi support changed in 2017 to include support for multiple-age cohorts. Following this change, Lao PDR decided to apply for Gavi support for HPV vaccine introduction in July 2017, with a new delivery model with vaccination separated by 6 months and including multiple-age cohorts in the first year, followed by single cohorts. As such, there was limited time and resources to recreate the national scale-up costing work with a new delivery model. NIP and partners reviewed the original costing analyses for the demonstration program and the national scale-up, and it was determined that some cost assumptions needed updating. Costs for training, micro-planning and social mobilization needed to be increased, while costs for monitoring were notably high in the demonstration program. It was also felt that national roll-out would enable some efficiency gains with shared costs across 18 provinces

		compared to just 2 districts in each province as per the phased scale-up scenario. Therefore, a final assumption of USD 6.00 for FIG was made to be incorporated in cost calculations.

For each district in which the demonstration/ pilot programme was implemented, please complete the following:

District Information	
Name of the district	Vientiane Capital (Vientiane Municipality)
Size of target population of the district	7,778
Describe how the district is divided into rural and urban areas:	58% urban, 42% rural
Delivery strategy(ies) used (e.g. school based, health centre based, campaign)	Primarily ‘fixed-site’ school-based vaccination Out-of-school girls asked to come to school for vaccination.
District Information	
Name of the district	Vientiane Province
Size of target population of the district	6,160
Describe how the district is divided into rural and urban areas:	20% urban, 80% rural
Delivery strategy(ies) used (e.g. school based, health centre based, campaign)	Primarily ‘fixed-site’ school-based vaccination Out-of-school girls asked to come to school for vaccination.

5.2. Baseline and Annual Targets for Routine Vaccines

For HPV, Gavi supports the vaccination of girls aged 9-14 years, based on the following cohorts:

- Routine cohort – countries are required to identify a single year cohort of girls to be immunised on a routine basis. (e.g. 9 years old)
- Additional multi-age cohort – in the first year of introduction (or initial year of each phase, if country choose phased introduction), countries also have the option to immunise additional girls within the recommended age groups (e.g. 10-14 years), that are older than the routine cohort.

Note: Countries may choose proxy age of girls based on a school grade (e.g. grade 5 corresponds to approximately 10 year olds). However, grades usually have a range of different aged girls so it is important to keep in mind that girls under 9 years should not be vaccinated, and doses for girls older than 14 years are not provided by Gavi.

Please specify the chosen age for the routine cohort HPV vaccination: e.g. 9 years

10 years

If relevant, please specify the chosen age range for the additional multi-age cohort in the year of introduction: e.g. 10, 11, 12, 13, 14 years
From :

11 years

To :

14 years

Will a phased introduction approach be adopted?

No

If a phased approach will be adopted, please provide an explanation for this approach.

Please refer to cMYP pages to assist in filling-in this section. For HPV, please also refer to Annex 3 of the HPV Guidelines.
The Base year information should be completed for the year in which the application is being completed.

Table 5.2: Baseline NVS routine figures

Number	Base Year	Baseline and Targets			
	2016	2019	2020	2021	2022
Total births	184,427	192,626	195,450	197,404	199,378
Total infants' deaths	7,952	8,300	8,418	8,502	8,587
Total surviving infants	176,475	184,326	187,032	188,902	190,791
Total pregnant women	184,427	192,626	195,438	197,404	199,378
Target population (routine cohort) vaccinated with OPV3*[1]*	146,474	165,893	168,329	170,012	171,712
OPV3 coverage*[2]*	83 %	90 %	90 %	90 %	90 %
Target population (routine cohort) vaccinated with DTP1*[1]*	150,004	175,110	177,680	179,457	181,251
Target population (routine cohort) vaccinated with DTP3*[1]*	144,709	165,893	168,329	170,012	171,712
DTP3 coverage*[2]*	82 %	90 %	90 %	90 %	90 %
Wastage*[3]* rate in base-year and planned thereafter (%) for DTP	5	5	5	5	5
Wastage*[3]* factor in base-year and planned thereafter for DTP	1.05	1.05	1.05	1.05	1.05

Routine Cohort					
Number of girls in the routine cohort	77,206	77,463	78,599	79,574	80,926
Target population (routine cohort) vaccinated with 1st dose of HPV	0	69,717	70,739	71,779	72,834
Target population (routine cohort) vaccinated with 2nd dose of HPV	0	0	66,809	67,637	68,787
HPV quadrivalent coverage 1st dose	0 %	90 %	90 %	90 %	90 %
HPV quadrivalent coverage 2nd dose	0 %	0 %	85 %	85 %	85 %
Additional multi-age cohort					
Number of girls in the additional multi-age cohort	286,521	299,259			
Target population (additional multi-age cohort) vaccinated with 1st dose of HPV quadrivalent	0	269,333			
Target population (additional multi-age cohort) vaccinated with 2nd dose of HPV	0	254,370			
HPV quadrivalent coverage*[2]*	0%	90%	0%	0%	0%
HPV quadrivalent coverage 2nd dose	0%	85%	0%	0%	0%
First Presentation: HPV quadrivalent, 1 dose(s) per vial, LIQUID ROUTINE COHORT + ADDITIONAL MULTI_AGE COHORT					
Wastage*[3]* rate in base-year and planned thereafter (%)	5	5	5	5	5
Wastage*[3]* factor in base-year and planned thereafter (%)	1.05	1.05	1.05	1.05	1.05
Maximum wastage rate value for HPV quadrivalent, 1 dose(s) per vial, LIQUID	5 %	5 %	5 %	5 %	5 %
Target population (routine cohort) vaccinated with 1st dose of RV1	0	84,790	177,680	179,457	181,251
Target population (routine cohort) vaccinated with 2nd dose of Rotavirus	0	75,574	168,329	170,012	171,712
RV1 coverage*[2]*	0 %	46 %	90 %	90 %	90 %
First Presentation: RV1, 1 dose/plastic tube, liquid ROUTINE COHORT + ADDITIONAL MULTI_AGE COHORT					
Wastage*[3]* rate in base-year and planned thereafter (%)	0	5	5	5	5
Wastage*[3]* factor in base-year and planned thereafter (%)	1.00	1.05	1.05	1.05	1.05
Maximum wastage rate value for RV1, 1 dose/plastic tube, liquid	5 %	5 %	5 %	5 %	5 %
Target population (routine cohort) vaccinated with 1st dose of MCV	134,121	175,110	177,680	179,457	181,251
MCV coverage*[2]*	76 %	95 %	95 %	95 %	95 %
Annual DTP Drop out rate [(DTP1 – DTP3) / DTP1] x 100	4 %	5 %	5 %	5 %	5 %

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

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

[3] 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.

5.2.1 Description of routine and additional multi-age cohorts

Provide the percentage of primary school enrolment

98.5%

Provide the percentage of secondary school enrolment

66%

Provide the average age of entry for secondary school

11 years

Please provide a source for the enrolment data (e.g., national statistics office, MOE, recent census, school registers, etc.)

United Nations in Lao PDR – SDG4: Education Fact Sheet 2017; World Bank / UNESCO - Institute for Statistics, 2017

Please provide a source for the enrolment data (e.g., national statistics office, MOE, recent census, school registers, etc.)

5.2.2 HPV specific targets

Girls to be vaccinated with HPV should be within the WHO-recommended target population of 9-14 years old girls

Please specify the source of data that was used to estimate the number of girls in the routine and, if relevant, additional multi-age cohorts and reported in the above table under "Target population (routine cohort) vaccinated with HPV" and "Target population (additional multi-age cohort) vaccinated with HPV"

The Lao PDR 2015 census and the Lao PDR Bureau of Statistics (BOS) estimates for population from 2015-2020 were used to estimate the number of girls in the routine cohorts and additional multi-age cohort. The 2015 census estimate was used to determine the number of 10-year old girls (a proxy for grade 5 girls whether in or out of school), which was divided by the 2015 total population to determine an estimate of the proportion of 10-year old girls during each year. This proportion (0.01126) was multiplied by the BOS estimated total Lao PDR populations in 2019 and 2020 to determine the overall target population for routine vaccination in those years. A similar process was used to determine the number of girls in the additional multi-age cohort, namely, the total number of girls aged 11-14 years from the 2015 census was divided by the total population in the 2015 population. This proportion (0.0435) was multiplied by the BOS estimated total Lao PDR population in 2019 to determine the overall target population for the additional multi-age cohort in that year.

Following this approach, the routine cohort target population for vaccination with HPV is 77,463 and the additional multi-age cohort target population for vaccination with HPV is 299,259. This assumes achievement of 90% coverage with the first dose of HPV and 85% for the second dose of HPV. Based on the experiences made with the HPV demonstration project in the Vientiane area (reaching 94 – 97% coverage with the first dose), these targets are considered realistic as overall country targets.

5.3. Targets for Preventive Campaign(s)

No NVS Prevention Campaign Support this year

5.4. Targets for One time mini-catchup campaign(s)

No One time mini-catchup campaign this year

6. New and Under-Used Vaccines (NVS Routine vaccines)

6.1. Assessment of burden of relevant diseases (if available)

If already included in detail in the Introduction Plan or Plan of Action, please cite the section only.

Disease	Title of the assessment	Date	Results
All-cause diarrhea	Lao PDR DHIS2 Diarrhea Data, 2017 Report	2013-2017	Since 2013, Lao PDR has been using the DHIS2 platform to manage its health information, and the system collects data on under-5 children diagnosed with mild, severe, and overall diarrhea. Any diarrhea: From 2013 to 2017, the overall incidence of any reported diarrhea among the under-5 population has ranged from 10.9% (2013) to 23.6% (2014). In 2017 11% of the under-5 population experienced an episode of diarrhea. Mild diarrhea: In 2013-2014, no data was collected on mild diarrhea amongst the under-5 population in the DHIS 2 system. In 2015, 148 children were reported, and in 2016, 1349 children were reported. Severe diarrhea: In 2015, 33 children were reported with verified diagnosis of severe diarrhea (based on frequency of diarrhea, vomiting, and signs of dehydration); in 2016, 912 were reported, and in 2017, 662 were reported. No data were reported in 2013-2014. This surveillance system continues to be developed and there are no good estimates of how much of the total population its findings represent.
Rotavirus diarrhea, Under-5 hospitalizations	Soukaloun D et al. Rotavirus diarrhea in hospitalized children under 5 years of age in Vientiane, Lao PDR, 2009 to 2015. Manuscript under development.	2009-2015	56% (985) of 1,772 under-5-year old children presenting to a tertiary hospital in Vientiane from 2009-2015 with acute gastroenteritis had stool samples positive for rotavirus.
Acute Watery Diarrhea	Khamphaphongphanh B, Mouanchanh L. Diarrhea Prevention and Control in the Lao People's Democratic Republic. Poster presented at regional scientific conference July 2017.	2009-2013	National passive surveillance data presented in July of 2017 show a burden of 10,828 cases of AWD in the under-5 population presenting to surveillance facilities around the country in 2013, the latest year of data presented. Again, passive surveillance generally presents an under-estimate of overall disease burden.
Rotavirus Diarrhea	Aloun DS et al. Rotavirus diarrhea among children aged less than 5 years at Mahosot Hospital, Vientiane, Lao PDR. Vaccine 27S 2009. F85-F88.	2005-2007	54% (624) of 1,158 under-5-year old children presenting to a tertiary hospital serving as a rotavirus sentinel surveillance site in Vientiane from 2005 to 2007 with acute gastroenteritis had stool samples positive for rotavirus. The G1P[8] strain was the most common genotype, followed by G9P[8]. The largest number of patients was aged 12-23 months, and the second-largest age group was aged 6-11 months; 73% of specimens overall were collected from children aged 6-23 months. A clear

			seasonal pattern for rotavirus diarrhea was observed, from January through April. Rotavirus-positive specimens during these peak months ranged from 60-90%, compared to 0-25% in non-peak months. Children with rotavirus were more likely to have severe symptoms, measured by incidence of vomiting and dehydration, compared to rotavirus-negative patients.
Rotavirus Diarrhea, Under-5 Mortality	Tate JE, Burton AH, Boschi-Pinto C, Parashar UD, for the WHO-Coordinated Global Rotavirus Surveillance Network. Global, Regional, and National Estimates of Rotavirus Mortality in Children <5 Years of Age, 2000–2013. Clin Infect Dis. 2016;62(suppl 2):S96–105.	2000-2013	The US CDC assessed Lao PDR data and identified 1,510 annual under-5 year diarrhea deaths in the country, 798 (53%) of which were positive for rotavirus.
Rotavirus diarrhea, Under-5 hospitalizations	Soukaloun D et al. Rotavirus diarrhea in hospitalized children under 5 years of age in Vientiane, Lao PDR, 2009 to 2015. Manuscript under development.	2009-2015	56% (985) of 1,772 under-5-year old children presenting to a tertiary hospital in Vientiane from 2009-2015 with acute gastroenteritis had stool samples positive for rotavirus.

6.1.1 HPV burden specific information

Has the country undertaken an assessment of the burden of cervical cancer? If so, describe the burden, and when and how the assessment was done. If not, countries may report on Globocan data (available on the WHO HPV information Centre website at http://www.who.int/hpvcentre/en).

Cervical cancer is a leading cause of cancer among women in Lao PDR, and as per the GLOBOCAN 2012 (IARC, Lyon) modeled data, there were estimated to be 314 new cases of cervical cancer and 168 deaths attributable to cervical cancer each year. The age-standardized incidence rate is 12.5 per 100,000 and mortality is 7.4 per 100,000. While the country has not completed formal studies to assess cervical cancer burden, anecdotal evidence provided by leading gynecologists in Lao PDR demonstrate expert sentiment that GLOBOCAN models may be underestimating true burden.

In 2009, Lao PDR conducted a cross-sectional study in two provinces to determine the prevalence of high-risk HPV among Lao women through HPV typing, using real-time polymerase chain reaction (PCR)-based assays, of cervical cells collected during routine gynecological examinations. Among 1922 women, 213 were positive for high-risk HPV types including HPV types 16, 18, 33, 45, 52, and 58. This prevalence data is consistent with that found among other countries in Asia including Vietnam, Indonesia, Thailand and Southeast China. (Phongsavan et al. Int J Gyn Cancer 2012.)

Describe the existing cervical cancer prevention and control activities.

In 2011, a Comprehensive Cervical Cancer Control Strategy was drafted in Lao PDR where primary, secondary, and tertiary prevention and treatment options were outlined. The document states that strategies to control cervical cancer, in addition to screening of women, would be considered feasible. The strategy refers to HPV vaccination of young girls as part of the approaches for cervical cancer control, besides screening for precancers and management of precancerous lesions through different modalities, prompt and adequate treatment of invasive cancers and pain relief and palliative care for advanced cancers. It further states that these approaches have to be addressed in the context of the health system capacity and preparedness in Lao PDR.

Primary Prevention**:** The NIP plans to revise the Comprehensive Cervical Cancer Control Strategy to include HPV vaccination with the intent of expanding the section to include HPV vaccination nationally.

Secondary Prevention**:** Given the capacity of Lao PDR's health system, the VIA (visual inspection of the cervix with acetic acid) and cryotherapy as a single visit approach was chosen as the screening option. VIA testing was piloted in two provinces (i.e., Vientiane Capital and Vientiane Province) and found to be acceptable by women. There is very limited access to pap smears in Lao PDR, with specimens collected in Vientiane and sent to Thailand for PCR. There is no cancer registry in Lao PDR, but an IAEA/WHO mission in 2014 recommended the establishment of a population based cancer registry, incorporating existing pathology and hospital-based cancer registries in two main teaching hospitals (Cancer Control and Needs Assessment

Report, imPACT, April 2014).

Treatment**:** There is no specialized treatment for cervical cancer available in country. Patients with financial capacity may choose to access such care in neighboring Thailand.

Has the country developed a strategy for establishing or strengthening a national comprehensive approach to cervical cancer prevention and control? **Yes**

If Yes, please attach and refer to section 10. Attachments. (Document N°**15,16**)

If No, are there plans for the country to develop such a roadmap or strategy in the future? Please describe- when, who will be leading the development of the plan, and which agencies will be involved.

6.1.2 Description of province/ region profile

Countries are required to attach a description of the profile for each province/ region, using the template provided by Gavi

Please attach the relevant documents "HPV Region/ Province profile " template provided by Gavi and attach as a mandatory document in the Attachment section. Document number **16**)

6.1.3 Delivery strategies for HPV vaccine

Please provide information on each of the following **delivery strategies** that will be:

- Using outreach to schools as a location for vaccinations
- Using health facilities as a location for vaccinations
- Using community outreach as locations for vaccinations
- Campaign

Using schools as a location for vaccinations

Please describe why this delivery strategy has been chosen for the selection region/ district(s). Will this delivery strategy be used for every year? If so, please describe how this strategy will be financed in future years.

A school-based strategy has been selected because high coverage was achieved in the HPV demonstration programme. In Lao PDR, primary school enrollment is very high (> 95%), although school dropout reduces girls' enrolment in grade 5 to slightly below 80%. Nevertheless, school-based vaccination for this target population is operationally feasible and ideal for yielding high vaccination coverage in a short time if compared to the existing health facility and outreach services used for the delivery of other vaccines. The school delivery strategy will be used for the routine cohort each year and for the multi-age cohort in the first year. There will be additional operational costs for the vaccine administration in schools, when compared to health facility based delivery. The NITAG has weighed these costs against the higher achievable coverage in girls attending school when making its decision on the delivery strategy.

Please specify whether girls will be vaccinated by selection of a specific age or a specific school grade

During the first year of national HPV vaccine introduction, Lao PDR will be targeting the routine cohort of Grade 5 girls plus and an additional multi-age cohort. This will be implemented by vaccinating all Grade 5 girls in primary school, as well as all girls aged 10-14 who are not in primary school. The multi-age cohort will thus include girls in secondary school aged 11 to 14 years, as well as out-of-school girls aged 10-14 years. After the first year of HPV introduction, Lao PDR will be targeting solely the routine cohort, i.e. all Grade 5 girls in primary school and girls aged 10-14 who are out-of-school. For the latter, a wider eligibility period will be in place, with the ability for girls to be vaccinated in health facilities and during routine outreach sessions in Q4/2019 and during the full year 2020.

In-school girls will be vaccinated in school; out-of-school girls will be invited to come for vaccination at the local primary school and/or health facilities through intensified communication approaches through village leaders and Womens' Union members (see also sections 5.1.3. and 5.1.5. for further details).

The NIP will work with the Department of Primary School and Kindergarten of the Ministry of Education to identify appropriate vaccination weeks in the academic calendar, with attention to opportunities to synergize

with existing health events, such as the school health days and school-based approaches during the World Immunization Week. Dose 1 will be administered early in the school year in October and dose 2 late in the school year the following April. Focused social mobilization activities will be conducted well in advance of vaccination days. School teachers will be obligated to make lists of eligible in-school girls based on class rosters, while NIP will request village and neighborhood leaders and Womens' Union members to establish lists of eligible out-of-school girls.

During vaccination days, all girls in Grade 5 will be summoned for vaccination in primary school. At the same time, girls aged 10-14 years will be vaccinated in secondary schools (age-based strategy). Out-of-school girls aged 10-14 years will be encouraged by village leaders, Women's Union members and health care workers to attend vaccination days at the schools assisted by targeted social mobilization efforts in communities (see above).

After the first year of introduction, the routine cohort will be all in-school girls in Grade 5 and out-of-school girls aged 10-14 years with out-of-school girls encouraged to attend vaccination days at the primary school.

Some unused vaccines will be stored at the health facilities for in-school and out-of-school girls who miss vaccination days at school; the specific amounts will be calculated and planned during coordinated microplanning activities between MoH and MoE staff.

Please complete table 6.1.3a vaccination by specific age or table 6.1.3b by specific school grade, depending on above choice

Table 6.1.3 a: Vaccination by specific age

Routine Cohort	
Specific age chosen	N/A
Target population of girls in chosen age	
Girls of chosen age enrolled in schools	

Additional multi-age cohort	
Specific age-range chosen	Start 11 years End 14 years
Target population of girls in chosen age	299,259
Girls of chosen age range enrolled in schools	197,511

Table 6.1.3 b: Vaccination by specific school grade

Routine Cohort		
School grade	**Average age of girls on school grade**	**Number of girls in grade**
Grade 5	10 years	61,950

Aditional multi-age cohort		
School grade	**Average age of girls on school grade**	**Average age of girls on school grade**
	N/A	

If you are vaccinating by grade, provide information on how you will ensure girls under 9 or over 14-years will not be vaccinated

Vaccination will be given for the eligible target group only (Grade 5 primary school, approximately age 10, and grade 6-9, approximately ages 11-14, for girls in secondary school as well as out-of-school girls of those ages). Teachers, under close supervision of the responsible health care workers, will be asked to screen the age to ensure girls under age 9 or above age 14 are not vaccinated.

Please describe when vaccinations will be scheduled (school year, holidays, examinations), where vaccinations will be administered, who will do vaccinations, how will the vaccine logistics be assured when using schools as a location for vaccination.

The academic school calendar is from September through July. The NIP will coordinate closely with the Department of Primary School and Kindergarten of the MoE to schedule vaccination sessions in conjunction with the school calendar. Vaccination will occur at two times in the same academic calendar year, separated by at least six months. The first dose will be delivered in October, well after schools have started and girls have enrolled in September. The second dose will be given in April after the Lao PDR New Year holiday, but in advance of school examinations, with efforts to synergize with existing health events (School Health Day and World Immunization Week).

Will additional personnel need to be hired in order to vaccinate the introduction year multi-age cohorts? If so, how will this be financed?

Yes, additional staff will need to be hired to vaccinate the additional multi-age cohorts; they will be mobilized to the primary and secondary schools to assist with vaccination. Hired staff will include vaccinators and recorders; village leaders and school staff will assist with managing lines and organizing girls for vaccination. The overall operational costs as stipulated in the detailed budget table for the Vaccine Introduction Grant (VIG) will be covered by the GoL, including the costs of the additional staff needed for the first year of introduction. Parts of these costs will be covered by the Gavi portion of the VIG.

Please describe the strategy to capture girls who may miss the initial vaccination session or any of the remaining doses

The EPI programme at the district level will work with schools and health facilities to ensure all eligible in and out-of-school girls are vaccinated. District health workers will work with village leaders and Womens' Union members to review lists of eligible girls, especially those who are not attending school.

There are about 14,700 out-of-school girls among the 10 year-old girls in Lao PDR and this number will be used as denominator for out-of-school girls for the routine HPV vaccination. According to MoE data, the dropout rate in grade 5 is 4% at the national level. The majority of these dropouts are reported from five provinces, namely Vientiane, Savanaket, Saravan, Sekong and Attapue. In addition, there are a few areas in the Northern part of the country with predominant ethnic populations, where school enrolment is lower than in the rest of the country. These areas will be specifically with innovative communication and social mobilization approaches targeted to these populations (see below).

Girls who have missed vaccination will either be vaccinated during subsequent school vaccination days or asked to come to their local health facility for vaccination, while others can still be reached during regular quarterly immunization outreach sessions.

Will the vaccination strategy need to be adapted for at private or religious schools? If so, please elaborate.

There are only very few and solitary private or religious schools in Lao PDR. The small number of children in these schools does not necessitate the strategy to be modified.

Using health facilities as a location for vaccination

Please describe why this approach has been chosen for the selection region/ district(s). Will this approach be used every year?

The primary delivery strategy will be school-based vaccination, since more than 80% of 10-year old girls are enrolled in primary school. Health facilities will also store remaining vaccine to catch-up those girls missed by the school-based strategy (see above).

Will additional personnel need to be hired in order to vaccinate the introduction year multi-age cohorts? If so, how will this be financed?

Additional staff will be required at the national level to oversee the planning and implementation of the multi-age cohort; no additional health facility staff will be hired.

Please provide details of demand generation activities to encourage girls to come to the health facility?

The NIP will work closely with community-based organizations, village health workers and village leaders, and school teachers to educate community members, parents and girls about importance of HPV vaccination and availability of vaccine in schools and in health facilities.

Please provide details on how the country plans to link with schools. Some examples of how schools can be leveraged to increase HPV vaccine uptake include facilitating sensitization and mobilization of parents/communities, identification/validation of the target population (i.e. use of school enrolment lists), and assisting with vaccination call/recall mechanisms. If the country does not plan to link with schools please provide a justification for this decision (i.e. low school enrolment).

The MoH has a strong relationship with the MoE since the start of the planning and implementation stages of the HPV demonstration project. Schools are an effective means of delivering health messages to communities. School lists will be obtained from the provincial-level DMOE for micro-planning. Teachers and principals will be trained well in advance of vaccination days to support generating lists of eligible girls and provide appropriate messaging to communities, parents and girls about HPV vaccination. If girls miss vaccination at school, teachers – under supervision of the responsible health care workers - will assist in tracking girls for catch-up vaccination.

UNFPA is developing a standardized school-based and age-appropriate comprehensive health education curriculum for all grade levels, and HPV vaccination awareness and education approaches will be incorporated into the Grade 4 and 5 curricula for primary school.

Describe if/how this delivery strategy will increase coverage, particularly amongst “hard to reach”/ vulnerable girls.

Primary school enrollment rate in Lao PDR is > 95%, but given drop-out there are slightly fewer than 80% of girls finishing primary school in grade 5. *(Country Analysis Report – UN Partnership Framework)*. Still, school-based vaccination will likely be the best way to increase coverage, specifically in the mainly rural areas and geographically-isolated areas.

Particular ethnic groups in Lao PDR have had lower vaccination coverage among routine immunizations in the recent years. Prior to the launch of HPV vaccination, village and neighborhood leaders will assist in educating community members and parents on the importance and availability of HPV vaccine. HPV provincial profiles have been developed to describe the characteristics (rural-urban, ethnicities, terrain, etc.) of each province so that appropriate microplans, communication materials, etc. can be developed or adapted as required to reach all girls.

Girls will be encouraged to attend school on vaccination days and any girl that may have missed vaccination will be encouraged to receive vaccine at the local health facility or during routine quarterly outreach sessions, using the stock of left-over vaccine.

UNFPA is leading a multisector initiative to reach girls, called the “NOI Project”. This initiative seeks to provide comprehensive services for girls age 10 and older, including youth-friendly health services. NOI will also create girl groups in villages, particularly aimed to reach at-risk populations, vulnerable groups, and ethnically isolated groups. UNFPA will work with NIP to ensure awareness of HPV vaccination among girls

reached through NOI.

Describe what follow-up mechanism will be used to ensure girls receive their second dose.

During the demonstration project, Lao PDR implemented a 3-dose vaccination series, as per the WHO guidelines at the time of the demonstration project. There was minimal drop-out for both doses following the first dose.

Lao PDR will implement the same strategy for the second dose of vaccine and utilize identical approaches for community messaging and social mobilization. As described above, special efforts will be made to capture out-of-school girls. Special communications and social mobilization activities will be initiated to assure these out-of-school and vulnerable girls are not missed.

Using community venues as locations for vaccinations

Please describe why this approach has been chosen for the selection region/ district(s).

Will this approach be used for every year? If so, please describe how this strategy will be financed in future years.

Please describe how your community health care workers/ volunteers will be involved with this strategy

Will additional personnel need to be hired in order to vaccinate the introduction year multi-age cohorts? If so, how will this be financed?

Where in the community will the girls be vaccinated? E.g. schools, fixed outreach sites, streets, parks, malls, markets

What interventions will be established to increase community based acceptance and increase community support?

Please provide details of demand generation activities e.g. awareness building and information dissemination via community or education sector and/or mass media, including through youth clubs and street theatre

Describe if/how this delivery strategy will increase coverage, particularly amongst “hard to reach”/ vulnerable girls?

Describe what follow-up mechanism will be used to ensure girls receive their second dose.

Using campaigns to deliver HPV vaccines

Please describe why this approach has been chosen for the selection region/ district(s).

What type of campaign will be used for HPV vaccine delivery e.g. Child Health Days/ Weeks, Measles Rubella or tetanus containing vaccines, supplementary immunisation activities, health education activities? If the campaign is planned to be standalone, please explain why?

How will this campaign impact routine service delivery? For example, will health facility personnel be used for this campaign?

Will additional personnel need to be hired in order to vaccinate the introduction year multi-age cohorts? If so, how will this be financed?

What location(s) will be used to deliver vaccinations during the campaign?

Will this delivery strategy be used for every year? If so, please describe how this strategy will be financed in future years.

Describe if/how this delivery strategy will increase coverage, particularly amongst “hard to reach”/ vulnerable girls?

6.1.4 Social Mobilisation

Please complete the table below to provide details on the types of information and/ or materials that will be used/ disseminated, to which audience, by which mechanism and the frequency of each.

Types of information or materials	Audience receiving material	Method of delivery	Who delivers	Frequency & Timing
e.g., leaflet, poster, banner, handbook, radio announcement, etc.	**e.g., girls, parents, teachers, health workers, district officials, community groups, etc.**	**e.g., parent meetings, radio, info session at school, house visit, etc.**	**e.g., teachers, health workers, district official, etc.**	**e.g., daily, weekly, twice before programme starts; day of vaccination, two weeks before programme begins, etc.**
Flip chart, Standing banner, Leaflets/printing materials, Advocacy meetings, Social mobilization and communication using local media and loudspeakers and posters, T-shirts and caps	Mothers/care givers, parents, villagers and community, Government officials, village/community leaders, village health volunteers (VHV), teachers, village elders, religious leaders, professional associations, villagers and community, professional associations, local media	Interpersonal communication, Placed at health facilities, Distribution of leaflets/printing materials (students can be sent home with leaflets, ahead of vaccination dates), Meeting – promoting immunization through community network to build trust and acceptance, Local announcement (Memos can be sent to the villages, neighborhoods, containing key information to be used for loudspeaker announcements), Distribute in major public areas	Health care workers and village health volunteers (VHVs), Self-explanatory, Health care workers and village health volunteers (VHVs), EPI managers, Health care workers, village and neighborhood chiefs and village health volunteers (VHVs), Health care workers, village and neighborhood chiefs and village health volunteers (VHVs)	Daily, Quarterly, Bi-annually, 1-2 days before organizing the immunization session , Annually

Please describe a crisis communication plan to response to rumors and misconceptions to HPV vaccination.

To respond to rumors and misconceptions related to the introduction of HPV vaccines, partners will support the NIP in the further development of its communication strategy that encompasses the reasons why girls should receive the vaccine. Examples include: “HPV vaccine can prevent you from cervical cancer”; “Get HPV vaccine either at designated school or health facility”; “HPV vaccine is free of charge, safe, and reliable”. A crisis communication plan will reinforce these messages and will be developed before roll-out. Based on the experience in Lao PDR during the HPV demonstration project, rumors and misconceptions are not expected to be a major concern.

Additionally, to address any issues that may arise, HPV will factor in the Lao PDR AEFI reporting system by incorporating HPV vaccine in the implementation of the AEFI and crisis communication plan as follows:

1. Activity: Meet to agree on a crises management plan/ roles & responsibilities (AEFI committee at different levels); Materials: FAQ document, Issues management document, Talking Points; Audiences: MOH/NIP, health workers, village health volunteers; Frequency: Prior to start of the activity, update regularly

2. Activity: Update stakeholders (including media); Materials: FAQ document, Issues management document, Talking Points; Audiences: MOH/NIP, health workers, clinicians, development partners, media; Frequency: Quarterly

3. Activity: Monitor for rumors or problems and respond; Materials: AEFI reporting forms, roles and responsibilities, action plan; Audiences: MOH/NIP, health workers; Frequency: Daily

4. Activity: Identify spokesperson; Materials: Talking Points; Audiences: Mothers/care givers, parents, villagers and community; Frequency: Only when dealing with crisis

At the same time, communication activities will be monitored at the national and provincial levels and adjusted accordingly with a regular update of stakeholders including the development partners and media.

6.1.5 Adolescent health integration

Irrespective of the strategies, provide a description of existing health services and/or health education currently being provided to young adolescents (both girls and/or boys) within the 9-14 year old age group and indicate and potential synergy by integrating with HPV vaccination:

a. For health services (this can include: what health services are provided, to which age/sex group, whether it's mandatory or voluntary, regularly or ad-hoc, in school or out of school, who provides these (government, NGOs), how often, what is the uptake in the community, how is it perceived by the community.)

Several health problems are impacting adolescent girls in Lao PDR, including increasing rates of sexually transmitted infections (STIs), increasing alcohol and drug use, and road traffic accidents. These concerns are higher among rural populations and migrant and ethnic populations, where there is often poor availability of and access to reproductive health services and increased use of alcohol and a common methamphetamine (*yabba*).

In Lao PDR, there are many agencies, both local and international, that have previously implemented or are currently offering services to adolescent girls. Such services include clinical reproductive health services targeting a slightly older population (age 15-19 years) or services targeting particular migrant communities. There are also agencies or institutions that have partnered with the MoE to implement public health interventions in primary and secondary schools in particular districts. Such interventions include deworming, oral and vision screening, vaccination as well as health education efforts auch as dental hygiene, water and sanitation (WASH), menstrual health hygiene, or drug/alcohol prevention education. Each of these interventions represents an opportunity for integration with HPV vaccine delivery.

While many of these efforts have been time-limited and also geographically-limited, the MoH and MoE, supported by development partners, are planning to set up a universal public health intervention implemented across all provinces for this target age group, taking into account the lessons learned. The UNFPA / WHO programme for Youth-Friendly Health Services will address many of the above interventions with a specific focus on adolescents.

b. For health education (this can include: the topic, whether it is national, sub-national, in school or out of school, who provides the education, how often, is it in the school curriculum, are there NGOs providing these? How is it perceived by the community? Has there been an evaluation and if so, how was it evaluated and what were the findings?)

The MoE with support of UNFPA is developing a comprehensive health and sexual health education curriculum, which will be implemented in all primary and secondary schools. This will be age and grade-level appropriate health education starting in Grade 1. HPV messaging will be done in Grade 4 and 5 as part of a comprehensive sexual education curriculum. In addition, UNFPA will work with the NIP to engage health care workers in delivering health messages at the time of vaccination to Grade 5 students.

c. For improving adolescent immunization platform (this can include integration with: other vaccines provided to adolescents (e.g. measles-rubella, tetanus containing vaccines or Dengue), broader health education services)

As the MoE continues to develop the comprehensive health education, there will be ongoing communication on the feasibility of introducing other public health interventions in schools, as part of a comprehensive health package for school-age children. As stated above, the MoE supported by UNFPA is developing a comprehensive project to reach school-age and adolescent girls (age 10 and older), called "NOI", which will provide a number of health and education services including youth-friendly health services.

6.1.6 CSO engagement

Please describe how and which CSOs will be included in the delivery of HPV vaccines e.g. demand generation activities, increase coverage of "hard to reach" girls.

In line with the Lao PDR Integrated Communications Strategy and Communications Plan for EPI 2015 to 2020, two key mass organizations, the Lao Front for National Construction (LFNC) and the Lao Women's Union (LWU) have the potential for driving communication and social mobilization related to health issues.

These organizations have the reach, experience and capacity to target the population irrespective of location, ethnicity, and social status. LWU specifically strives to ensure that women are treated equally and have access to all opportunities as equal citizens.

Both organizations have their national headquarters in Vientiane but with organizational structures down to the village and neighborhood level, where volunteers represent both the LFNC and LWU. In the introduction of HPV vaccine these organizations will not only be able to champion vaccine introduction and awareness, but will be involved in mapping out areas with targeted girls that are out of school. They will also be the liaison group to reach girls in hard to reach communities for vaccination.

The LFNC and LWU members will be trained to act as NIP partners. The organizations will identify a cadre of master trainers that are not only trained in social mobilization but also have the necessary training and skills to deal with non-Lao ethnic groups and have sufficient knowledge on routine immunization and HPV vaccine issues. The technical capacity of these organizations will be strengthened by signing working agreements with relevant ministries such as the Ministry of Education, and the Ministry of Social Welfare.

6.1.7 Key stakeholder and technical partner roles and responsibilities

Please complete the Gavi provided template, to define the respective roles and responsibilities of all in-country stakeholders and technical partners.

Please attach the relevant documents and refer to section 10. Attachments. (Document N°**17**)

6.2. Requested vaccine (HPV quadrivalent, 1 dose(s) per vial, LIQUID)

As reported in the cMYP, the country plans to introduce HPV quadrivalent, using HPV quadrivalent, 1 dose(s) per vial, LIQUID.

When is the country planning to introduce this vaccine? **October 2019**

Please note that, due to a variety of factors, the launch date may vary compared to the date stipulated in the application. Gavi will work closely with countries and their partners to address these issues.

Please summarise the cold chain capacity (at central and other levels) and readiness to accommodate new vaccines, taking into consideration training, cold chain equipment and other logistical requirements. If cold chain expansion is required, state how it will be financed, and when it will be in place. The Independent Review Committee requires assurance that the cold chain is ready or will be ready for the routine introduction of the new vaccine, and evidence/plans need to be provided. All proposals that include Gavi- financing for cold chain equipment intended for vaccine storage shall need to procure equipment pre-qualified by WHO under their Performance Quality and Safety (PQS) program. The purchase of non-PQS equipment will only be considered on an exceptional basis, with justification and advance agreement from Gavi.

The EVM assessment 2014 rated Lao PDR general results below the 80% target; however, the 2014 Effective Vaccine Management Assessment (EVM) showed improvement across 8 of the 9 criteria areas, including a 14% improvement in the overall score. Key strengths were identified in the area of temperature monitoring, storage capacity, buildings, equipment and transport, distribution and vaccine management. Key weaknesses were identified mainly in the area of maintenance, stock management, management Information systems and other supportive functions.

The Government of Lao PDR designed a Comprehensive Improvement Plan (CIP) for Immunization Supply Chain and Logistics (ISCL) in 2015 based on findings and recommendations of the EVM conducted in July 2014, and a subsequent in-depth analysis of equipment, distribution and transport components of the ISCL. The vaccine storage capacity was assessed considering the introduction of JE and IPV vaccines in 2016.

Major recommendations implemented since 2015 include the procurement of required cold chain equipment for national and sub-national levels. Since then three walk-in cold rooms were installed at central level and the southern region cold store, while at the sub-national level, 340 refrigerators were distributed and are functional in all 18 provinces, 148 districts and more than 1000 health centers.

Other recommendations which have been implemented include the review and development of national policies and guidelines on cold chain and logistics management, and the development of Standard Operating Procedures for vaccine management at all levels. Cold chain store staff at the national and sub-national levels was trained on cold chain maintenance and temperature monitoring using 30-day temperature recording device (DTR) in targeted provinces.

A further analysis of the cold chain capacity shows that the current central level cold chain functional capacity is 142m3. There are two regional cold rooms with 73m3. The provincial level cold chain capacity is 11m3, with 25m3 at the district level and 44m3 at the health facility level in addition 8.4 m3 cold chain volume (refrigerators) ordered in 2017, which brings the total capacity of the cold chain at all levels to 303m3 (Source: UNICEF analysis, 2017).

At present, all 9 vaccines in the EPI programme require an annual estimated volume of 8.0 m3. The introduction of HPV vaccine and RVV will increase vaccine volume by 1.5m3 in the next 5 years.

Lao PDR thus has enough capacity for the two new vaccines, but much of the capacity is from non-WHO Performance, Quality and Safety (PQS) devices or equipment older than 10 years. Considering that some of this equipment will need to be replaced in order to ensure good functionality and correct storage conditions, Lao PDR will need to make incremental investments in CCE. A recent analysis conducted by PATH[1] confirmed that there is enough capacity for both new vaccines. After subtracting capacity from non-PQS or > 10 years old equipment, Lao will likely have a shortage at provincial and district level. Even though the district and health facility levels have enough capacity, there are not enough units of fridges for every facility. In order to compensate for this, and order has been placed through UNICEF in 2017 for additional 179 refrigerators, compressors and other spare parts of refrigerators expected to be in the country before the end of the year 2017. Around 5.0 m3 of cold chain at the health facility level are run by kerosene fueled refrigerators; these will need replacement in the shortest possible time with solar direct drive (SDD) equipment.

Lao PDR will apply for Gavi support to increase cold chain capacity through the Cold Chain Equipment Optimization Platform (CCEOP) by mid-2018. The application process was approved by the Director of Hygiene and Health Promotion of the MoH and a MoH letter will be forthcoming soon. To prepare for this application, a cold chain inventory will be updated before the introduction of rotavirus and HPV vaccines.

At this time, all cold chain equipment currently procured in the EPI programme are WHO Performance Quality and Safety (PQS) qualified. Future procurements will follow the same standard.

[1] PATH. *Installed Base and Forecast Model* [Excel model]. Seattle: PATH; 2017.

6.2.1. Vaccine Prices

Vaccine	Presentation	2017	2018	2019	2020	2021	2022
HPV quadrivalent, 1 dose(s) per vial, LIQUID	1	4.500	4.500	4.500	4.500	4.500	4.500

6.2.2. Co-financing information

The co-financing requirement applies to vaccines for the **routine cohort** (i.e. the cohort that will be routinely vaccinated on an annual basis for the routine immunisation programme). However, Gavi will fully finance vaccines for the **additional multi-age cohort** during the introduction year.

If you would like to co-finance an amount higher than the minimum, please provide information in Your co-financing row.

Country group	Accelerated transition phase

	2019	2020
minimum co-financing per dose	0.48	1.48
your co-financing per dose (please change if higher)	0.48	1.48

	2021	2022
minimum co-financing per dose	2.49	3.49
your co-financing per dose (please change if higher)	2.49	3.49

6.2.2.1.Specifications of vaccinations with new vaccine for routine cohort

	Source		2019	2020	2021	2022
Number of girls in routine cohort to be vaccinated with the first dose	Table 5.2	#	69,717	70,739	71,779	72,834
Number of girls in routine cohort to	Table 5.2	#	0	66,809	67,637	68,787

be vaccinated with the second dose						
Immunisation coverage with the second dose	Table 5.2	%	0	85%	85%	85%
Country co-financing per dose	Table 6.2.2	$	0.48	1.48	2.49	3.49
Number of girls in the additional multi-age cohort to be vaccinated with the first dose	Table 5.2	#	269,333	0	0	0
Number of girls in the additional multi-age cohort to be vaccinated with the second dose	Table 5.2	#	254,370	0	0	0
Immunisation coverage with the second dose	Table 5.2	%	85.00%	0	0	0

6.2.2.2.Specifications of vaccinations with new vaccine for additional multi-age cohort

	Source		2019	2020	2021	2022
Number of girls in the additional multi-age cohort to be vaccinated with the first dose	Table 5.2	#	269,333	0	0	0
Number of girls in the additional multi-age cohort to be vaccinated with the second dose	Table 5.2	#	254,370	0	0	0
Immunisation coverage with the second dose	Table 5.2	%	85.00%	0	0	0

6.2.3 Portion of supply for routine cohort to be procured by the country (and cost estimate, US$)

		2019	2020
Number of vaccine doses	#	7,298	44,394
Number of AD syringes	#	10,135	55,156
Number of re-constitution syringes	#	0	0
Number of safety boxes	#	112	607
Total value to be co-financed by the Country *[1]*	$	43,970	240,206

[1] The co-financing amount for intermediate and graduating countries indicates costs for the vaccines, related injection safety devices and any freight charges. The total co-financing amount does not contain the costs and fees of the relevant Procurement Agency, such as contingency buffer and handling fees. Information on these extra costs and fees will be provided by the relevant Procurement Agency as part of the cost estimate to be requested by the Country.

		2021	2022
Number of vaccine doses	#	75,709	107,791
Number of AD syringes	#	83,573	119,055
Number of re-constitution syringes	#	0	0
Number of safety boxes	#	920	1,310
Total value to be co-financed by the Country *[1]*	$	365,784	521,060

[1] The co-financing amount for intermediate and graduating countries indicates costs for the vaccines, related injection safety devices and any freight charges. The total co-financing amount does not contain the costs and fees of the relevant Procurement Agency, such as contingency buffer and handling fees. Information on these extra costs and fees will be provided by the relevant Procurement Agency as part of the cost estimate to be requested by the Country.

6.2.3.1 Portion of supply for routine cohort to be procured by Gavi (and cost estimate, US$)

		2019	2020
Number of vaccine doses	#	62,419	93,154
Number of AD syringes	#	86,685	115,734
Number of re-constitution syringes	#	0	0
Number of safety boxes	#	954	1,273
Total value to be co-financed by Gavi	$	376,083	504,030

		2021	2022
Number of vaccine doses	#	63,707	33,830
Number of AD syringes	#	70,325	37,365
Number of re-constitution syringes	#	0	0
Number of safety boxes	#	773	411
Total value to be co-financed by Gavi	$	307,802	163,532

6.2.3.2 Portion of supply for additional multi-age cohort to be procured by Gavi (and cost estimate, US$)

		2019	2020
Number of vaccine doses	#	549,889	0
Number of AD syringes	#	604,878	0
Number of re-constitution syringes	#	0	0
Number of safety boxes	#	6,654	0

		2021	2022
Number of vaccine doses	#	0	0
Number of AD syringes	#	0	0
Number of re-constitution syringes	#	0	0
Number of safety boxes	#	0	0

6.2.4 New and Under-Used Vaccine Introduction Grant

Calculation of Vaccine Introduction Grant for the HPV quadrivalent, 1 dose(s) per vial, LIQUID

Year of New Vaccine Introduction	Girls in routine cohort (From Table 5.2)	Share per Girls in routine cohort in US$	Total in US$
2019	77,463	2.40	185,911

The Grant will be based on a maximum award of $2.4 per girl in the routine cohort with a minimum starting grant award of $100,000

Please describe how the Gavi Vaccine Introduction Grant will be used to facilitate the timely and effective implementation of critical activities in advance of and during the introduction of the new vaccine (refer to the cMYP and the Vaccine Introduction Plan).

(see also 6.3.4) The Gavi Vaccine Introduction Grant for both vaccines (total of USD 474,679) will be utilized by the country to support the most critical start up activities for both HPV and RV vaccines. Given that both vaccine introductions are planned to occur at the same time, the grant will support the following joint activities:

- National Coordinating Committee meetings including consultation with stakeholders for developments of the vaccine introduction concepts and plans.
- National orientation workshops for national and provincial immunization staff.
- Updating of the cMYP for the period 2018-2022.
- Revision and dissemination of key management tools for HPV and RV vaccines.

- Implementation of the EVM improvement plan including preventive cold chain maintenance at district level.
- Advocacy and sensitization approaches, developing and printing of IEC materials, targeting key stakeholders at the national and district level through print media and key advocacy meetings including press conferences and national launch events.
- Training of operational level health workers using a modified cascade approach, first at the national level to train a pool of trainers of trainers and then at provincial and district (with use of master trainers) and at the health center levels.
- Health center micro-planning training and special training on use of the DHIS2 health management information system at district and provincial levels.
- Support of core teams at the national, provincial, and district level to supervise and monitor the quality of training at the operational level and the actual vaccination exercise.
- Vaccine distribution at the district level with special focus on hard-to-reach districts.
- Expansion of rotavirus sentinel surveillance to include additional sites and support to initiation of a cancer registry including cervical cancer and precursors.

Please complete the 'Detailed budget for VIG / Operational costs' template provided by Gavi and attach as a mandatory document in the Attachment section.

Detailed budget attached as Document No. 22.

Where Gavi support is not enough to cover the full needs, please describe other sources of funding and the expected amounts to be contributed, if available, to cover your full needs.

The Government of Lao PDR will complement the Gavi funding for operational costs related to the delivery of HPV vaccines. Additional support will be provided by in-country health development partners including UNICEF to support social mobilization activities; WHO to support supervision and monitoring; and the World Bank supporting other trainings and meetings; Additional partners will support the integrated adolescent health approaches for girls, including UNPFA and others. Refer to stakeholder roles and responsibilities for a more complete description.

6.2.5.New and Under-Used Operational support

Calculation of Operational Support for the HPV quadrivalent, 1 dose(s) per vial, LIQUID

Year of New Vaccine Introduction	Girls in additional multi-age cohort (From Table 5.2)	Share per Girls in additional multi-age cohort in US$	Total in US$
2019	299,259	0.45	134,667

Please describe how the Gavi Operational support will be used to reach the additional multi-age cohorts? How will these funds be used to strengthen routine activities e.g. reinforcing routine outreach activities, additional personnel, additional demand generation activities?

Note: These funds can be used over a longer period than the introduction year in order to strengthen routine immunisation. For example to reinforce routine outreach activities in difficult to access districts.

Challenges of the HPV vaccine introduction are mainly related to programmatic issues, given that a large-scale school-based vaccination program had not been implemented so far in the country. Other programs, such as those for deworming and nutrition, however, were successfully implemented in schools. Experience from the pilot program demonstrates that very high coverage (above 95%) can be obtained by vaccinating girls in schools.

Cultural and societal challenges in view of the limited access to health services in ethnic populations, will be addressed by employing a multitude of innovative communications and supervisory approaches and through intensive interaction with local authorities and women's groups and other stakeholders. Experience with recent MR campaigns shows that these approaches allow for a high level of coverage in this specific target population. The age certification of girls in secondary schools (for vaccination of the multi-age cohort in 2019) will be performed by teachers, in close collaboration with the responsible health care workers. School health vaccination provides opportunities for integrating activities related to the delivery of vaccines with other health interventions for adolescents, including comprehensive sexual education programs in primary schools, the

new adolescent health ‘NOI’ project and the youth-friendly health services program supported by UNFPA, UNICEF, WFP, WHO and relevant NGOS.

Detailed budget attached as Document No. 22.

Where Gavi support is not enough to cover the full needs, please describe other sources of funding and the expected amounts to be contributed, if available, to cover your full needs.

Government of Lao PDR: 60,000 for planning and preparations, social mobilization, IEC and advocacy and trainings and meetings.

WHO & WB: 25,000 USD for planning and preparations

WHO & WB: 95,700 USD for trainings and meetings

UNICEF: 49,000 for Social mobilization, IEC and advocacy

6.2.6.Technical assistance

Please describe any particular area(s) the Ministry would require technical assistance to support the introduction of HPV quadrivalent.

The NIP will require technical assistance in the following areas:

- Development of training materials.
- Training of trainers, with focus on sending central trainers to remote areas and minimizing the number of levels of cascade training in keeping with previous lessons learned.
- Development of micro-plans for primary and secondary schools.
- Development of a comprehensive communications plan, including a crisis communications plan.
- Drafting and printing of posters and brochures to support vaccine introduction.
- Relevant surveillance training on AEFIs incorporating AEFI training for both all vaccines.
- Conducting post-introduction evaluations as part of a National Immunization Program Review.

6.3. Requested vaccine (RV1, 1 dose/plastic tube, liquid)

As reported in the cMYP, the country plans to introduce RV1, using RV1, 1 dose/plastic tube, liquid.

When is the country planning to introduce this vaccine? **October 2019**

Please note that, due to a variety of factors, the launch date may vary compared to the date stipulated in the application. Gavi will work closely with countries and their partners to address these issues.

Please summarise the cold chain capacity (at central and other levels) and readiness to accommodate new vaccines, taking into consideration training, cold chain equipment and other logistical requirements. If cold chain expansion is required, state how it will be financed, and when it will be in place. The Independent Review Committee requires assurance that the cold chain is ready or will be ready for the routine introduction of the new vaccine, and evidence/plans need to be provided. All proposals that include Gavi- financing for cold chain equipment intended for vaccine storage shall need to procure equipment pre-qualified by WHO under their Performance Quality and Safety (PQS) program. The purchase of non-PQS equipment will only be considered on an exceptional basis, with justification and advance agreement from Gavi.

As described in section 6.2, the Government of Lao PDR designed a Comprehensive Improvement Plan (CIP) for Immunization Supply Chain and Logistics (ISCL) in 2015 based on findings and recommendations of the Effective Vaccine Management Assessment (EVM) conducted in July 2014, and a subsequent in-depth analysis of equipment, distribution and transport components of the ISCL.

Major recommendations implemented since 2015 include the procurement of required cold chain equipment for national and sub-national levels. Since then three walk-in cold rooms were installed at central level and the southern region cold store, while at the sub-national level, 340 refrigerators were distributed and are functional in all 18 provinces, 148 districts and more than 1000 health centers.

A further analysis of the cold chain capacity shows that the current central level cold chain functional capacity is 142m3. There are two regional cold rooms with 73m3. The provincial level cold chain capacity is 11m3, with 25m3 at the district level and 44m3 at the health facility level in addition 8.4 m3 cold chain volume (refrigerators) ordered in 2017, which brings the total capacity of the cold chain at all levels to 303m3 (Source: UNICEF analysis, 2017).

At present, all 9 vaccines in the EPI programme require an annual estimated volume of 8.0 m3. The introduction of HPV vaccine and RVV will increase vaccine volume by 1.5m3 in the next 5 years. Lao PDR thus has enough capacity for the introduction of the two new vaccines.

6.3.1. Vaccine Prices

Vaccine	Presentation	2017	2018	2019	2020	2021	2022
RV1, 1 dose/plastic tube, liquid	1	2.012	2.012	2.012	2.012	2.012	2.012

6.3.2. Co-financing information

If you would like to co-finance an amount higher than the minimum, please provide information in Your co-financing row.

Country group	Accelerated transition phase

	2019	2020
minimum co-financing per dose	0.21	0.66
your co-financing per dose (please change if higher)	0.21	0.66

	2021	2022
minimum co-financing per dose	1.11	1.56
your co-financing per dose (please change if higher)	1.11	1.56

6.3.2.1.Specifications of vaccinations with new vaccine for routine cohort

	Source		2019	2020	2021	2022
Number of children in routine cohort to be vaccinated with the first dose	Table 5.2	#	175,110	177,680	179,457	181,251

Number of children in routine cohort to be vaccinated with the second dose	Table 5.2	#	165,893	168,329	170,012	171,712
Immunisation coverage with the second dose	Table 5.2	%	90%	90%	90%	90%
Country co-financing per dose	Table 6.2.2	$	0.21	0.66	1.11	1.56

6.3.3 Portion of supply for routine cohort to be procured by the country (and cost estimate, US$)

		2019	2020
Number of vaccine doses	#		
Number of AD syringes	#		
Number of re-constitution syringes	#	0	0
Number of safety boxes	#		
Total value to be co-financed by the Country *[1]*	$	96,706	247,501

[1] The co-financing amount for intermediate and graduating countries indicates costs for the vaccines, related injection safety devices and any freight charges. The total co-financing amount does not contain the costs and fees of the relevant Procurement Agency, such as contingency buffer and handling fees. Information on these extra costs and fees will be provided by the relevant Procurement Agency as part of the cost estimate to be requested by the Country.

		2021	2022
Number of vaccine doses	#		
Number of AD syringes	#		
Number of re-constitution syringes	#	0	0
Number of safety boxes	#		
Total value to be co-financed by the Country *[1]*	$	419,582	596,701

[1] The co-financing amount for intermediate and graduating countries indicates costs for the vaccines, related injection safety devices and any freight charges. The total co-financing amount does not contain the costs and fees of the relevant Procurement Agency, such as contingency buffer and handling fees. Information on these extra costs and fees will be provided by the relevant Procurement Agency as part of the cost estimate to be requested by the Country.

6.3.4 New and Under-Used Vaccine Introduction Grant

Calculation of Vaccine Introduction Grant for the RV1, 1 dose/plastic tube, liquid

Year of New Vaccine Introduction	Births (from Table 5.2)	Share per Birth in US$	Total in US$
2019	192,626	0.80	154,101

This is a one-time cash grant of US$0.80/child in a single birth cohort or a lump sum of $100,000 (whichever is higher). It should be noted that for introduction applications submitted from January 2017 onwards and for all Gavi vaccine introductions planned for implementation in 2018 onwards, this grant will be adjusted according to transition stage of the country. Countries in preparatory transition phase (Phase 1) will be provided with $0.70 per targeted person in a single birth cohort, and countries which have entered accelerated transition phase (Phase 2) $0.60 per targeted person in a single birth cohort. For low income countries, the amount will remain at $0.80 per targeted person.

Please describe how the Gavi Vaccine Introduction Grant will be used to facilitate the timely and effective implementation of critical activities in advance of and during the introduction of the new vaccine (refer to the cMYP and the Vaccine Introduction Plan).

(see also 6.2.4) The Gavi vaccine introduction grant for both vaccines (total of USD 474,679) will be utilized

by the country to support the most critical start up activities for both HPV and RV vaccines. Given that both vaccine introductions are planned to occur at the same time, the grant will support the following joint activities:

- National Coordinating Committee meetings including consultation with stakeholders for developments of the vaccine introduction concepts and plans.
- National orientation workshops for national and provincial immunization staff.
- Updating of the cMYP for the period 2018-2022.
- Revision and dissemination of key management tools for HPV and RV vaccines.
- Implementation of the EVM improvement plan including preventive cold chain maintenance at district level.
- Advocacy and sensitization approaches, developing and printing of IEC materials, targeting key stakeholders at the national and district level through print media and key advocacy meetings including press conferences and national launch events.
- Training of operational level health workers using a modified cascade approach, first at the national level to train a pool of trainers of trainers and then at provincial and district (with use of master trainers) and at the health center levels.
- Health center micro-planning training and special training on use of the DHIS2 health managemet information system at district and provincial levels.
- Support of core teams at the national, provincial, and district level to supervise and monitor the quality of training at the operational level and the actual vaccination exercise.
- Vaccine distribution at the district level with special focus on hard-to-reach districts.
- Expansion of rotavirus sentinel surveillance to include additional sites and support to initiation of a cancer registry including cervical cancer and precursors.

Please complete the 'Detailed budget for VIG / Operational costs' template provided by Gavi and attach as a mandatory document in the Attachment section.

Detailed budget attached as Document No. 22.

Where Gavi support is not enough to cover the full needs, please describe other sources of funding and the expected amounts to be contributed, if available, to cover your full needs.

The Government of Lao PDR will complement the Gavi funding for operational costs related to the delivery of Rotavirus vaccines. Additional support will be provided by in-country health development partners including UNICEF to support social mobilization activities including communication in local languages including to ethnic minorities and WHO to support microplan development, supportive supervision and routine monitoring and the World Bank supporting other trainings and meetings.

6.3.5.Integrated disease control

a) Please describe **any** existing interventions for **the** prevention and treatment of pneumonia and diarrhoea and the status of implementation.

Lao PDR had introduced PCV13 in 2013. The country adheres to the GAPPD strategies and interventions for the prevention and treatment of pneumonia and diarrhea: Protecting children by establishing good health practices from birth through exclusive breast feeding for 6 months; adequate complimentary feeding; and vitamin A supplementation. Preventing children from becoming ill from pneumonia and diarrhea through vaccination with PCV and RV; hand washing with soap; provision of safe drinking water and sanitation; and adequate nutrition; and treating children who are ill from pneumonia and diarrhea with appropriate treatment through improved care seeking and referral; case management at health facility and community level; supplying ORS, zinc, antibiotics and continued feeding.

Implementation of the above activities is ongoing as part of the Integrated Community Case Management for Childhood Illnesses, diarrhea treatment programs, and the WASH program as well as strengthening of routine immunization reaching a high Pentavalent (i.e. Hib) vaccine coverage.

b) Please provide any considerations for how vaccination could strengthen delivery and communication of additional health interventions. Please highlight any barriers that you may foresee with integrating vaccination with other health interventions.

As reported in the Penta PIE, integrating delivery of two new vaccines without adequately preparing the complementary components of both applications can detract from the full impact of either vaccine. Lao PDR plans to introduce HPV and rotavirus vaccines at about the same time. Planning, preparation and even training of the vaccinator workforce will be integrated to the extent possible. However, in order to ensure that this integration is a value-add instead of a liability, discrete tasks by vaccine will need to be assigned to separate staff; the process of planning for each vaccine will be given adequate resources and attention for accountability; and the process of implementation will be evaluated in a manner that places equal importance on delivering both vaccines.

At the same time, the integration of a new vaccine into a routine immunization system presents multiple opportunities to strengthen the overall disease prevention system such as:

- Joint opportunities to enhance the skills and knowledge of the health / vaccinator workforce;
- opportunities to bolster disease prevention messages in the national dialogue, e.g. through media coverage and pro-health messaging at launch events;
- opportunities to facilitate interactions between the MoH and MoE staff as well as between the national EPI staff and more remote staff that would not otherwise occur;
- opportunities to assess and address current vaccine management and health system structures and capacity;
- opportunities to update all materials (e.g. recording and reporting systems, training materials, IEC materials etc.)
- opportunities to integrate vaccines into overall disease prevention and control approaches (see above).

6.3.6.Technical assistance

Please describe any particular area(s) the Ministry would require technical assistance to support the introduction of RV1. Please consider the support in the context of developing and implementing an integrated approach to disease prevention and control.

The MoH and NIP of Lao PDR will ask for assistance in creating political support, media and champion awareness, and community education and engagement as key to facilitating the introduction of RV and HPV vaccines. This will include:

Political commitment: High-level political commitment at the national and province/prefecture levels will be secured and maintained by sensitizing officials through briefings on the need for rotavirus vaccines. Advocacy meetings and briefings on disease burden, economic burden, and potential vaccine impact, as well as introduction plans, will be conducted to ensure high-level policy makers are informed and take ownership of the new vaccine introduction and broader routine immunization programme. Stakeholder consultations will be conducted with key opinion leaders to inform these sessions and ensure messages resonate. This approach will be carried down to the district and village levels to sensitize key officials and opinion leaders.

Advocacy and communications: A comprehensive advocacy and communication approach will be implemented to increase awareness among health care providers, immunization champions, media, community leaders, and the public about the vaccine introduction. This strategy will:

- educate various audiences about the need for the new vaccines and the vaccination process;
- help generate demand for these vaccines among service providers, communities, and parents;
- ensure consistent messaging across implementing partners;
- proactively address myths and misconceptions about vaccination;
- enhance awareness of and preparedness for AEFI detection and reporting;
- sensitize media to provide accurate and appropriate information about vaccine introductions.

Advocacy and communication activities will include:

- holding key informant consultations with technical stakeholders—including implementing partners, scientific experts, and the Lao PDR Medical Associations—to help inform development of communication materials and approaches;
- engaging champions—including well-known medical doctors, civil society organizations, public figures, and others—to advocate (through one-on-one meetings, advocacy sessions, media engagements, etc.) for vaccination and help sensitize community leaders, communities, and parents;
- developing key messages and information, education, and communication materials that are evidence-based and audience-specific (e.g., targeting policy-makers, medical professionals, media,

parents, etc.);
- conducting house-to-house visits to communicate information about the introduction date, answer questions about vaccination, share materials, and identify and register target children for the vaccine;
- holding champion and media sensitization workshops to provide information about the introduction and vaccine, generate interest, and address any myths or misconceptions.

Materials and messages will be evidence-based and developed for use with specific audiences, to ensure communication methods and any language use is appropriate, understandable and meets the language requirements of the Lao PDR law. These will be shared across implementing partners to ensure clear and consistent messaging. Materials will focus on the vaccines—including the burden of disease the anticipated impact, as well as information about the vaccine and how it is administered—and its alignment with and importance in the routine immunization schedule. Public service announcements (PSAs) will be developed and broadcast through national or sub-national media, including radio stations. Posters and other public information materials will be developed and disseminated or posted widely. Civil society partners will also be engaged to advocate for and share information about the vaccine, help monitor its implementation, and identify any issues at the local level. Engaging these partners will help ensure all eligible children are reached by the new vaccine. Micro-planning will be necessary for implementation and monitoring in hard-to-reach areas. Government, community, and civil society partners will be critical in this.

National launch: A national launch will be organized to align with the anticipated date of introduction in the second half of 2019. This event will involve the Honorable President, Prime Minister, and/or Minister of Health and other key Ministry officials and stakeholders. The purpose will be to formally announce the introduction of the new vaccines, share information, and emphasize the vaccine's importance to help generate awareness and demand among parents, communities, and providers. A press release or other media advisory will be shared for this event to sensitize and engage media in covering the launch.

Sub-national launches: Launch events at the provincial level will be facilitated by engaging officials to inaugurate introduction ceremonies and providing IEC materials. At the district level, launch events will be organized to sensitize the community and generate demand for the vaccines. Village-level and school launch events will be convened by officials, with the support of key stakeholders. These sub-national launch events will aim to sensitize community members, generate awareness and interest, and mobilize community members and parents to support and seek out the new vaccines.

Crisis communication: Proactively communicating about the risks and benefits of disease and vaccination, specifically to help address myths and misconceptions, will aim to reduce hesitancy issues. Clear communication and community engagement will also help build trust, particularly in the event of a severe AEFI. A comprehensive crisis communication plan will be developed prior to the launch to ensure all implementing partners are prepared to respond to AEFI, particularly intussusception (in the case of rotavirus vaccine) or other severe AEFI. The risk communication plan will include key messages about the vaccine safety and the risks and benefits of vaccines, and will detail activities to ensure timely, clear, consistent communication in the event of an AEFI. This will help reduce or avoid panic or hesitancy among the broader community.

In order to specifically support the rotavirus vaccine introduction, the integrated surveillance of diarrheal diseases in infants will be expanded and the sentinel disease surveillance system in Lao PDR (as part of the WHO Global Rotavirus Surveillance Network) will be extended to include another 6 pediatric hospitals throughout the country. The overall pediatric surveillance systems will be enhanced to improve data collection, reporting, analysis and dissemination, and, certainly, integrated action. The reporting form will be changed accordingly.

Regarding the integrated approach to prevention and control of diarrheal diseases, an independent assessment / evaluation, bringing together all stakeholders in this area, should be considered.

Additionally, AEFI training on detection and reporting of intussusception cases will be required to support inclusion of Lao PDR in the Asian Intussusception Surveillance Network.

7. NVS Preventive Campaigns

No NVS Prevention Campaign Support this year

8. NVS Follow-up Campaigns

No NVS Follow-up Campaign Support this year

9. Procurement and Management

9.1 Procurement and Management of New and Under-Used Vaccines Routine

Note: The PCV vaccine must be procured through UNICEF to be able to access the price awarded by the Advance Market Commitment (AMC).

a) 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 or PAHO's Revolving Fund):

All vaccines used in the National Immunization Programme (NIP) are WHO-prequalified and procured through UNICEF for use in the NIP.

b) If an alternative mechanism for procurement and delivery of vaccine supply (financed by the country or the Gavi) is requested, please document

- A description of the mechanism and the vaccines or commodities to be procured by the country
- Assurance that vaccines will be procured from the WHO list of pre-qualified vaccines, indicating the specific vaccine from the list of pre-qualification. For the procurement of locally-produced vaccines directly from a manufacturer which may not have been prequalified by WHO, assurance should also be provided that the vaccines purchased comply with WHO's definition of quality vaccines, for which there are no unresolved quality problems reported to WHO, and for which compliance is assured by a fully functional National Regulatory Authority (NRA), as assessed by WHO in the countries where they are manufactured and where they are purchased.

N/A

c) If receiving direct financial support from Gavi (such as operational support for campaigns or VIG activities), please indicate how the funds should be transferred by Gavi.

The VIG funds (US$ 154,101 for RRV and $320,578 for HPV) will be transferred to the bank account of MOH as in previously Gavi supported vaccines to allow the country to implement the pre-introduction activities.

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

Based on annual agreements signed between Government of Lao PDR and UNICEF, the GoL will transfer funds for vaccine co-financing to UNICEF Supply Division.

e) Please describe the financial management procedures that will be applied for the management of the NVS direct financial support, including procurement.

National financial management procedures will be applied for the management of the NVS direct financial support as well as vaccine-injection safety supply procurement.

f) Please outline how coverage of the introduced vaccine will be monitored, reported and evaluated (refer to cMYP and Introduction Plan)

Monitoring and evaluation of RVV introduction: NIP policies, procedures, guidelines and record-keeping and reporting forms will be revised and produced to incorporate HPV and rotavirus vaccines. The NIP will print new routine vaccine monitoring charts to follow coverage, dropout and non-vaccinated rates of the target population. Lao PDR is also in the process of incorporating its EPI data collection and reporting mechanisms into the DHIS2 platform, which will be useful in providing near real-time data for the monitoring of vaccine implementation.

WHO does not recommend to conduct stand-alone post-introduction evaluations, instead, these will be included in the upcoming NIP Review planned for 2020 (in the year following introduction). Specific emphasis will be placed on the inclusion of appropriate indicators to enable proper assessment of potential bottlenecks and challenges related to the introduction of both vaccines.

RVV Vaccine-Preventable Disease Burden Surveillance monitoring and reporting: Since 2005 a rotavirus sentinel surveillance site has been operating in the Pediatric Department of Mahosot Hospital in Vientiane Capital. This site makes regular reports to the WHO regional and country offices, and disseminates surveillance findings to local health care providers and relevant stakeholders through workshops and formal reports. These data form the basis of estimates of pre-introduction rotavirus diarrhea disease burden. The NITAG has considered this surveillance data in addition to disease burden estimates discussed in detail in the disease burden section of this application and plan. The Mahosot Hospital site enrolls children under 5 years who are hospitalized for acute diarrhea according to WHO guidelines, and who meet other pre-specified eligibility criteria. Study staff collect data on child's age and on the date (season) of presentation. Stool samples are collected from enrolled cases and tested for the presence of rotavirus antigen using an enzyme-linked immunosorbent assay (Elisa). The study also sends all stool samples (both positive and negative) to the regional reference lab in Korea for rotavirus genotyping and quality control. To evaluate the impact on disease after RVV introduction, the NIP will continue to operate the current sentinel site, and will continue to seek opportunities to expand the number of sentinel sites.

The NIP has plans to conduct a comprehensive review of its programs and activities in 2018. After the planned 2019 introduction of RVV, NIP will conduct a review and comprehensive evaluation of both introduction efforts to harness lessons learned and opportunities to further strengthen and improve the vaccine-preventable disease burden surveillance system.

Separate HPV vaccine coverage assessments are not recommended, and as such HPV coverage will be evaluated together with other antigens when conducting regular standard coverage surveys in line with WHO guidelines.

With the future establishment of a population-based cancer registry, as recommended by IAEA and WHO (see section 6.1.1.), incident cases of cervical cancer would be recorded and reported through this system.

RVV Adverse Event Following Immunization (AEFI) monitoring and reporting: The U.S. CDC has established an intussusception surveillance network in 3 Asian countries (Pakistan, Nepal, and Bangladesh) that are early adopters of rotavirus vaccine in Asia. It has recently been proposed to expand the network to additional countries (Myanmar, Afghanistan, and Lao PDR) that are expected to implement rotavirus vaccination in the next 2-3 years. The participation of Lao PDR in this network will serve to monitor AEFI subsequent to introduction of the vaccine. This regional Asian Intussusception Surveillance Network is essential since intussusception is a rare condition and no individual country is likely to enroll a sufficient number of cases to perform a meaningful risk evaluation. In brief, site investigators will conduct active surveillance to prospectively identify cases of intussusception at major pediatric hospitals in large urban areas of the participating countries. Vaccination histories will be obtained through review of vaccination cards, and, if necessary, by visiting the clinic where the child was vaccinated. The resource-efficient and validated self-controlled case-series (SCCS) analysis will be applied to assess intussusception risk after rotavirus vaccination. The SCCS methodology links identified intussusception cases with their vaccination status. Each case acts as its own control. Neither external controls nor population level vaccination data is required for risk assessment. Network managers and in-country subject matter experts will review all AEFI reports on a regular basis and will provide feedback to the participating countries and sites and protocols will guide response to an outlying rate of AEFI.

A situational assessment was conducted by the National Immunization Program in June 2017, to identify challenges and lessons learned, and to review the new draft of the national AEFI guidelines. This assessment found that during 2016 and 2017 there were 16 reports of serious AEFI (death). The majority were reported during supplemental immunization activities. A small proportion of these cases was fully investigated. The assessment noted a lack of complete and timely reporting and investigation into AEFI cases; a lack of assignation of cases by the causality assessment team to "causal" / "non-causal" categories; that minor AEFIs were not routinely reported; that the AEFI committee was not formally established at the national level; and that the management of AEFI cases lacked standardization across the country.

In its immediate response to these challenges, Lao PDR has begun the planning process to revise and formally reconstitute its AEFI expert review committee at the national level. The national AEFI focal persons have now been designated. A new set of national AEFI guidelines has been drafted and has gone through multiple rounds of review and revision. Initial EPI manager training has been conducted at some district and provincial levels. Planning is underway for a pharmacovigilance in-country workshop for training of trainers on the AEFI monitoring surveillance system, planned for October 2017. In addition, a functional causality assessment committee has been formed at the national level.

With the introduction of HPV and RVV into the immunization system, national guidelines on associated AEFI

will be added to the national guidelines. The AEFI expert review committee will be trained and convened to respond to the occurrence of serious HPV and RVV AEFI and any related media coverage that could threaten ongoing immunization activities. The network and the NIP will ensure that managers, supervisors and fields workers are appropriately trained on AEFI before the introduction of RVV.

g) If applying for measles second dose, does the country wish to have the support in cash or in-kind? **N/A**

9.2 Procurement and Management for NVS Preventive Campaign(s)

No NVS Prevention Campaign Support this year

9.3 Product Licensure

For each of the vaccine(s) requested, please state whether manufacturer registration and/or national vaccine licensure will be needed in addition to WHO prequalification and, if so, describe the procedure and its duration. In addition, state whether the country accepts the Expedited Procedure for national registration of WHO-prequalified vaccines.

Note that the necessary time for licensure should be factored into the introduction timeline and reflected in the Vaccine Introduction Plan or Plan of Action.

All vaccines used in the National Immunization Programme (NIP) are WHO-prequalified and procured through UNICEF for use in the NIP. Therefore, licensing by the NRA (Lao Food and Drug Department) is not a requirement. However, vaccines procured through UNICEF need certificates of analysis, certificates of batch release, certificates of conformity/release notifications and other pre-advice documents such as invoices, air waybills, and packing lists.

For each of the vaccine(s) requested, please provide the actual licensure status of the preferred presentation and of any alternative presentations, if required.

N/A

Please describe local customs regulations, requirements for pre-delivery inspection, special documentation requirements that may potentially cause delays in receiving the vaccine. If such delays are anticipated, explain what steps are planned to handle these.

All vaccine shipments are consigned directly to National Immunization Programme and the Central Medical Stores Depot (CMSD), which is responsible for clearing all shipments using their appointed clearing agent. The shipping documents are sent by the UNICEF Global Freight Forwarders to the UNICEF country office as notified party. UNICEF then forwards the shipping documents to the Customs Authority with copies to CMSD. UNICEF processes shipping documents to the authorizing clearing agent of CMSD on behalf of the Government for clearance of the shipment at least 5 working days before the arrival of shipment. The letter is directly addressed to customs to expedite the processing time as the vaccines must be cleared within a few hours of arrival. The Local Customs Authority assesses the duties and taxes (CD/VAT) based on the value of the vaccine shipment. The consignee arranges payment on a provisional basis of duties and taxes to the Customs Authority. If there are any delays, UNICEF immediately takes action and asks all concerned authorities and concerned parties to take immediate action to ensure the safe storage of vaccines.

Please provide information on NRA in the country, including status (e.g. whether it is WHO-certified). Please include points of contact with phone numbers and e-mail addresses. UNICEF will support the process by communicating licensing requirements to the vaccine manufacturers where relevant.

As Lao PDR has not produced vaccine locally yet, the NRA system is considered functional for the relevant functions according to WHO guidelines.

9.4 Waste management

Countries must have a detailed waste management and monitoring plan as appropriate for their immunisation activities. This should include details on sufficient availability of waste management supplies (including safety boxes), the safe handling, storage, transportation and disposal of immunisation waste, as part of a healthcare waste management strategy. Please describe the country's waste management plan for immunisation

activities (including campaigns).

The Lao PDR waste management plan requires that safety boxes will be supplied and used by health care workers and vaccinators to dispose the used syringes and needles (without recapping) into the boxes and store them in a safe location. These adequately filled safety boxes will be collected for incineration at higher administrative levels, where incinerators are available. Costs for transport and incineration are included in the costs for logistics at the district level.

Immunization safety is one of the topics of training for local health staff and vaccinators and the NIP has for a long time used AD syringes and safety boxes and has complied with universal precautions in practicing safe disposal of used syringes in the country. In the past 10 years, additional incinerators have been installed to support the proper disposal of medical waste related to the immunization programme. Under the 2016-2020 Gavi HSS grant there is provision to further enhance Lao PDR's waste management capacity.

9.5 Procurement and Management for Follow up Campaign(s)

No NVS Follow-up Campaign Support this year

10. List of documents attached to this proposal

Table 1: Checklist of mandatory attachments

Document Number	Document	Section	File
Endorsements			
1	MoH Signature (or delegated authority) of Proposal	4.1.1	Signatures of Minister of Health_2017_Lao PDR .PDF **File desc:** **Date/time :** 08/09/2017 09:08:07 **Size:** 727 KB
2	MoF Signature (or delegated authority) of Proposal	4.1.1	Signatures of Minister of Finance_2017_Lao PDR .PDF **File desc:** **Date/time :** 08/09/2017 09:08:08 **Size:** 727 KB
3	MoE signature (or delegated authority) of HPV Proposal	4.1.1	Signature of Minister of Education_2017_Lao PDR.pdf **File desc:** **Date/time :** 08/09/2017 09:08:08 **Size:** 760 KB
4	Terms of Reference for the Coordination Forum (ICC/HSCC or equivalent) including all sections outlined in Section 5.2 of the General Application Guidelines (Note: countries applying before May 2017 can submit their existing Terms of Reference)	4.1.2	ICC TOR_2017_Lao PDR.pdf **File desc:** **Date/time :** 07/09/2017 10:17:56 **Size:** 1 MB
5	Minutes of Coordination Forum meeting endorsing Proposal	4.1.3	Minute of ICC Meeting_Lao Language_17 August 2017_Lao PDR.pdf **File desc:** **Date/time :** 07/09/2017 10:17:57 **Size:** 1 MB
6	Signatures of Coordination Forum members in Proposal	4.1.3	Signature Page_ICC minutes_August 2017_Lao PDR.pdf **File desc:** **Date/time :** 07/09/2017 10:17:57 **Size:** 1 MB
7	Minutes of the Coordination Forum meetings from the past 12 months before the proposal	4.1.3	ICC Meeting Minutes_052016_Lao PDR.PDF **File desc:** **Date/time :** 07/09/2017 10:17:57 **Size:** 1 MB
8	Role and functioning of the advisory group, description of plans to establish a NITAG	4.2.1	NITAG TOR_ 082017_Lao PDR.pdf **File desc:** **Date/time :** 07/09/2017 10:17:57 **Size:** 681 KB
31	Minutes of NITAG meeting with specific recommendations on the NVS introduction or campaign	4.2	NITAG Meeting Minutes_072017_Lao PDR.pdf **File desc:** **Date/time :** 07/09/2017 10:17:57 **Size:** 4 MB

Planning, financing and vaccine management			
9	Comprehensive Multi Year Plan - cMYP	5.1	cMYP_2017_Lao PDR.docx **File desc:** **Date/time :** 07/09/2017 10:17:57 **Size:** 772 KB
10	cMYP Costing tool for financial analysis	5.1	cMYP costing tool 2016-2020_Lao PDR.xlsx **File desc:** **Date/time :** 08/09/2017 08:48:20 **Size:** 2 MB
11	M&E and surveillance plan within the country's existing monitoring plan	5.1.4	Surveillance Activity Workplan_062017_Lao PDR.xlsx **File desc:** **Date/time :** 07/09/2017 10:17:57 **Size:** 43 KB
12	New vaccine introduction plan (NVIP), New Vaccine Introduction Checklist and Activity List & Timeline for routine vaccines or Plan of Action (PoA) for campaign vaccines	5.1,7.2.3	cVIPlan_092017_Lao PDR .docx **File desc:** **Date/time :** 08/09/2017 04:15:56 **Size:** 599 KB
15	HPV Region/ Province profile	6.1.1	Provincial Profile_2017_LaoPDR.xlsx **File desc:** **Date/time :** 07/09/2017 10:17:57 **Size:** 44 KB
16	HPV Key Stakeholder Roles and Responsibilities	6.1.1,6.1.2	Stakeholder Roles & Responsibilities_2017_Lao PDR.xlsx **File desc:** **Date/time :** 07/09/2017 10:17:57 **Size:** 22 KB
19	EVM report	9.3	EVM_Report_2014_Lao PDR.pdf **File desc:** **Date/time :** 07/09/2017 10:17:58 **Size:** 10 MB
20	Improvement plan based on EVM	9.3	EVM Improvement Plan_2015-2020_Lao PDR.docx **File desc:** **Date/time :** 07/09/2017 10:17:58 **Size:** 397 KB
21	EVM improvement plan progress report	9.3	EVM Improvement Plan Progress Report_2016_Lao PDR.pdf **File desc:** **Date/time :** 07/09/2017 10:17:58 **Size:** 200 KB
22	Detailed budget template for VIG / Operational Costs	6.x,7.x.2,6.x.2,8.2.3	Detailed budget template for VIG - Operational Costs_2017_Lao PDR.xlsx **File desc:** **Date/time :** 07/09/2017 10:17:58 **Size:** 242 KB
32	Data quality assessment (DQA) report	5.1.4	DQS_Assessment Report 2015_Lao PDR.pdf **File desc:** **Date/time :** 08/09/2017 03:40:52 **Size:** 2 MB

Table 2: Checklist of optional attachments

Document Number	Document	Section	File
14	Annual EPI Plan with 4 year forward view for measles and rubella		No file loaded
17	Evidence of commitment to fund purchase of RCV (in place of the first dose of MCV) / for use in the routine system	5.1.6, 6.1.7	No file loaded
18	Campaign target population documentation	8.x.1, 6.x.1	No file loaded
24	Risk assessment and consensus meeting report for Yellow Fever, including information required Section 5.3.2 in the General Guidelines on YF Risk Assessment process	5.1	No file loaded
25	Post Introduction Evaluation report from any recent NVS introduction	5.1	HPV_PIE_Report_2014_Lao PDR.docx **File desc:** **Date/time :** 07/09/2017 10:17:58 **Size:** 1 MB
26	List of areas/districts/regions and targets to be supported for meningitis A mini catch up campaigns		No file loaded
27	National Measles (& Rubella) elimination plan if available		No file loaded
28	A description of partner participation in preparing the application	4.1.3	Participating Partners Names_2017_Lao PDR.docx **File desc:** **Date/time :** 08/09/2017 04:39:31 **Size:** 69 KB
30	For countries applying for measles/rubella support that are not yet financing the measles monovalent component of MCV1, ICC minutes committing to finance from 2018 onwards.		No file loaded
33	DQA improvement plan	5.1.4	Data Quality Improvement Plan_2017_Lao PDR.pdf **File desc:** **Date/time :** 07/09/2017 10:17:58 **Size:** 380 KB
34	Plan of Action for campaigns	8.1, 8.x.4	No file loaded

35	Other		Transition Plan Approval_082017_Lao PDR.pdf **File desc:** **Date/time :** 07/09/2017 10:17:58 **Size:** 1 MB
			HPV cost analysis_2013_Lao PDR.docx **File desc:** **Date/time :** 08/09/2017 04:25:51 **Size:** 114 KB
			HPV Demo Project Coverage Survey Report_012016_Lao PDR.docx **File desc:** **Date/time :** 08/09/2017 04:26:37 **Size:** 54 KB
			Clinical Study_Detection of Human Papillomavirus Among Women in Laos_Keoketthong_HPV.pdf **File desc:** **Date/time :** 08/09/2017 04:29:05 **Size:** 550 KB
			Poster_Acute Diarrhea_2009-13_Soukalouhn_Lao PDR.pdf **File desc:** **Date/time :** 08/09/2017 04:33:21 **Size:** 6 MB
			Co-financing info sheet_2017_Lao PDR.pdf **File desc:** **Date/time :** 08/09/2017 04:33:41 **Size:** 203 KB
			Early Warning Surveillance Guidelines_ENG_2013_Lao PDR.pdf **File desc:** **Date/time :** 08/09/2017 04:34:15 **Size:** 2 MB
			JRF_Data_for_2016_English (WPRO)_2017_Lao PDR.xls **File desc:** **Date/time :** 08/09/2017 08:53:57 **Size:** 395 KB
			JRF_Data_for_2015_Lao PDR.xls **File desc:** **Date/time :** 08/09/2017 08:54:21 **Size:** 300 KB
			HSD_LAO HEALTH SECTOR REFORM 2013-2025_Lao PDR.pdf **File desc:** **Date/time :** 08/09/2017 08:56:15 **Size:** 2 MB
			Health Care Costs of Diarrheal Disease and Estimates of Cost Effectiveness of Vaccine_Vietnam_Fischer_2005_Lao PDR.pdf **File desc:** **Date/time :** 08/09/2017 09:00:18 **Size:** 253 KB

			Economic analysis for evidence-based policy_Thailand_Muangchana_2012_Lao PDR.pdf **File desc:** **Date/time :** 08/09/2017 09:00:37 **Size:** 442 KB
			Cost Effectiveness of Rotavirus Vaccine_Thailand_Chotivitayatarakorn_2010_Lao PDR.pdf **File desc:** **Date/time :** 08/09/2017 09:01:16 **Size:** 742 KB
			Checklist VIP HPV NVI Plan Annex4_checklist_2017_Lao PDR.xls **File desc:** **Date/time :** 08/09/2017 03:38:35 **Size:** 88 KB
			Checklist VIP RVV_NVI_Annex4_checklist_2017_Lao PDR.xls **File desc:** **Date/time :** 08/09/2017 03:38:57 **Size:** 93 KB
			PENTAVALENT_PIE Final Report_2011_Lao PDR.docx **File desc:** **Date/time :** 08/09/2017 03:48:02 **Size:** 193 KB
			Bank form_2017_Lao PDR.PDF **File desc:** **Date/time :** 08/09/2017 03:58:22 **Size:** 748 KB
			Transition Plan_2017_Lao PDR.xlsx **File desc:** **Date/time :** 08/09/2017 04:07:58 **Size:** 864 KB
			Data Quality Assessment Report_2015_Lao PDR.docx **File desc:** **Date/time :** 08/09/2017 04:08:30 **Size:** 17 KB
36	Strategy for establishing or strengthening a national comprehensive approach to cervical cancer prevention and control		Strategic plan for comprehensive cervical cancer control Lao PDR 2011.doc **File desc:** **Date/time :** 07/09/2017 10:17:58 **Size:** 185 KB
37	Evidence of self-financing MCV1	5.1.5	No file loaded

38	For countries applying for measles/rubella support that are not yet financing the measles monovalent component of MCV1, a signed letter from the Minister of Health and the Minister of Finance committing to finance from 2018 onwards.		No file loaded
39	Epidemiological analysis/evidence	8.3.1	Houatthongkham Trends of Diarrhea _2009-13_Lao.pdf **File desc:** **Date/time :** 07/09/2017 10:17:59 **Size:** 675 KB
40	Post Campaign Coverage Survey report for MR catch-up applications	5.1.x	No file loaded
41	cMYP addendum on measles and rubella		No file loaded
42	Offline cofinancing calculator for this campaign	5.5, 8.2.3	No file loaded

11. Annexes

Annex 1 - NVS Routine Support

Annex 1.1 HPV quadrivalent, 1 dose(s) per vial, LIQUID

Table Annex 1.1 A: Rounded up portion of supply that is procured by the country and estimate of relative costs in US$

		2019	2020	2021	2022
Number of vaccine doses	#	7,298	44,394	75,709	107,791
Number of AD syringes	#	10,135	55,156	83,573	119,055
Number of re-constitution syringes	#	0	0	0	0
Number of safety boxes	#	112	607	920	1,310
Total value to be co-financed by the Country *[1]*	$	43,970	240,206	365,784	521,060

Table Annex 1.1 B: Rounded up portion of supply that is procured by Gavi and estimate of relative costs in US$

Portion of supply for routine cohort to be procured by Gavi (and cost estimate, US$)

		2019	2020	2021	2022
Number of vaccine doses	#	62,419	93,154	63,707	33,830
Number of AD syringes	#	86,685	115,734	70,325	37,365
Number of re-constitution syringes	#	0	0	0	0
Number of safety boxes	#	954	1,273	773	411
Total value to be co-financed by Gavi	$	376,083	504,030	307,802	163,532

Portion of supply for additional multi-age cohort to be procured by Gavi (and cost estimate, US$)

		2019	2020	2021	2022
Number of vaccine doses	#	549,889	0	0	0
Number of AD syringes	#	604,878	0	0	0
Number of re-constitution syringes	#	0	0	0	0
Number of safety boxes	#	6,654	0	0	0

Table Annex 1.1 C: Summary table for vaccine HPV quadrivalent, 1 dose(s) per vial, LIQUID

	Source		2019	2020	2021	2022
Number of girls in the additional multi-age cohort to be vaccinated with the first dose	Table 5.2	#	269,333	0	0	0
Number of girls in the additional multi-age cohort to be vaccinated with the second dose	Table 5.2	#	254,370	0	0	0
Immunisation coverage with the second dose	Table 5.2	%	85.00%	0	0	0

Table Annex 1.1 D: Estimated numbers for HPV quadrivalent, 1 dose(s) per vial, LIQUID, associated injection safety material and related co-financing budget (page 1)

		Formula	2019		
			Total	Government	Gavi
A	Country co-finance	*V*	10.47 %		
B	Number of children to be vaccinated with the first dose	*Table 5.2*	69,717	7,298	62,419
B1	Number of children to be vaccinated with the second dose	*Table 5.2*	254,370		
C	Number of doses per child	*Vaccine parameter (schedule)*	1		
D	Number of doses needed	*B + B1*	69,717	7,298	62,419
E	Estimated vaccine wastage factor	*Table 5.2*	1.05		
F	Number of doses needed including wastage	*D x E*	73,203	7,663	65,540
G	Vaccines buffer stock	*Buffer on doses needed = (D - D of previous year) x 25% Buffer on wastages = ((F - D) - (F of previous year - D of previous year)) x 25%, = 0 if negative result G = [buffer on doses needed] + [buffer on wastages]*	18,301	1,916	16,385
I	Total vaccine doses needed	*Round up((F + G) / Vaccine package size) * Vaccine package size*	91,600	9,589	82,011
J	Number of doses per vial	*Vaccine parameter*	1		
K	Number of AD syringes (+ 10% wastage) needed	*(D + G) x 1.10*	96,820	10,135	86,685
L	Reconstitution syringes (+ 10% wastage) needed	*(I / J) x 1.10*	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	*(K + L) / 100 x 1.10*	1,066	112	954
N	Cost of vaccines needed	*I x vaccine price per dose (g)*	412,200	43,147	369,053
O	Cost of AD syringes needed	*K x AD syringe price per unit (ca)*	3,486	365	3,121
P	Cost of reconstitution syringes needed	*L x reconstitution price per unit (cr)*	0	0	0
Q	Cost of safety boxes needed	*M x safety box price per unit (cs)*	492	52	440
R	Freight cost for vaccines needed	*N x freight cost as of % of vaccines value (fv)*	3,875	406	3,469
S	Freight cost for devices needed	*(O+P+Q) x freight cost as % of devices value (fd)*	0	0	0
T	Total fund needed	*(N+O+P+Q+R+S)*	420,053	43,970	376,083
U	Total country co-financing	*I x country co-financing per dose (cc)*	43,968		
V	Country co-financing % of Gavi supported proportion	*U / T*	10.47 %		

Table Annex 1.1 D: Estimated numbers for HPV quadrivalent, 1 dose(s) per vial, LIQUID, associated injection safety material and related co-financing budget (page 2)

		Formula	2020		
			Total	Government	Gavi
A	Country co-finance	*V*	32.28 %		
B	Number of children to be vaccinated with the first dose	*Table 5.2*	70,739	22,832	47,907
B1	Number of children to be vaccinated with the second dose	*Table 5.2*	0		
C	Number of doses per child	*Vaccine parameter (schedule)*	1		
D	Number of doses needed	*B + B1*	137,548	44,394	93,154
E	Estimated vaccine wastage factor	*Table 5.2*	1.05		
F	Number of doses needed including wastage	*D x E*	144,426	46,614	97,812
G	Vaccines buffer stock	*Buffer on doses needed = (D - D of previous year) x 25% Buffer on wastages = ((F - D) - (F of previous year - D of previous year)) x 25%, = 0 if negative result G = [buffer on doses needed] + [buffer on wastages]*	17,806	5,747	12,059
I	Total vaccine doses needed	*Round up((F + G) / Vaccine package size) * Vaccine package size*	162,300	52,383	109,917
J	Number of doses per vial	*Vaccine parameter*	1		
K	Number of AD syringes (+ 10% wastage) needed	*(D + G) x 1.10*	170,890	55,156	115,734
L	Reconstitution syringes (+ 10% wastage) needed	*(I / J) x 1.10*	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	*(K + L) / 100 x 1.10*	1,880	607	1,273
N	Cost of vaccines needed	*I x vaccine price per dose (g)*	730,350	235,723	494,627
O	Cost of AD syringes needed	*K x AD syringe price per unit (ca)*	6,153	1,986	4,167
P	Cost of reconstitution syringes needed	*L x reconstitution price per unit (cr)*	0	0	0
Q	Cost of safety boxes needed	*M x safety box price per unit (cs)*	867	280	587
R	Freight cost for vaccines needed	*N x freight cost as of % of vaccines value (fv)*	6,866	2,217	4,649
S	Freight cost for devices needed	*(O+P+Q) x freight cost as % of devices value (fd)*	0	0	0
T	Total fund needed	*(N+O+P+Q+R+S)*	744,236	240,206	504,030
U	Total country co-financing	*I x country co-financing per dose (cc)*	240,204		
V	Country co-financing % of Gavi supported proportion	*U / T*	32.28 %		

Table Annex 1.1 D: Estimated numbers for HPV quadrivalent, 1 dose(s) per vial, LIQUID, associated injection safety material and related co-financing budget (page 3)

		Formula	2021		
			Total	Government	Gavi
A	Country co-finance	*V*	54.30 %		
B	Number of children to be vaccinated with the first dose	*Table 5.2*	71,779	38,979	32,800
B1	Number of children to be vaccinated with the second dose	*Table 5.2*	0		
C	Number of doses per child	*Vaccine parameter (schedule)*	1		
D	Number of doses needed	*B + B1*	139,416	75,709	63,707
E	Estimated vaccine wastage factor	*Table 5.2*	1.05		
F	Number of doses needed including wastage	*D x E*	146,387	79,494	66,893
G	Vaccines buffer stock	*Buffer on doses needed = (D - D of previous year) x 25% Buffer on wastages = ((F - D) - (F of previous year - D of previous year)) x 25%, = 0 if negative result G = [buffer on doses needed] + [buffer on wastages]*	491	267	224
I	Total vaccine doses needed	*Round up((F + G) / Vaccine package size) * Vaccine package size*	146,900	79,773	67,127
J	Number of doses per vial	*Vaccine parameter*	1		
K	Number of AD syringes (+ 10% wastage) needed	*(D + G) x 1.10*	153,898	83,573	70,325
L	Reconstitution syringes (+ 10% wastage) needed	*(I / J) x 1.10*	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	*(K + L) / 100 x 1.10*	1,693	920	773
N	Cost of vaccines needed	*I x vaccine price per dose (g)*	661,050	358,975	302,075
O	Cost of AD syringes needed	*K x AD syringe price per unit (ca)*	5,541	3,009	2,532
P	Cost of reconstitution syringes needed	*L x reconstitution price per unit (cr)*	0	0	0
Q	Cost of safety boxes needed	*M x safety box price per unit (cs)*	781	425	356
R	Freight cost for vaccines needed	*N x freight cost as of % of vaccines value (fv)*	6,214	3,375	2,839
S	Freight cost for devices needed	*(O+P+Q) x freight cost as % of devices value (fd)*	0	0	0
T	Total fund needed	*(N+O+P+Q+R+S)*	673,586	365,784	307,802
U	Total country co-financing	*I x country co-financing per dose (cc)*	365,782		
V	Country co-financing % of Gavi supported proportion	*U / T*	54.30 %		

Table Annex 1.1 D: Estimated numbers for HPV quadrivalent, 1 dose(s) per vial, LIQUID, associated injection safety material and related co-financing budget (page 4)

		Formula	2022		
			Total	Government	Gavi
A	Country co-finance	*V*	76.11 %		
B	Number of children to be vaccinated with the first dose	*Table 5.2*	72,834	55,436	17,398
B1	Number of children to be vaccinated with the second dose	*Table 5.2*	0		
C	Number of doses per child	*Vaccine parameter (schedule)*	1		
D	Number of doses needed	*B + B1*	141,621	107,791	33,830
E	Estimated vaccine wastage factor	*Table 5.2*	1.05		
F	Number of doses needed including wastage	*D x E*	148,703	113,182	35,521
G	Vaccines buffer stock	*Buffer on doses needed = (D - D of previous year) x 25% Buffer on wastages = ((F - D) - (F of previous year - D of previous year)) x 25%, = 0 if negative result G = [buffer on doses needed] + [buffer on wastages]*	579	441	138
I	Total vaccine doses needed	*Round up((F + G) / Vaccine package size) * Vaccine package size*	149,300	113,636	35,664
J	Number of doses per vial	*Vaccine parameter*	1		
K	Number of AD syringes (+ 10% wastage) needed	*(D + G) x 1.10*	156,420	119,055	37,365
L	Reconstitution syringes (+ 10% wastage) needed	*(I / J) x 1.10*	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	*(K + L) / 100 x 1.10*	1,721	1,310	411
N	Cost of vaccines needed	*I x vaccine price per dose (g)*	671,850	511,360	160,490
O	Cost of AD syringes needed	*K x AD syringe price per unit (ca)*	5,632	4,287	1,345
P	Cost of reconstitution syringes needed	*L x reconstitution price per unit (cr)*	0	0	0
Q	Cost of safety boxes needed	*M x safety box price per unit (cs)*	794	605	189
R	Freight cost for vaccines needed	*N x freight cost as of % of vaccines value (fv)*	6,316	4,808	1,508
S	Freight cost for devices needed	*(O+P+Q) x freight cost as % of devices value (fd)*	0	0	0
T	Total fund needed	*(N+O+P+Q+R+S)*	684,592	521,060	163,532
U	Total country co-financing	*I x country co-financing per dose (cc)*	521,058		
V	Country co-financing % of Gavi supported proportion	*U / T*	76.11 %		

Annex 1.2 RV1, 1 dose/plastic tube, liquid

Table Annex 1.2 A: Rounded up portion of supply that is procured by the country and estimate of relative costs in US$

		2019	2020	2021	2022
Number of vaccine doses	#				
Number of AD syringes	#				
Number of re-constitution syringes	#	0	0	0	0
Number of safety boxes	#				
Total value to be co-financed by the Country *[1]*	$	96,706	247,501	419,582	596,701

Table Annex 1.2 B: Rounded up portion of supply that is procured by Gavi and estimate of relative costs in US$

Portion of supply for routine cohort to be procured by Gavi (and cost estimate, US$)

		2019	2020	2021	2022
Number of vaccine doses	#	0	0	0	0
Number of AD syringes	#	0	0	0	0
Number of re-constitution syringes	#	0	0	0	0
Number of safety boxes	#	0	0	0	0
Total value to be co-financed by Gavi	$	890,971	556,796	391,150	223,682

Table Annex 1.2 D: Estimated numbers for RV1, 1 dose/plastic tube, liquid, associated injection safety material and related co-financing budget (page 1)

		Formula	2019		
			Total	Government	Gavi
A	Country co-finance	*V*	9.79 %		
B	Number of children to be vaccinated with the first dose	*Table 5.2*	175,110	17,146	157,964
C	Number of doses per child	*Vaccine parameter (schedule)*	2		
D	Number of doses needed	*B x C*	350,220	34,291	315,929
E	Estimated vaccine wastage factor	*Table 5.2*	1.05		
F	Number of doses needed including wastage	*D x E*	367,731	36,006	331,725
G	Vaccines buffer stock	*Buffer on doses needed = (D - D of previous year) x 25% Buffer on wastages = ((F - D) - (F of previous year - D of previous year)) x 25%, = 0 if negative result G = [buffer on doses needed] + [buffer on wastages]*	91,933	9,002	82,931
I	Total vaccine doses needed	*Round up((F + G) / Vaccine package size) * Vaccine package size*	460,500	45,089	415,411
J	Number of doses per vial	*Vaccine parameter*	1		
K	Number of AD syringes (+ 10% wastage) needed	*(D + G) x 1.10*	0	0	0
L	Reconstitution syringes (+ 10% wastage) needed	*(I / J) x 1.10*	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	*(I / 100) x 1.11*	0	0	0
N	Cost of vaccines needed	*I x vaccine price per dose (g)*	926,526	90,718	835,808
O	Cost of AD syringes needed	*K x AD syringe price per unit (ca)*	0	0	0
P	Cost of reconstitution syringes needed	*L x reconstitution price per unit (cr)*	0	0	0
Q	Cost of safety boxes needed	*M x safety box price per unit (cs)*	0	0	0
R	Freight cost for vaccines needed	*N x freight cost as of % of vaccines value (fv)*	61,151	5,988	55,163
S	Freight cost for devices needed	*(O+P+Q) x freight cost as % of devices value (fd)*	0	0	0
T	Total fund needed	*(N+O+P+Q+R+S)*	987,677	96,706	890,971
U	Total country co-financing	*I x country co-financing per dose (cc)*	96,705		
V	Country co-financing % of Gavi supported proportion	*U / T*	9.79 %		

Table Annex 1.2 D: Estimated numbers for RV1, 1 dose/plastic tube, liquid, associated injection safety material and related co-financing budget (page 2)

		Formula	2020		
			Total	Government	Gavi
A	Country co-finance	*V*	30.77 %		
B	Number of children to be vaccinated with the first dose	*Table 5.2*	177,680	54,677	123,003
C	Number of doses per child	*Vaccine parameter (schedule)*	2		
D	Number of doses needed	*B x C*	355,360	109,353	246,007
E	Estimated vaccine wastage factor	*Table 5.2*	1.05		
F	Number of doses needed including wastage	*D x E*	373,128	114,820	258,308
G	Vaccines buffer stock	*Buffer on doses needed = (D - D of previous year) x 25% Buffer on wastages = ((F - D) - (F of previous year - D of previous year)) x 25%, = 0 if negative result G = [buffer on doses needed] + [buffer on wastages]*	1,350	416	934
I	Total vaccine doses needed	*Round up((F + G) / Vaccine package size) * Vaccine package size*	375,000	115,396	259,604
J	Number of doses per vial	*Vaccine parameter*	1		
K	Number of AD syringes (+ 10% wastage) needed	*(D + G) x 1.10*	0	0	0
L	Reconstitution syringes (+ 10% wastage) needed	*(I / J) x 1.10*	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	*(I / 100) x 1.11*	0	0	0
N	Cost of vaccines needed	*I x vaccine price per dose (g)*	754,500	232,177	522,323
O	Cost of AD syringes needed	*K x AD syringe price per unit (ca)*	0	0	0
P	Cost of reconstitution syringes needed	*L x reconstitution price per unit (cr)*	0	0	0
Q	Cost of safety boxes needed	*M x safety box price per unit (cs)*	0	0	0
R	Freight cost for vaccines needed	*N x freight cost as of % of vaccines value (fv)*	49,797	15,324	34,473
S	Freight cost for devices needed	*(O+P+Q) x freight cost as % of devices value (fd)*	0	0	0
T	Total fund needed	*(N+O+P+Q+R+S)*	804,297	247,501	556,796
U	Total country co-financing	*I x country co-financing per dose (cc)*	247,500		
V	Country co-financing % of Gavi supported proportion	*U / T*	30.77 %		

Table Annex 1.2 D: Estimated numbers for RV1, 1 dose/plastic tube, liquid, associated injection safety material and related co-financing budget (page 3)

		Formula	2021		
			Total	Government	Gavi
A	Country co-finance	*V*	51.75 %		
B	Number of children to be vaccinated with the first dose	*Table 5.2*	179,457	92,876	86,581
C	Number of doses per child	*Vaccine parameter (schedule)*	2		
D	Number of doses needed	*B x C*	358,914	185,751	173,163
E	Estimated vaccine wastage factor	*Table 5.2*	1.05		
F	Number of doses needed including wastage	*D x E*	376,860	195,038	181,822
G	Vaccines buffer stock	*Buffer on doses needed = (D - D of previous year) x 25% Buffer on wastages = ((F - D) - (F of previous year - D of previous year)) x 25%, = 0 if negative result G = [buffer on doses needed] + [buffer on wastages]*	933	483	450
I	Total vaccine doses needed	*Round up((F + G) / Vaccine package size) * Vaccine package size*	378,000	195,628	182,372
J	Number of doses per vial	*Vaccine parameter*	1		
K	Number of AD syringes (+ 10% wastage) needed	*(D + G) x 1.10*	0	0	0
L	Reconstitution syringes (+ 10% wastage) needed	*(I / J) x 1.10*	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	*(I / 100) x 1.11*	0	0	0
N	Cost of vaccines needed	*I x vaccine price per dose (g)*	760,536	393,603	366,933
O	Cost of AD syringes needed	*K x AD syringe price per unit (ca)*	0	0	0
P	Cost of reconstitution syringes needed	*L x reconstitution price per unit (cr)*	0	0	0
Q	Cost of safety boxes needed	*M x safety box price per unit (cs)*	0	0	0
R	Freight cost for vaccines needed	*N x freight cost as of % of vaccines value (fv)*	50,196	25,979	24,217
S	Freight cost for devices needed	*(O+P+Q) x freight cost as % of devices value (fd)*	0	0	0
T	Total fund needed	*(N+O+P+Q+R+S)*	810,732	419,582	391,150
U	Total country co-financing	*I x country co-financing per dose (cc)*	419,581		
V	Country co-financing % of Gavi supported proportion	*U / T*	51.75 %		

Table Annex 1.2 D: Estimated numbers for RV1, 1 dose/plastic tube, liquid, associated injection safety material and related co-financing budget (page 4)

		Formula	2022		
			Total	Government	Gavi
A	Country co-finance	*V*	72.73 %		
B	Number of children to be vaccinated with the first dose	*Table 5.2*	181,251	131,832	49,419
C	Number of doses per child	*Vaccine parameter (schedule)*	2		
D	Number of doses needed	*B x C*	362,502	263,664	98,838
E	Estimated vaccine wastage factor	*Table 5.2*	1.05		
F	Number of doses needed including wastage	*D x E*	380,628	276,848	103,780
G	Vaccines buffer stock	*Buffer on doses needed = (D - D of previous year) x 25% Buffer on wastages = ((F - D) - (F of previous year - D of previous year)) x 25%, = 0 if negative result G = [buffer on doses needed] + [buffer on wastages]*	942	686	256
I	Total vaccine doses needed	*Round up((F + G) / Vaccine package size) * Vaccine package size*	382,500	278,209	104,291
J	Number of doses per vial	*Vaccine parameter*	1		
K	Number of AD syringes (+ 10% wastage) needed	*(D + G) x 1.10*	0	0	0
L	Reconstitution syringes (+ 10% wastage) needed	*(I / J) x 1.10*	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	*(I / 100) x 1.11*	0	0	0
N	Cost of vaccines needed	*I x vaccine price per dose (g)*	769,590	559,757	209,833
O	Cost of AD syringes needed	*K x AD syringe price per unit (ca)*	0	0	0
P	Cost of reconstitution syringes needed	*L x reconstitution price per unit (cr)*	0	0	0
Q	Cost of safety boxes needed	*M x safety box price per unit (cs)*	0	0	0
R	Freight cost for vaccines needed	*N x freight cost as of % of vaccines value (fv)*	50,793	36,944	13,849
S	Freight cost for devices needed	*(O+P+Q) x freight cost as % of devices value (fd)*	0	0	0
T	Total fund needed	*(N+O+P+Q+R+S)*	820,383	596,701	223,682
U	Total country co-financing	*I x country co-financing per dose (cc)*	596,700		
V	Country co-financing % of Gavi supported proportion	*U / T*	72.73 %		

Annex 2 - NVS Routine – Preferred Second Presentation

No NVS Routine – Preferred Second Presentation requested this year

Annex 3 - NVS Preventive campaign(s)

No NVS Prevention Campaign Support this year

Annex 4

Table Annex 4A:Commodities costs

Estimated prices of supply are not disclosed

Vaccine	Presentation	2017	2018	2019	2020
HPV quadrivalent, 1 dose(s) per vial, LIQUID	1	4.500	4.500	4.500	4.500
RV1, 1 dose/plastic tube, liquid	1	2.012	2.012	2.012	2.012

Vaccine	Presentation	2021	2022
HPV quadrivalent, 1 dose(s) per vial, LIQUID	1	4.500	4.500
RV1, 1 dose/plastic tube, liquid	1	2.012	2.012

Supply	Form

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 Annex 4B: Freight cost as percentage of value

Vaccine Antigen	Vaccine Type	2019	2020
HPV quadrivalent, 1 dose(s) per vial, LIQUID	HPV	0.94 %	0.94 %
RV1, 1 dose/plastic tube, liquid	ROTA	6.60 %	6.60 %

Vaccine Antigen	Vaccine Type	2021	2022
HPV quadrivalent, 1 dose(s) per vial, LIQUID	HPV	0.94 %	0.94 %
RV1, 1 dose/plastic tube, liquid	ROTA	6.60 %	6.60 %

Table Annex 4C: Accelerated transition phase - Minimum country co-payment per dose of co-financed vaccine

Vaccine	2019	2020
HPV quadrivalent, 1 dose(s) per vial, LIQUID	0.48	1.48
RV1, 1 dose/plastic tube, liquid	0.21	0.66

Vaccine	2021	2022
HPV quadrivalent, 1 dose(s) per vial, LIQUID	2.49	3.49
RV1, 1 dose/plastic tube, liquid	1.11	1.56

12. Banking Form

In accordance with the decision on financial support made by the Gavi, the Government of Lao People's Democratic Republic hereby requests that a payment be made via electronic bank transfer as detailed below:

Name of Institution (Account Holder):	MINISTRY OF HEALTH- LAO, VIENTIANE
Address:	SIMEUNG STREET, SIMEUNG VILLAGE, SISATANARK DISTRICT
City Country:	VIENTIANE CAPITAL, LAO PDR
Telephone no.:	(+856-21) 214002 **Fax no.:** (+856-21) 214002
	Currency of the bank account:
For credit to:	
Bank account's title:	MINISTRY OF HEALTH- LAO, VIENTIANE
Bank account no.:	01011010039115001
Bank's name:	BANQUE POUR LA COMMERCE EXTERIEUR LAO PUBLIC

Is the bank account exclusively to be used by this program?

By who is the account audited?

Signature of Government's authorizing official

		Seal
Name:	SOMPHONE PHANGMANIXAI MD, MPHM	
Title:		
Signature:		
Date:	9/5/2017	

FINANCIAL INSTITUTION		**CORRESPONDENT BANK (In the United States)**
Bank Name:	BANQUE POUR LA COMMERCE EXTERIEUR LAO PUBLIC	
Branch Name:	HEAD OFFICE	
Address:	NO 1 PANG KHAM STREET	
City Country:	VIENTIANE CAPITAL, LAO PDR	
Swift Code:	COEBLALA	
Sort Code:		
ABA No.:		
Telephone No.:	(+856-21) 213200-1, 223243-4	
FAX No.:	(+856-21) 213202, 214944	

I certify that the account No is held by at this banking institution

The account is to be signed jointly by at least (number of signatories) of the following authorized signatories:

1		
	Name:	
	Title:	
2		
	Name:	
	Title:	
3		
	Name:	
	Title:	

Name of bank's authorizing official
Signature:
Date:
Seal: