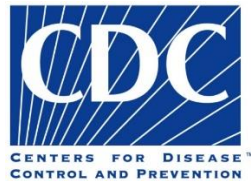


Final Report

POST-INTRODUCTION EVALUATION OF HPV VACCINE PROGRAMME IN INDONESIA



Submitted by
Health Technology Assessment (HTA) and Pharmacoeconomics Research Center
Faculty of Pharmacy, Universitas Gadjah Mada

to
Directorate of Surveillance and Health Quarantine
Directorate General of Disease Prevention and Control
Ministry of Health of Republic Indonesia

November 19, 2018

Executive Summary

In Indonesia, cervical cancer is the second most common type of cancer among women, with > 32,000 new cases and > 18,000 deaths each year. Currently, there are three general strategies to prevent and control cervical cancer disease, namely human papillomavirus (HPV) vaccination, screenings, and treatment of precancerous lesions/cancer and palliative care as tertiary prevention. A demonstration program of HPV immunization had been conducted using Anggaran Pendapatan dan Belanja Negara (APBN-State budget of Indonesia) in 2016 in Daerah Khusus Ibukota (DKI) Jakarta Province and in 2017, vaccination had been expanded to other region of Surabaya municipality in East Java province. Furthermore, there was Gavi, The Vaccine Alliance (Gavi) support for conducting an HPV demonstration project in 2 districts of Yogyakarta Province (Gunungkidul and Kulon Progo districts) in 2017. The demo used HPV vaccine Quadrivalent (MSD) which has been given licensed by The National Agency of Drug and Food Control of Republic of Indonesia (NADFC/BPOM). Following WHO recommendation for HPV immunization target population which is 9-13 years old, the HPV Demonstration Program was delivered for 5th grade and 6th grade primary school female students for the 1st and 2nd dose, respectively. The activities was conducted through a school based immunization program.

A post introduction evaluation (PIE) of HPV immunization is required by Gavi and recommended by WHO to be conducted 6-12 months after the introduction of vaccination. The objective of HPV PIE in Indonesia is to highlight the positive findings and address challenges of vaccine implementation, as well as to facilitate experience sharing and use lessons learned for future vaccine introduction.

The main best practices identified include : 1) HPV vaccine was well accepted by all stakeholders at all levels, and there was a high demand for vaccine in the community; 2) HPV vaccine introduction was perceived to have improved school health programme and EPI programme at all levels; 3) HPV vaccine was well integrated and smoothly integrated into the already strong school health programme; 4) Coverage was very high among target population (in-school girls) identified in national policy; 5) Good cold chain practices, vaccine management, injection safety, and waste management practices were observed.

The main challenges identified include : 1) Inconsistent engagement with religious leaders and Ministry of Religious Affairs (MORA) at different levels in some areas; 2) Multiple gaps in policies (e.g. no policy for out-of-school girls, no guidance on "sweeping" procedure, no guidance for girls missing Dose 1 in Class 5 and no follow-up vaccination for girls receiving Dose 1 in Class 6), resulting in girls missing vaccination; 3) Errors noted in data quality at all levels, possibly causing falsely elevated coverage for Dose 2; 4) Insufficient socialization of community leaders, teachers, community health workers to manage and respond to rumors, questions and concerns from the community and parents.

Recommendations for future program implementation include : 1) Consider revising national HPV vaccination policy to include vaccination of girls not in school, and clarify policy and guidance on girls missing vaccination days in Class 5; 2) Engage religious leaders and Ministry of Religious Affairs early in planning process and development of key messages to address rumors and questions about halal/haram; 3) Increase socialization for teachers/health workers/community leaders on responding to rumors (ensure that training materials on myths from central are disseminated to local level); 4) Reinforce key messages and guidance on enumerating target population and calculating coverage.

Table of Contents

Executive Summary	2
Table of Contents	3
I. Background.....	4
II. Methods	6
III. Findings	9
1. Pre-implementation planning and vaccine introduction	9
2. Training.....	9
3. Vaccine coverage.....	10
4. Vaccine delivery.....	11
5. Cold-chain management	13
6. Vaccine management, transport and logistics	13
7. Vaccine wastage	14
8. Waste management and injection safety	14
9. Monitoring and supervision	15
10. Adverse events following immunization	15
11. Surveillance	16
12. Advocacy, communication and acceptance	17
13. Sustainability	18
14. General impressions.....	18
Key Indicators	20
IV. Recommendations	22
V. Appendices	24
Annex 1: Itinerary.....	24
Annex 2: Data-collection instruments.....	25
Annex 3: Team members	79
Annex 4: List of persons met.....	80
Annex 5: Presentation made to the ICC.....	81

I. Background

The global burden of cervical cancer based on GLOBOCAN 2018 was about 570,000 new cases and > 311,000 deaths per year. Unfortunately, more than 85% of cases were occurred in developing countries. In Indonesia, cervical cancer is the second most common type of cancer among women, with > 32,000 new cases and > 18,000 deaths in each year (IARC, 2018).

Almost 100% of cervical cancers are caused by human papillomavirus (HPV) infection. Over 70% of invasive cervical cancers in the world are attributed to HPV 16 or 18, while 25-30% of the cases are caused by the other HPV genotypes such as HPV 31, 33, 45, 52 and 58 (Munoz et al., 2003).

Currently, there are three general strategies to prevent and control cervical cancer disease, namely human papillomavirus (HPV) vaccination, screenings, and treatment of precancerous lesions/cancer and palliative care as tertiary prevention. The screenings include cytology screening or Papanicolaou (Pap) test, screening tests based on visual examination of the uterine cervix (visual inspection with acetic acid or VIA), and HPV testing systems which can detect the presence of viral markers (HPV-DNA in exfoliated cervical cells) (WHO, 2002; Goldie, 2006).

Indonesia has conducted the national program for cervical cancer prevention by screening with VIA since 2007. The strategy is provided in all health facilities nationwide, with coverage rate about 20%. In addition, demonstration program of HPV immunization had been conducted using APBN budget in 2016 in DKI Jakarta province and in 2017 had been expanded to other region of Surabaya municipality in East Java province. Furthermore, there was Gavi support for conducting an HPV demonstration project in 2 districts of Yogyakarta province which were Gunungkidul and Kulon Progo districts since 2017. The demo used HPV vaccine Quadrivalent (MSD) which has been given license by The National Agency of Drug and Food Control of Republic of Indonesia (NADFC/BPOM). Following WHO recommendation for HPV immunization target population which is 9-13 years old, the HPV Demonstration Program was delivered for 5th grade and 6th grade primary school female students for the 1st and 2nd dose, respectively. The activities were conducted through a school based immunization program, namely "BIAS".

"BIAS" Indonesia School Based Immunization Month is a program of Indonesia Ministry of Health for providing repeated immunization to elementary school students which are scheduled in certain months local government. This program is aimed to reduce morbidity and mortality due to preventable infectious diseases. BIAS is a repeated immunization to maintain the immune system or to prolong the protection duration to certain diseases. The main activity of BIAS is to deliver immunization to elementary school students with a certain vaccine to the target population. BIAS activity is integrated within school health center. The program was initiated in 1984 and developed in 1998, later became BIAS program. The government in headquarter including four ministries which are Ministry of Health, Ministry of Education and Culture, Ministry of Religion Affairs, and Ministry of Home Affairs support the BIAS program that integrated within school health center. Provincial and District governments support BIAS by facilitating coordination of across divisions. Immunization delivery is conducted by primary health centers in schools. BIAS is a national which delivery points of BIAS are at all elementary school in Indonesia. BIAS is conducted routinely each year according to the schedule set by the school and primary healthcare center, normally in August and November.

In 2018, HPV demonstration program was also conducted in Makassar municipality in South Sulawesi Province and Manado municipality in North Sulawesi Province. The Ministry of Health of Indonesia (MOH) has revised the guideline for vaccine delivery strategy to be school based delivery for girls attending school and other strategies for reaching out of school girls. The guideline has been

implemented for HPV demonstration program in 2018 in South Sulawesi Province and Manado municipality in North Sulawesi Province.

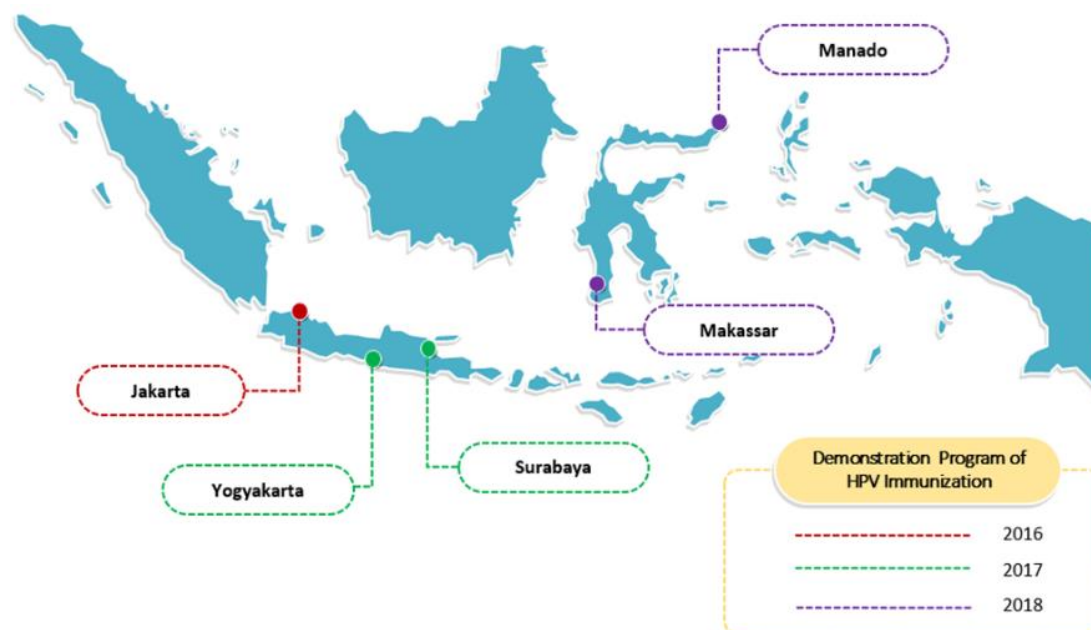


Figure 1. Indonesian map showing the locations of HPV demonstration immunization

According to Guidelines for application for HPV Demonstration Programme under Gavi's New and Underused Vaccine Support (NVS) in 2016, several studies are recommended prior to the second year (2018) of the HPV demonstration project. The studies include i) Costing Analysis, ii) Post Introduction Evaluation (PIE), iii) Adolescent Health Assessment (ADH). iv) Community-based vaccination coverage survey. These studies are required to provide information as a comprehensive consideration for deciding the future follow up activity of HPV immunization demonstration program towards introduction HPV immunization as a national program.

Moreover, WHO recommends countries conduct PIE 6-12 months after the introduction of any new vaccine to identify, document and address any programmatic and logistical difficulties, to evaluate the incremental costs of introducing the new vaccine document and share lessons learnt to improve planning for introduction of additional vaccines in the future. Hence, this activity is required to evaluate the implementation of HPV demonstration immunization and provide recommendation regarding obstacles in HPV immunization implementation as an input for the future HPV immunization implementation in other region or in national scale in Indonesia.

II. Methods

General objective of the HPV PIE is to provide information regarding implementation of HPV immunization in selected demonstration locations as an input for decision making for expanding HPV immunization in other region or in national scale. Specific objectives are to highlight the positive findings and address challenges of vaccine implementation, as well as to facilitate experience sharing and use lessons learned for future vaccine introduction.

This study applied a standardised protocol based on “WHO - New Vaccine Post-Introduction Evaluation (PIE) Tool” to evaluate HPV vaccine introduction, adapted for Indonesia context. Evaluation was conducted at all levels of the health system in national, provincial, district, and health facility levels and included all key stakeholders and at all sectors including health, education, religious affairs, and community. The study used purposeful sampling consisting of 6 districts in 3 provinces to gather a broad group of community health centers and different types of schools to try and gain a broad perspective of issues and challenges with vaccine implementation Data collection consisted of three parts: 1) desk review of planning and monitoring documents, 2) observation at vaccination session at schools (wherever vaccination ongoing), vaccines cold & dry storage, and waste management facilities, 3) interviews with key stakeholders, including officers at all levels of health system, girls, teachers, community leaders, and caregivers using standard questionnaires. Areas and sectors reviewed were described in Figure 2 and 3.

HPV PIE questionnaires used in the interviews were finalized by international and national team on 18 – 19 October 2018 meeting in MoH. There are 10 form of questionnaires for officers, girls, teachers, community leaders, and caregivers. The questionnaires consist of principles area of evaluation as follows:

1. Pre-implementation planning and vaccine introduction
2. Training
3. Vaccine coverage
4. Vaccine delivery
5. Cold-chain management
6. Vaccine management, transport and logistics
7. Vaccine wastage
8. Waste management and injection safety
9. Monitoring and supervision
10. Adverse events following immunization
11. Advocacy, communication and acceptance
12. Sustainability
13. General impressions

Evaluation team for each province involved international experts (US-CDC, WHO, GAVI, UNICEF) and national experts (MOH national, provincial, district levels and university). The team conduct field visits at all levels through interviews, compiled and analysed all data/information (each of 3 teams separately) during 23 – 26 October 2018, and consolidate all findings through meeting on October 29, 2018 at MOH. The study results then presented for all principles area in terms of main positive findings, challenges, and recommendation for future vaccination implementation.

Areas and sectors reviewed:

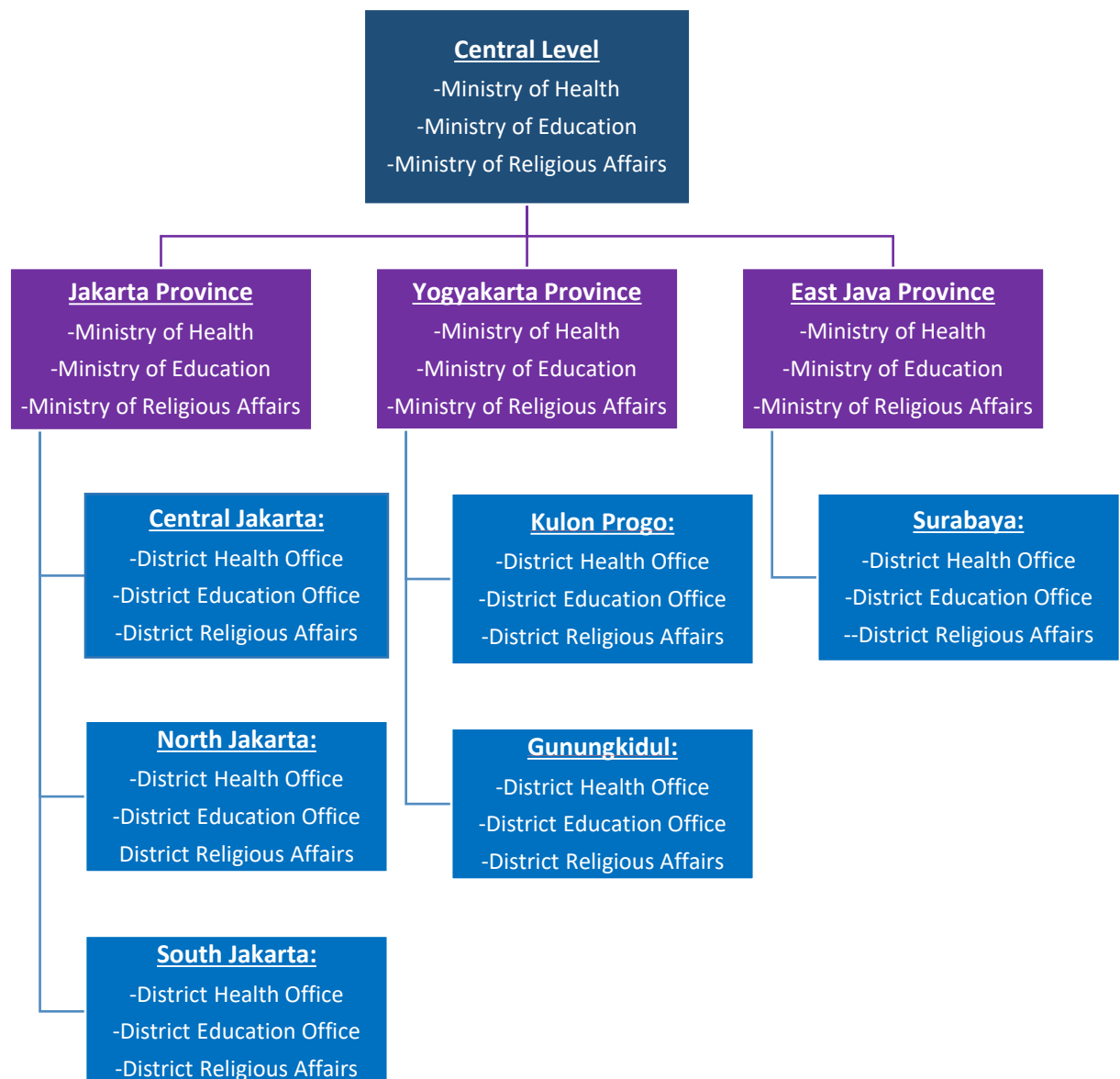


Figure 2. Areas and sectors reviewed at Central, Provincial and District Level

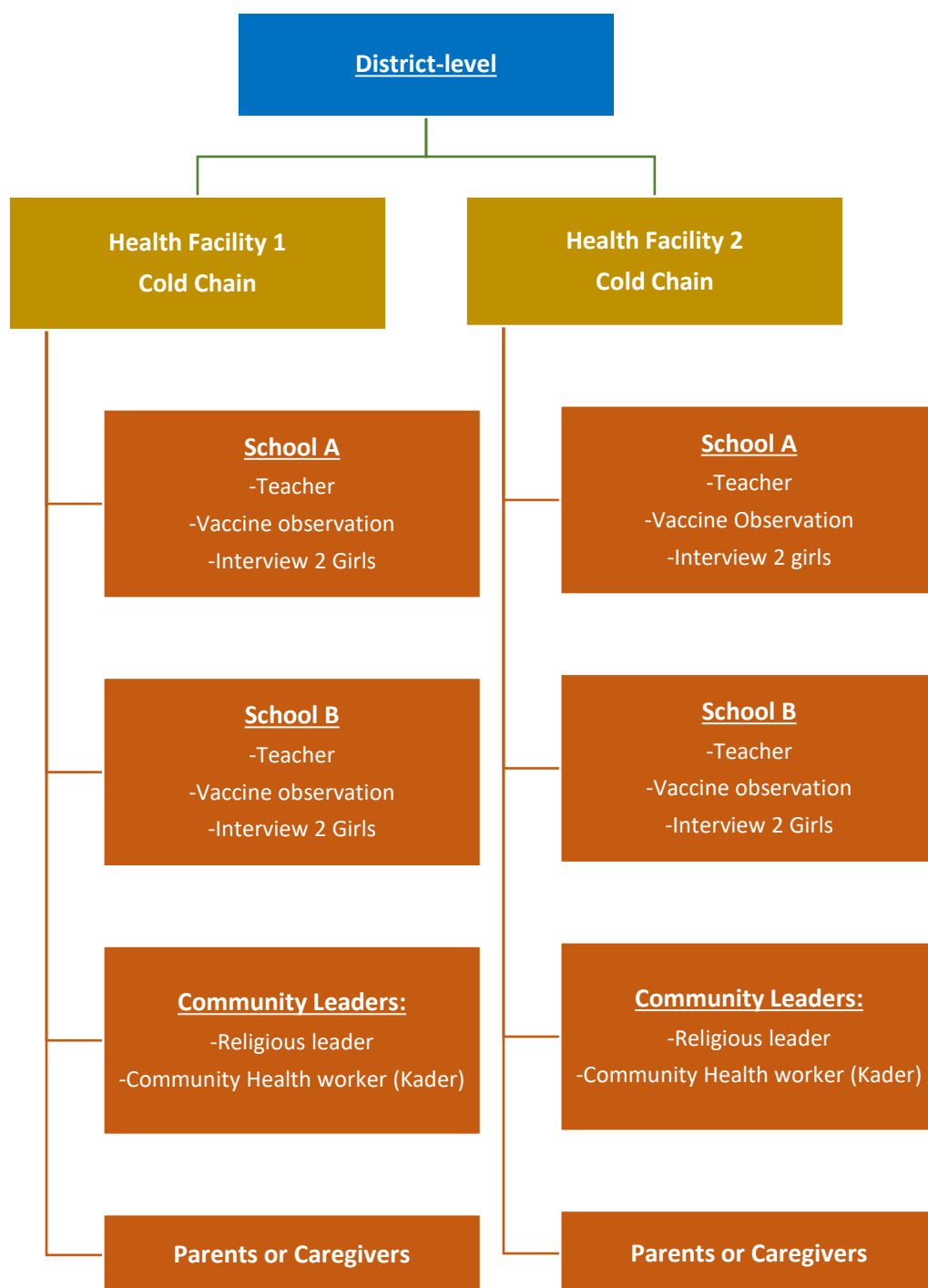


Figure 3. Areas and sectors reviewed at each District

III. Findings

1. Pre-implementation planning and vaccine introduction

Strengths

The first step in conducting HPV vaccination was programme planning. Based on findings from interviews, decision-making was driven by evidence of cervical cancer in Indonesia and its economic and health burden. Ministry of Health (MoH) built strong advocacy with all stakeholders, including Ministry of Education and Ministry of Religious Affairs (MoRA), then create strong political commitment at all levels. Strong partnership between health and education sectors was demonstrated through existing school health programme immunization strategy, namely Bulan Imunisasi Anak Sekolah (BIAS). This was consistent with existing collaboration between health and religious affairs that were seen in many other religious and health programs integrated in schools. Regarding the number of targeted school girls at every district, bottom-up microplanning was done very well, in order to ensure capturing all in-school girls. Every district representative had policy on reporting the target population of all Class 5 and 6 girls, therefore the accurate data for HPV vaccine target population can be achieved. Puskesmas, as a primary health center in subdistrict level, was integrating HPV vaccination with the routine school health programme, as well as create BIAS vaccination card, which was adapted to include HPV vaccine. The BIAS vaccination card was designed independently for each Puskesmas, then they able to add some innovative contents for the card.

Areas needing improvements

Some areas need to be improved for future HPV vaccine implementation. A vaccine procurement in some areas had problems, especially for vaccine distribution from central to the province, that delivery process was delayed. For example, BIAS program was in October, but the HPV vaccination itself was delivered in November due to the vaccine logistic problem, so vaccination could not be implemented during routine BIAS programme. Inconsistency in partnership and engagement of Religious Affairs at some levels in some areas was observed, especially for socialization at schools and monitoring in vaccine delivery. Furthermore, there was lack of national policy to reach out of school girls.

Recommendations

It is recommended to revise national vaccination guideline to include out of school girls, and clearly define target age for out of school girls; collaborate with Ministry of Social Affairs when developing and implementing vaccination for out of school girls; engage early with Ministry of Religious Affairs and high-level religious leaders to ensure commitment, confidence in HPV vaccine, advocacy at the community level and partnership in dispelling rumors.

2. Training

Strengths

Development of standard training materials was well done, included availability of presentation slides, field guides for health workers, information, education, and counseling (IEC) materials, myths/facts sheet, and pocketbook for all stakeholders, provided by MoH at central level. Training

for health staffs included all key messages on correct vaccine administration and technique, cold storage, AEFI monitoring, HPV vaccine and disease prevented. School staffs, community leaders and girls had good knowledge of diseases prevented with HPV vaccine. All stakeholders reported satisfaction with training on HPV vaccine including key technical information, duration of training and timing prior to vaccination launched. Some areas reported refresher training prior to Dose 2. Electronic versions of training and IEC materials developed at central level and sent to districts to adapt (e.g. include logo) and print for the district.

Areas needing improvements

Several potential problems include training materials developed at central level (e.g. myths/facts sheet) were not fully disseminated to all local levels surveyed. These problems were due to lack of local budget for printing and copying these education materials. Community level stakeholders (teachers, health workers, community leaders) were requesting additional socialization to address and respond to rumors in the community.

Recommendations

Given the findings, evaluators recommended that MoH to ensure all training and IEC materials developed at central level are distributed to districts in timely manner, so health centers can adapt/tailor and print in sufficient quantity. Intensify socialization on addressing and responding to rumors for stakeholders interacting with the community was also needed. MoH should re-emphasize national policy to vaccinate all Class 6 girls, irrespective of receipt of Dose 1 in Class 5; clarify true and false contraindications (e.g. myth: only vaccinate after onset of menstruation); and clarify guidance on reaching girls who are absent or ill on vaccination day, to ensure no missed opportunity for vaccination.

3. Vaccine coverage

Strengths

High vaccination coverage was reached through school-based delivery platform, through strong existing school health programme. Reporting of coverage was from health facility level up to the district, province, and national level, as presented in Table 1. Few refusals in the school delivery platform, was due to rumors and concern that vaccine is “haram”. Some innovative strategies were seen to vaccinate girls that missed vaccination day: e.g. Puskesmas kept list of girls that missed vaccination and attempted to vaccinate through "sweeping" procedures - outreach, home visits, returning to school.

Table 1. Vaccine coverage for HPV vaccine demonstration program, dose 1 and dose 2

Area	Year (Dose, Class)	Girls targeted	Girls vaccinated	% Vaccinated
Jakarta	2017 (Dose 1, Class 5)	71,830	66,094	92%
	2018 (Dose 2, Class 6)	70,915	67,127	94.7%
	2018 (Dose 1, Class 5)	79,053	70,680	89.4%
Yogyakarta	2017 (Dose 1, Class 5)	7,668	7,647	99.7%
	2018 (Dose 2, Class 6)	7,652	7,629	99.7%
Surabaya	2018 (Dose 1, Class 5)	23,145		95.1%
	2018 (Dose 2, Class 6)			92.84%*

Note: *reported using first dose vaccinated as denominator for second dose; 88.28% (actual number)

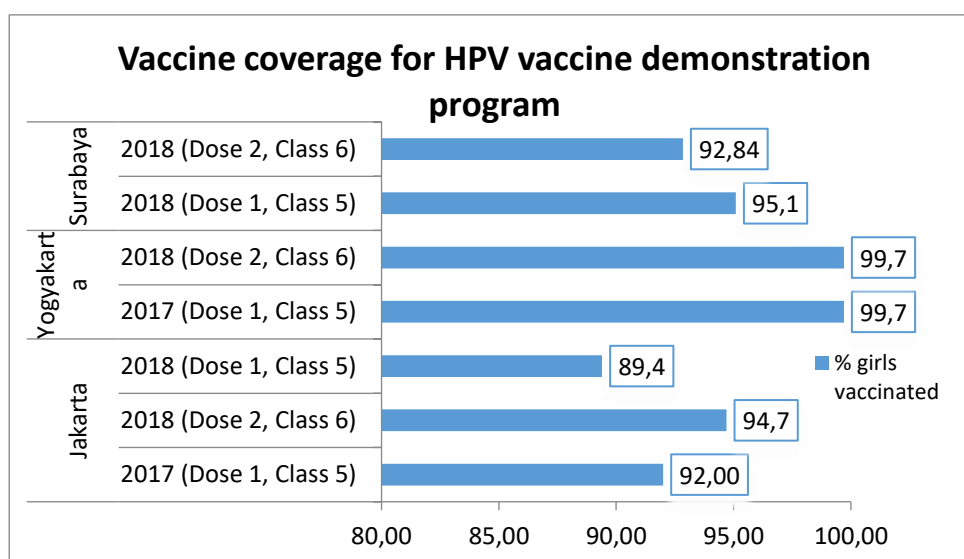


Figure 4. Vaccine coverage for HPV demonstration program

Areas needing improvements

However, potential problems were observed, such as national policy for girls who missed vaccination day in Class 5 is unclear, so districts implementing varying vaccination protocol (some areas vaccinate with Dose 1 in Class 6 and some do not), and no policy to reach out of school girls. There was inconsistency in data quality from health facility to provincial level. In some areas, numerator for girls vaccinated in Class 5 became the denominator for coverage in Class 6, resulting in falsely elevated coverage and missed opportunity for vaccination of girls.

Recommendations

Based on these findings, evaluators suggest that policy and guidance needed on how to address vaccination for girls who missed Dose 1 in Class 5. Disseminate guidance from national policy on how to define target population to calculate coverage of Dose 2 (i.e. denominator is all girls in Class 6.) National policy needed to reach out-of-school girls and target age eligibility.

4. Vaccine delivery

Strengths

Regarding the vaccine delivery, there was well-functioning health system infrastructure at all levels; good ownership of immunization programme at district level with decentralized system. Strong partnership between health and education sectors and strong existing school health programme (BIAS) facilitated effective implementation of HPV vaccine introduction in schools. Safe vaccination procedures were observed during vaccination session. A clear messaging on target eligibility for Class 5 and 6 girls was done. Policy on consent procedures (opt-out) followed other routine immunization. While some areas (East Jakarta and Surabaya Districts) and some schools (e.g. religious schools) chose to implement different informed consent procedure (opt-in), but it did not seem to result in decreased coverage. Personal vaccination card was kept at schools to ensure girls can receive Dose 2.

Areas needing improvements

Vaccine procurement and delivery delay resulted in date of vaccination in October, which is not during routine BIAS (one month delay), therefore additional staff and resources at district and subdistrict level was required. Requiring informed consent (opt-in) in some areas was resulted the perception of increased refusals and increased workload for health staff.

Recommendations

From the findings evaluators suggest that MoH must consider to reviewing consent procedures in areas where current process is problematic, and engage education and religious affairs sectors to determine best approach for area. Developing policy and strategy to offer second dose to girls who only receive the first dose in Class 6 is very crucial.



Explanation from health care worker



Registration



Screening before vaccination



HPV Vaccination



Vaccination Card



Observation after vaccination

Figure 5. HPV vaccination at School

5. Cold-chain management

Strenghts

Good cold chain practices were observed including sufficient and functioning cold chain storage units at all levels, regular temperature monitoring and recording including weekends/holidays. Limited cold storage units at district levels were observed for larger scale vaccination campaigns, so good procedures in place to distribute vaccine from District logistic to Puskesmas was quickly and frequently during implementation.

Areas needing improvements

No weaknesses identified.

Recommendations

Although there were no weaknesses identified, maintain strong cold chain practices is recommended.



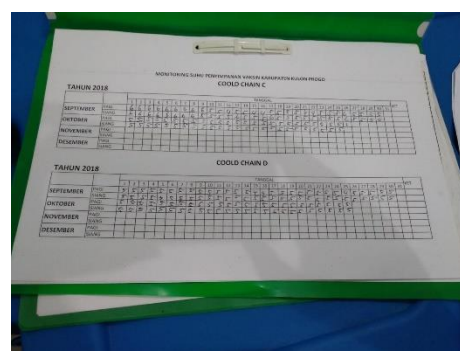
Vaccine storage



Vaccine storage



Temperature data Loggers and Freeze alert



Temperature monitoring

Figure 6. Vaccine storage and temperatur monitoring

6. Vaccine management, transport and logistics

Strenghts

Procedures for vaccine requests from lower level up to next level is clear. Distribution of vaccine was observed to be timely, no vaccine vial monitor issues, and no vaccine stock-outs/expired vaccine, so that vaccine wastage is minimal. At the provincial level, vaccine forecasting is accurate,

the procurement done by the Ministry of Health and delivery by Ministry of Health to the Province Health Office. Regarding to the transport, there was no additional transport for HPV since it is integrated with other BIAS vaccine for distribution.

Areas needing improvements

However the delay in vaccine procurement at national level caused delayed distribution at lower levels. Late distribution from central level and limited transportation at district for vaccine collection would impact the immunization schedule.

Recommendations

Based on these findings, timely procurement procedures at national level and timely distribution from central to avoid delayed schedule of immunization is recommended.

7. Vaccine wastage

Strengths

Vaccine wastage is minimal, this is due to unused vaccines being returned to province or district level and used the following year, "First in-first out" procedure used to minimize expiry of vaccine, maintained good stock records, and good VVM procedures to minimize wastage.

Areas needing improvements

However no policy to calculate vaccine wastage for HPV vaccine, which may be necessary at national scale to forecast necessary buffer stock. The vaccine wastage not calculated because "one dose per vial".

Recommendations

From the findings, it is suggested that Ministry of Health must consider policy to calculate vaccine wastage for forecasting needed buffer stock.

8. Waste management and injection safety

Strengths

Regarding the waste management and injection safety, a third party employed for waste management. The discharge of vaccine waste has been carried out safely, for example waste moved from schools to health care facility and kept locked so inaccessible, safety boxes used properly, and injection safety techniques used. No specific waste-disposal system and injection safety practices required for HPV thus no need to separate with other waste.

Areas needing improvements

No weaknesses identified.

Recommendations

Based on these findings, evaluators suggest to maintain strong waste management and injection safety practices.



Figure 7. Safety box

9. Monitoring and supervision

Strenghts

Routine monitoring of immunization sessions from health sector of schools, approximately 2 times per year, as well as in health sector and education sector. Supervisory visits from central to province 1-2 times per year and there was no supervision from province level to the district level, but only socialization. EPI staff visit once a month to the districts since the introduction of the HPV vaccine. Strong school health programme in place with oversight from district or subdistrict health sector. Health care sector received supervisory visit from district or provincial level at least twice a year. No prominent concerns identified during supervisory visits, specifically related to the introduction of HPV vaccine. During the time of the campaign, district level staff supervised at health facilities and schools. EPI staff available for support from health workers if needed. HPV information incorporated in quarterly monitoring meetings. Monitoring data and printed coverage charts available in health facilities.

Areas needing improvements

Several potential problems, include documentation of supervisory visits were inconsistent, no standardized tool for supervisory visits observed, at the provincial level, and there was no supervision from Ministry of education and Ministry of Religious Affairs, as well as not all facilities reported having received a supervision visit.

Recommendations

Therefore, it is suggested that Ministry of Health must develop and circulate standard tool and guidance for supervisory visits of vaccination sessions. Consider integrating Ministry of Education and Ministry of Religious Affairs for supervision/monitoring of vaccination sessions to raise awareness and improve collaboration across sectors at all levels and continue supervision for next vaccination period.

10. Adverse events following immunization

Strenghts

Strong national adverse events following immunization (AEFI) policy and procedures in place and AEFI Task Force present at all levels. Provincial level provides guidelines related to handling AEFI and AEFI committee at province level is established. Districts have a system and protocol for

monitoring and reporting AEFI including crisis plan to manage. Every health centre has a system and protocol for monitoring and reporting AEFI. Health centres have a crisis plan in place to manage AEFI. Good records and AEFI monitoring practices, and some health centers (Puskesmas) required to complete AEFI certification. School health teachers receive socialization on AEFI monitoring practice, so schools are comfortable with vaccination in the school. Kit for AEFI available at health facility. Health care workers requested teachers to report if any girls feels sick or there are concerns. Children are observed for 30 minutes following vaccination, this was observed in vaccination sessions. Health care worker stay at school for 30 minutes after the end of immunisation sessions. No serious AEFI with HPV vaccine, some serious AEFIs noted with other vaccines, and appropriate management followed.

Areas needing improvements

Regular routine AEFI reporting system used. However some health centers reported lack of awareness of the AEFI crisis management plan.

Recommendations

Therefore it is suggested that Ministry of Health must consider including AEFI crisis management procedure in refresher trainings with health staff, dissemination of guidance summary or flow chart of AEFI reporting and crisis plan to help familiarize health workers on procedures, and reinforce routine AEFI recording/reporting procedures when implementing scale-up in other provinces.

11. Surveillance

Strenghts

The prevalence of cancer patients (all cancer) in Indonesia is 1.4 ‰. The highest cancer prevalence is in DI Yogyakarta Province, which is equal to 4.1 ‰ (higher than the national level). Surveillance is very importance component of the prevention of cervical cancer, not only to understand the scope of the disease, but also to promote required policies and action to fight cervical cancer. The regional strategic framework from Ministry of Health for cervical cancer prevention including introduction of HPV vaccine in national programs, organize population based screening and management, and additional therapeutic facilities for invasive cancers and strengthen palliative care.

Areas needing improvements

No weaknesses identified.

Recommendations

Accurate data is needed in order to monitor the succesfull of HPV vaccination in the future. Good surveillance practice will give enough data about the specific problems in some areas so policy could be adjusted based on this specific problems in order to increase the scope of HPV vaccination.

12. Advocacy, communication and acceptance

Strenghts

HPV vaccine introduction was well accepted by all stakeholders in health and education. Good communication and coordination was observed from the Provincial health offices to the health facility (Puskesmas), the provincial health office provides educational/IEC materials, and conducts training for health workers. Socialization had been carried out by District Health Office regarding HPV vaccination which was integrated with BIAS activities. Health workers, teachers, community leaders and community health workers strongly sensitized and resensitized parents and community to encourage vaccination. Health workers told community that vaccine has halal certificate. Distributed of educational/IEC materials and socialization to the surrounding schools was conducted by inviting school health teachers from each school. School communication letters to parents informed them about HPV vaccination including IEC leaflets and a health screening form about their daughter (10 questions). Health facility (Puskesmas) made photocopies of IEC materials to address limited budget for printing IEC color materials.

Areas needing improvements

Inconsistent coordination was found between Ministry of Health and Ministry of Religious Affairs. Religious affairs and religious leaders, teachers and Kader requested more information and socialization on how to address and respond to parent questions and rumors. Rumors, concerns, and questions raised about: vaccine is haram, vaccine causes infertility and early menopause, fear of AEFIs, concern about HPV being "fake vaccine". Some health workers or providers had misinformation about initiation of vaccination prior to menstruation. Some IEC material (e.g. myth/facts sheet) were not distributed to all sectors and all levels. IEC materials were not observed in some schools and health centers, due to printing responsibility resting at health center level and printing costs.



Figure 8. Educational materials of HPV Immunization

Recommendations

Engagement and collaboration with Ministry of Religious Affairs and religious leaders is crucial in development of key messages and development of IEC materials. Sufficient budget should be allocated for IEC materials, so that enough educational material can be distributed to schools and

the community. Socialization should be increased to key stakeholders (health workers, teachers, Kader, religious leaders, private sector) on how to address and respond to rumors. Clear message about halal certification is needed to avoid misinterpretation from community, and messaging that vaccine is not "fake".

13. Sustainability

Strenghts

From the interviews with parents, teachers, health workers, community leaders, all suggested that HPV vaccination should be carried out continuously including out-of-school girls. They hoped that HPV vaccination will be paid by the state as an effort to make a more health and smart generation of young people (especially women). Students who received dose 1 of HPV vaccination also hoped to be given dose 2 vaccination. In the implementation of health service HPV vaccination, primary health care (puskesmas) only spent little amount additional costs, such as transportation and socialization costs.

Areas needing improvements

Global vaccine supply shortage may limit timely vaccine supply availability, which may impact introduction timelines.

Recommendations

Utilize strong demand for HPV and successful demonstration introduction to advocate for political commitment for further scale-up. Define timeline and allocate resources for scale-up as part. Ensure timely vaccine procurement requests so manufacturer can forecast supply needs.

14. General impressions

Strenghts

HPV vaccine introduction was well accepted by all stakeholders at all levels, and high demand for vaccine in the community. This vaccine introduction perceived to have improved school health programme and EPI programme at all levels. HPV vaccination was well integrated with a school based immunization program, namely "BIAS". Coverage was very high among targetted population in national policy. Good cold chain practices, vaccine management, injection safety, and waste management practices were observed.

Areas needing improvements

There were multiple gaps in policies, resulting in girls missing vaccination (for example no policy for out-of-school girls, no guidance on "sweeping" procedure, no guidance for girls missing Dose 1 in Class 5 and no follow-up vaccination for girls receiving Dose 1 in Class 6). Errors noted is found in data quality at all levels, possibly causing falsely elevated coverage for Dose 2. Moreover, there was insufficient socialization of community leaders, teachers, community health workers to manage and respond to rumors, questions and concerns from the community and parents.

Recommendations

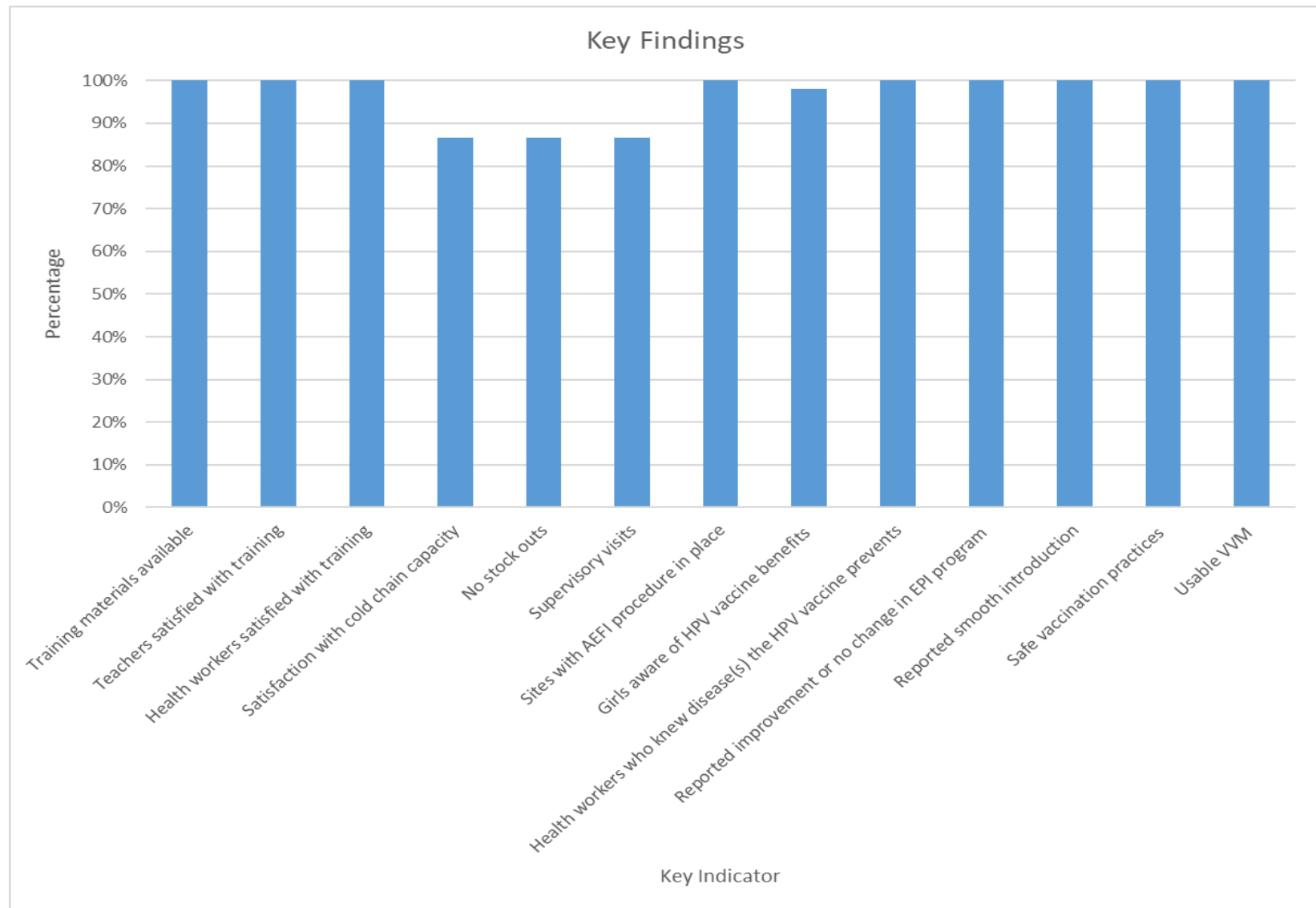
According to the findings, evaluators suggest the need for revising national HPV vaccination policy to include vaccination of girls not in school, and clarify policy and guidance on girls missing

vaccination in Class 5. Religious leaders and Ministry of Religious Affairs should be engaged in planning process and development of key messages to address rumors and questions about halal/haram. Increasing socialization for teachers/health workers/community leaders are needed on responding to rumors (ensure that training materials on myths from central are disseminated to local level). Reinforce key messages and guidance on enumerating target population and calculating coverage.

Key Indicators

Most key indicators are derived from the health facility questionnaire (Appendix 2.5), some are from the observation of vaccine storage (Appendix 2.4), some from the interviews with girls (Appendix 2.7), and some from the interviews with teachers/community leaders (Appendix 2.8). These are highlighted in bold italics in the table.

Q No.	Key Findings	Numerator/ Denominator	%
Pre-implementation planning and training			
9	% reporting training materials available	15/15	100%
9	<i>(Appendix 2.8 Teachers/Community Leaders Questionnaire)</i> % teachers reporting satisfaction with training	28/28	100%
10	% health workers reporting satisfaction with training	15/15	100%
Vaccine coverage			
16	% reporting no problems with the calculation of the target population	15/15	100%
Cold chain management			
30	% of health facilities with no cold-chain problems reported since the new vaccine introduction	13/15	87%
Vaccine management, transport & logistics			
40	% of health facilities reporting no vaccine or supply stock out in last six months	13/15	87%
Monitoring and supervision			
47	% of sites reporting one or more supervisory site visits since the introduction of HPV vaccine	13/15	87%
Adverse events following immunization (AEFI)			
49	% sites with AEFI procedure in place	15/15	100%
Advocacy, communication & acceptance			
55	% of Health Facilities indicating resistance to the HPV vaccine?	8/15	53%
6	<i>(From Appendix 2.7 Girls Questionnaire)</i> % Girls who were aware of the benefits of the HPV vaccine?	51/52	98%
Health-care worker knowledge			
62	% HCW who knew what disease(s) the HPV vaccine prevents	15/15	100%
General impressions			
66	% reporting that new vaccine improved the EPI programme	15/15	100%
68	% reporting a smooth or very smooth introduction	15/15	100%
Observations at a vaccination session			
8	<i>(From Appendix 2.6 Session Observation Questionnaire)</i> % of sites with two or more unsafe practices observed	14/14	100%
Observation of vaccine storage			
10	<i>(From Appendix 2.4 Vaccine Storage Observation Questionnaire)</i> % with VVM in usable stage (stage 1 or 2)	15/15	100%



IV. Recommendations

Area	Description of recommendation
Pre-implementation planning and vaccine introduction	<ol style="list-style-type: none"> 1. Revise national policy to include out of school girls. Currently, Ministry of Health has already revised this national policy that health centers should also cover out of school girls for HPV vaccination 2. Engage early with Ministry of Religious Affairs and high-level religious leaders for dispelling rumors
Training	<ol style="list-style-type: none"> 3. Ensure that all training and IEC materials developed at central level are distributed to districts in timely manner, so health centers can adapt/tailor and print sufficient quantity 4. Increase socialization on addressing and responding to rumors for stakeholders interacting with the community 5. Re-emphasize national policy to vaccinate all Class 6 girls, irrespective of receipt of Dose 1 in Class 5 6. Clarify true and false contraindications 7. Clarify guidance on reaching girls who are absent or ill on vaccination day
Vaccine coverage	<ol style="list-style-type: none"> 8. Policy and guidance needed on how to address vaccination for girls who missed Dose 1 in Class 5 9. Disseminate guidance from national policy on how to define target population to calculate coverage of Dose 2
Vaccine delivery	<ol style="list-style-type: none"> 10. Consider reviewing consent procedures in areas where current process is problematic, and engage education and religious affairs sectors to determine best approach for area 11. Develop policy and strategy to offer second dose to girls who only receive the first dose in Class 6
Cold-chain management	<ol style="list-style-type: none"> 12. Maintain strong cold chain practices
Vaccine management, transport and logistics	<ol style="list-style-type: none"> 13. Timely procurement procedures at national level
Vaccine wastage	<ol style="list-style-type: none"> 14. Maintain strong waste management and injection safety practices
Waste management and injection safety	<ol style="list-style-type: none"> 15. Consider policy to calculate vaccine wastage for forecasting needed buffer stock
Monitoring and supervision	<ol style="list-style-type: none"> 16. Develop and circulate standard tool and guidance for supervisory visits of vaccination sessions 17. Consider integrating MOE and MORA for supervision/monitoring of vaccination sessions to raise awareness and improve collaboration across sectors at all levels

Adverse events following immunization	18. Consider including AEFI crisis management procedure in refresher trainings with health staff 19. Reinforce routine AEFI recording/reporting procedures when implementing scale-up in other provinces
Advocacy, communication and acceptance	20. Engage and collaborate with Religious Affairs and religious leaders in development of key messages and development of IEC materials 21. Ensuring sufficient budget for IEC materials 22. Increase socialization to key stakeholders on how to address and respond to rumors 23. Ensure clear message about halal certification 24. Ensure frequent communication and refresher socialization for staff turnover
Sustainability	25. Utilize strong demand for HPV and successful demonstration introduction to advocate for political commitment for further scale-up 26. Define timeline and allocate resources for scale-up as part of new cMYP 27. Ensure timely vaccine procurement requests so manufacturer can forecast supply needs

This recommendations will help the government of Indonesia when introducing HPV immunization to other areas. For vaccine delivery strategy, the Ministry of Health of Indonesia (MOH) has revised the guideline for vaccine delivery strategy to be school based delivery for girls attending school and other strategies for reaching out of school girls. The guideline has been implemented for HPV demonstration program in 2018 in South Sulawesi Province and Manado municipality in North Sulawesi Province.

V. Appendices

Annex 1: Itinerary

Date	Activity
17 October 2018	Arrival of the external Team Leader
18 - 19 October 2018	Finalization of the tools for the PIE by a core team
20-21 October 2018	Arrival of remaining external/ internal evaluators
22 October 2018	Briefing meeting to all team members
	Jakarta Team conducts assessment at EPI-Central level & PHO DKI Jakarta, Central Level of MoRA, and Central level of MoE
	Jogjakarta and Surabaya Team go to the airport
23 October 2018	Jakarta Team: Assessment at District Health Office (North Jakarta District), MoE, MoRA, and Assessment at 4 schools & 2 Health Center
	Jogjakarta Team: Briefing at Provincial HO and Assessment at Province level (PHO, MoE, MoRA)
	Surabaya Team: Briefing at Provincial HO, Assessment at Province Level (MoRA, MoE and PHO East Java), and Assessment to 1 Health Center (urban) & 2 schools
24 October 2018	Jakarta Team: Assessment at District Health Office (East Jakarta District), MoE, MoRA, Assessment at 4 schools and 2 Health Center
	Jogjakarta Team: Assessment at District Health Office (Kulon Progo District), MoE, MoRA, and Assessment at 3 Health Center (1 urban, 2 rural) & 6 schools
	Surabaya Team: Assessment to 2 Health Center (urban) & 4 schools
25 October 2018	Jakarta Team: Assessment at District Health Office (South Jakarta District), MoE, MoRA, Assessment at 4 schools and 2 Health Center
	Jogjakarta Team: Assessment at District Health Office (Gunungkidul District), MoE, MoRA, and Assessment at 3 Health Center (1 urban, 2 rural) & 6 schools
	Surabaya Team: Assessment at District Health Office, MoE, MoRA, Giving feedback to Provincial Health Office, and Leaving Surabaya to Jakarta
26 October 2018	Representative of Jakarta Team: Assessment Ministry of Planning
	Other persons: Consolidation of the findings and recommendation led by Dr. Anagha for debriefing presentation and report will done by UGM, EPI Meeting Room
29 October 2018	EPI Meeting Room
30 October 2018	International Team departs

Annex 2: Data-collection instruments

Appendix 2.1 *HPV Post-Introduction Evaluation Questionnaire – MOH-EPI Central/Provincial/District Levels*

Date of interview: _____ Name of interviewer: _____

This questionnaire was administered at: (insert name of MOH level unit, province or district)

Central level: _____

Provincial level: _____

District Level: _____

Name(s) and title/position(s) of person(s) interviewed (please list all persons that you interviewed):

Name: _____ Title/Position: _____

Cell No. _____

Name: _____ Title/Position: _____

Cell No. _____

Name: _____ Title/Position: _____

Cell No. _____

Contact details of most senior person:

Telephone: _____ E-mail address: _____

Documents to request at beginning of interview or during the desk review:

Document / data	Document received	Document reported to exist but not available at time of interview	Document unavailable	Not Applicable
Copies of reports from any pre-assessments conducted, e.g. burden of cervical cancer in the country, readiness of the country to introduce, school readiness assessment, etc.				
Application to GAVI and any subsequent clarifications and responses				
Minutes of initial decision-making meetings (NITAG, ICC)				
Terms of Reference of the Technical Working Group assigned for overseeing this project and of its sub-committees				
Minutes from ongoing monitoring TWG meetings from the group assigned to steer the demonstration project				
Site-visit reports				
EVM (Effective Vaccine Management) report, improvement plan and status of implementation of recommendations				
Report from recent EPI Review with recommendations and status of implementation of recommendations				
Introduction plan for HPV vaccine demonstration				
HPV vaccination card or school health record and all recording and reporting forms				
AEFI protocol/reporting form				
Budget documents that show all resources required for all stages of the project as well as which sources have been secured				
Training materials and reference documents utilized at HPV vaccine training, including the HPV vaccination Field Guide				
IEC materials (e.g. brochures, posters, pamphlets)				
Vaccine stock records				
Vaccine wastage reports				
Central/Province/District coverage for dose 1				
Central/Province/District coverage for dose 2				
Latest data on school enrollment for girls in relevant grade				
Latest data on eligible out of school girls				
National Plan for cervical cancer prevention & control				
HSTP (Health Sector Transformation Plan) and NCDs (Non-Communicable Disease) action Plan and/or cMYP that includes HPV vaccination				
Surveillance data/bulletin on HPV and registry data on cervical cancer				

1. BACKGROUND INFORMATION		
GEN	1. What delivery strategy (ies) are used for HPV vaccination?	Select those that apply: <input type="checkbox"/> Health Facility based (by age _____) <input type="checkbox"/> School-based (by age ____; or by grade____) <input type="checkbox"/> Community outreach: <input type="checkbox"/> Other: Please describe details:
GEN	2. What strategies are in place to vaccinate girls who are not in school?	<input type="checkbox"/> Health Facility based <input type="checkbox"/> Community outreach <input type="checkbox"/> Other: _____
GEN	3. Date HPV vaccine introduced at district level.	(DD/MM/YYYY) __ / __ / _____
GEN	4. What is the target group for HPV vaccination?	Target age group: ____ years Target grade/class: _____ Target out of school _____
GEN	5. What is the size of target population for HPV vaccination in this central/province/district?	Number of girls: In school _____ Out of School _____ Source/Year: _____
Central	6. What factors influenced the decision for introduction of the HPV vaccine? Note: For other influences consider NGOs, CSOs, manufacturers, partners, donors, etc.	Check all that apply <input type="checkbox"/> High level political decision <input type="checkbox"/> Support of professional association(s) <input type="checkbox"/> Introduction by neighbouring countries <input type="checkbox"/> Disease burden data <input type="checkbox"/> Other influences (specify) _____
Central	7. Did the National Immunization Technical Advisory Group (NITAG) review and support the decision to introduce the HPV vaccine?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If no, what were their reasons: NITAG was not established yet. However, the HPV TAG deliberated and provided direction
Central	8. Was the informed consent process adapted for HPV vaccination?	<input type="checkbox"/> Yes <input type="checkbox"/> No Please provide details: Implied consent was adapted
Central	9. Was the HSCC involved in the decision to introduce HPV vaccine?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Central	10. What is the immunization schedule for the HPV vaccine?	Schedule: 2 doses Dose 1 _____ Dose 2 _____
Central	11. Is there a National Strategy (or Plan) for cervical cancer prevention and control?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
GEN	12. What disease(s) does the HPV vaccine prevent? Interviewer: Do not mention these diseases to the interviewee. <i>HPV vaccine prevents cervical, vulvar, vaginal and anal cancer (caused by HPV types 16 and 18); genital warts (caused by HPV types 6 and 11) Adjust based on vaccine type chosen by the country</i>	<input type="checkbox"/> All diseases (cervical and other cancers and genital warts) <input type="checkbox"/> Vaccine protects against cancer <input type="checkbox"/> Not able to mention specific diseases
2. PRE-IMPLEMENTATION PLANNING AND VACCINE INTRODUCTION PROCESS		
GEN	13. Do you have a Central/Provincial/District HPV vaccine introduction plan or timeline for implementation activities? Note: For example, if someone from the district only has a national plan, just check national plan. If they have a national and a district plan check both.	<input type="checkbox"/> Yes Central plan/timeline <input type="checkbox"/> Yes Provincial plan/timeline <input type="checkbox"/> Yes, District plan/timeline Interviewer please ask for a copy at time of interview. Review later to ensure essential components are included. <input type="checkbox"/> No. If no, why not?
GEN	For school-based programmes 14. Did you undertake a school readiness assessment to help design the introduction plan? Note: Inquire if the WHO School Readiness Assessment Tool or other tool was used	<input type="checkbox"/> Yes before developing the introduction plan <input type="checkbox"/> Yes, during the micro planning phase <input type="checkbox"/> No. If yes, what tool: _____

3. TRAINING		
GEN	<p>15. Please describe staff training for the HPV vaccine introduction, if any.</p>	<p>Target audience for the training: (Provide numbers)</p> <p><input type="checkbox"/> Doctors</p> <p><input type="checkbox"/> Nurses</p> <p><input type="checkbox"/> Health Care Workers</p> <p><input type="checkbox"/> School staff (specify): <input type="checkbox"/> Class teacher <input type="checkbox"/> School Head teacher</p> <p><input type="checkbox"/> Other (specify): _____</p> <p>Type of training</p> <p><input type="checkbox"/> Cascade (TOT)</p> <p><input type="checkbox"/> district-by-district</p> <p><input type="checkbox"/> Other (specify)</p> <p>Who conducted the training at each level?</p> <p>Central: _____</p> <p>Provincial: _____</p> <p>District: _____</p> <p>Health facilities: _____</p> <p>School: _____</p> <p>Was training conducted before dose 1? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, how long before launch: _____</p> <p>How long was the training (duration)? _____</p> <p>Was any additional training conducted before dose 2? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Other comments on training: _____</p>
GEN	<p>16. How were the trainings financed?</p>	<p><input type="checkbox"/> Government</p> <p><input type="checkbox"/> Local partners</p> <p><input type="checkbox"/> NGOs</p> <p><input type="checkbox"/> Other</p>

GEN	17. What specific training was given on the administration of the HPV vaccine?	Note: Check all correct answers <input type="checkbox"/> Correct administration (intramuscular, shake well before use) <input type="checkbox"/> Correct technique (intramuscular injection in deltoid region of the upper arm or in the higher anterolateral area of the thigh) <input type="checkbox"/> Introduction to HPV infection and cervical cancer <input type="checkbox"/> HPV vaccine attributes and storage conditions <input type="checkbox"/> HPV vaccine eligibility and contraindications <input type="checkbox"/> HPV vaccine administration <input type="checkbox"/> Recording and monitoring of HPV vaccine doses <input type="checkbox"/> Social mobilization about HPV with key stakeholders <input type="checkbox"/> Dealing with care of adolescent clients <input type="checkbox"/> Identification and reporting of AEFIs <input type="checkbox"/> Other, specify _____ <input type="checkbox"/> Don't know
GEN	18. Do you think there are any ways in which the training could be improved for next time?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, please describe: _____
GEN	19. What educational and reference materials were provided to participants at time of training? Ask for samples.	
4. VACCINE COVERAGE		
Central	20. Were the immunization reporting and recording tools/forms/ developed for HPV vaccine?	<input type="checkbox"/> Yes, forms developed <input type="checkbox"/> Yes, most tools, except (please list) _____ <input type="checkbox"/> No <input type="checkbox"/> Don't know
GEN	21. Is HPV vaccine recorded in a personal vaccination card or school health record?	Personal vaccination card <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know School health record <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
GEN	22. What formula do you use to calculate HPV vaccine coverage? Include the source of the numerator (doses administered) and denominator (target population).	Formula Numerator source: _____ Denominator Source: _____ Correct formula used <input type="checkbox"/> Yes <input type="checkbox"/> No
GEN	23. What is the coverage of the first and second dose of the HPV vaccine?	<i>Note: Please, fill the table below for HPV1 and HPV2 coverage by the two different target groups, and indicate the difference between Dose 1 and Dose 2.</i>

	Target Group	HPV1			HPV2			Difference Between Doses 1-2
		Target Number	Number Vaccinated	Coverage %	Target Number	Number Vaccinated	Coverage %	
		School based (grade)						
	Out of School (Age)							
5. VACCINE DELIVERY								
GEN	24. Is there a process for obtaining informed consent for HPV vaccination?				<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, please describe:			
GEN	25. If yes, are there any problems implementing the informed consent process?				<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, please describe: _____			
GEN	26. Are there any problems implementing the HPV delivery strategies? (Note: For example – out of school girls not being reached; schools/heads refusing vaccination teams; absenteeism on day of vaccination; etc.)				<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, please describe both problems and solutions:			
GEN	27. Are there additional costs to implementing the HPV delivery strategies? (Note: For example, additional per diem and transport costs to go to schools, etc. Ask whether sufficient funding is available for these costs)				<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, please describe and explain how these costs are funded:			
GEN	28. What methods were used to ensure girls return for their next dose(s)?				Please list the methods:			
6. COLD-CHAIN MANAGEMENT								
GEN	29. Did you have to make any changes to the cold chain before introduction of the HPV vaccine. Note: Try to distinguish cold chain expansion/ replacement of equipment that is part of normal cold chain rehabilitation from changes made specifically to accommodate the new vaccine.				<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, describe:			
GEN	30. Were any problems with the cold chain identified after the introduction of the HPV vaccine? If yes, what were the problems and how have the problems been addressed?				<input type="checkbox"/> No problems <input type="checkbox"/> Inadequate space <input type="checkbox"/> Frozen vaccine <input type="checkbox"/> Malfunctioning refrigerators <input type="checkbox"/> Power supply/fuel shortage <input type="checkbox"/> Other (specify): _____			
GEN	31. Do you use freeze watch monitors during vaccine transportation?				<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know			
7. VACCINE MANAGEMENT, TRANSPORT & LOGISTICS								

GEN	32. How do you forecast HPV vaccine requirements?	Describe:
GEN	33. What is the system to order vaccines at your level? Is it different for HPV vaccine? If so, how?	Describe:
GEN	34. Please describe how vaccines are transported to the province/district/health facilities/schools.	Describe:
GEN	35. How often do you distribute vaccines and supplies from your level to the next level?	Describe:
GEN	36. Did the frequency of distribution change with the HPV vaccine demonstration project? If yes, by how much?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, Frequency of distribution before the demonstration project: _____ times/year Frequency of distribution after the demonstration project: _____ times/year Reason for change? _____
GEN	37. Please describe how the transportation of vaccines for outreach sessions has changed with the introduction of the HPV vaccine.	
GEN	38. What effect did the introduction of the HPV vaccine have on dry storage space requirements?	Describe:
GEN	39. What were the costs associated with increased transport or cold-chain requirements?	Please state how many of the following were required: Extra trucks/cars rental or purchase: _____ Extra logistic staff: _____ Extra fuel: _____ Extra cold-chain space: _____ Other costs (specify): _____ No significant cost changes
GEN	40. Who paid for these extra costs?	<input type="checkbox"/> Government <input type="checkbox"/> Local partners <input type="checkbox"/> NGOs <input type="checkbox"/> Other, specify _____ <input type="checkbox"/> N/A
GEN	41. Did you run out of any vaccines, including the HPV vaccine, or vaccine supplies in the past six months?	<input type="checkbox"/> Yes, vaccines (specify) _____ <input type="checkbox"/> Yes, vaccine supplies (specify) _____ <input type="checkbox"/> No If yes, how many weeks _____ If yes, reason for stock out _____
GEN	42. Have you had any expired vaccine in the last six months? If yes, what did you do with the expired stock?	<input type="checkbox"/> Yes, (which vaccine) _____ <input type="checkbox"/> No If yes, action taken _____

GEN	43. Have you had any vaccine with the vaccine vial monitor (VVM) in stage C or D in the last six months? If yes, which vaccine, and what did you do with these vaccines?	<input type="checkbox"/> Yes, (which vaccine) _____ <input type="checkbox"/> No If yes, action taken _____
GEN	44. Are vaccine quantities aligned with injection supplies when distributed (i.e. bundling)? Note: Look at stock records to get this information.	<input type="checkbox"/> Yes <input type="checkbox"/> No Verified by checking stock records <input type="checkbox"/> Yes <input type="checkbox"/> No
8. WASTE MANAGEMENT & INJECTION SAFETY		
GEN	45. Describe the waste-disposal policy/plan at each level.	Describe:
GEN	46. Does each level generally follow these guidelines?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
GEN	47. Did you have to make changes to your waste-disposal system for the introduction of the HPV vaccine?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, explain _____
GEN	48. Did you have to make changes to your injection safety practices for the introduction of the HPV vaccine? If yes, explain.	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, explain _____

9. VACCINE WASTAGE		
GEN	<p>49. What formula is used to calculate HPV vaccine wastage and what is the source of the data.</p> <p>Ask for HPV vaccine wastage report.</p> <p>Vaccine Wastage Formula: $\frac{\text{Doses Consumed} - \text{Doses administered}}{\text{Doses Consumed}}$</p> <p>Include the source of the numerator (doses administered) and denominator (target population).</p>	<p><input type="checkbox"/> Vaccine wastage not calculated</p> <p>Formula: Data source, numerator: _____ Data source, denominator: _____</p> <p>Is provided formula correct? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Source of data: <input type="checkbox"/> Stock books <input type="checkbox"/> Summary sheets <input type="checkbox"/> Other</p>
GEN	<p>50. What is the vaccine wastage rate for HPV vaccine for dose 1? Dose 2?</p>	<p>HPV vaccine wastage rate: Dose 1 ____% Dose 2 ____%?</p>
10. MONITORING AND SUPERVISION		
GEN	<p>51. How often are supervisory visits made to the district/health-facility level?</p>	<p>District level: _____ Health-facility level: _____</p>
GEN	<p>52. Have you or a member of your staff or a partner organization made supervisory visits, to the districts/health facilities since the introduction of the HPV vaccine? If so, how often and by whom?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, how often: _____ By whom: _____ If no, why not? _____ _____</p>
GEN	<p>53. How do supervisors give feedback to sites visited?</p>	<p><input type="checkbox"/> Written <input type="checkbox"/> Supervisory logbook <input type="checkbox"/> Supervisory checklist <input type="checkbox"/> Send site report <input type="checkbox"/> Other (specify) _____</p> <p><input type="checkbox"/> Oral <input type="checkbox"/> Discussion with staff <input type="checkbox"/> Other (specify) _____</p>
GEN	<p>54. What are the main issues that came up at the last two supervisory visits? Are they specifically related to the introduction of the HPV vaccine? How have they been resolved?</p>	<p><u>Describe:</u></p>
GEN	<p>55. Are follow-up visits conducted at sites with inadequate performance and continuing problems?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
DISTRICT and PROVINCE only	<p>56. Have you received a supervisory visit? If yes, when and by whom?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>When: _____ By whom: _____ Ask to see a copy of the visit report.</p>

11. ADVERSE EVENTS FOLLOWING IMMUNIZATION (AEFI)		
GEN	57. Do you have a system and written protocol for monitoring and reporting AEFIs for all vaccines? Please describe the procedure. Ask for a copy of the AEFI protocol and reporting form.	<input type="checkbox"/> Yes <input type="checkbox"/> No If no, why not _____ .
GEN	58. Do you have a crisis plan in place to manage AEFIs? Please describe.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
GEN	59. Did you make any changes to the AEFI protocol specifically for the HPV vaccine?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
GEN	60. Have you had any reported AEFIs for the HPV vaccine or another vaccine since the HPV vaccine was introduced? Note: Verify using AEFI logbook/registry if available.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, How many for the HPV vaccine _____ How many for a traditional vaccine (specify vaccine) _____ What were the AEFIs? _____ How were they handled? _____
12. ADVOCACY, COMMUNICATION & ACCEPTANCE		
GEN	61. Did you have an official launch ceremony at the time the HPV vaccine was introduced? Note: If yes, what did it involve, was it successful, did it get much media coverage, how long before the launch of the HPV vaccine demonstration project did it take place?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If no, why not? _____
GEN	62. Did you use any media outlets to promote the HPV vaccine and inform/educate the community about the vaccine? Note: Please ask for copies of any materials.	Check all that apply: <input type="checkbox"/> Radio <input type="checkbox"/> Television <input type="checkbox"/> Community groups <input type="checkbox"/> Public Announcers <input type="checkbox"/> Celebrities (musician, sportspeople, actors etc) <input type="checkbox"/> Government officials <input type="checkbox"/> Other (specify) Main messages _____
GEN	63. Did you prepare or distribute any health education material for the community on the HPV vaccine? If yes, what were they? Who were the target audiences? When and how were they distributed? Were they translated into local languages? Note: Please ask for copies of any materials.	Check all that apply: <input type="checkbox"/> Posters <input type="checkbox"/> Brochures <input type="checkbox"/> Flyers <input type="checkbox"/> Clothing (t-shirts, hats etc.) <input type="checkbox"/> Other (specify) Target audiences _____ Main messages _____ When and how were they distributed: _____
Central	64. Were these health education materials based on any formative research or field tested?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know

GEN	65. Is there a communication plan to prevent and respond to rumours and to the concerns of anti-vaccination groups?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know Describe:
13. SUSTAINABILITY		
Central	66. Is there a budget line for vaccine purchases in the national budget?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
Central	67. How are traditional EPI vaccines financed? Note: List all sources that pay for the vaccine.	
Central	68. How is the HPV vaccine paid for? Note: List all sources that pay for the vaccine.	
Central	69. Do you plan to introduce any more new vaccines in the future? If yes, which one(s) and when? Note: If they say no, this is an opportunity to mention other new vaccines, such as measles second dose and IPV	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
Province/ District	70. What is the financial or in-kind contribution of the local health authorities or groups to the implementation of HPV vaccine?	Describe:
14. SURVEILLANCE		
GEN	71. Are there population-based cancer registries that are tracking cervical cancer cases?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
GEN	Ask only if response to the previous question was "yes" 72. Who is responsible for maintaining these registries and what population in your country/province/district do they cover?	
15. GENERAL IMPRESSIONS		
GEN	73. How well was the HPV vaccine accepted? If there were any problems, please comment for each group. Note: Was it considered to be a safe and effective, and needed vaccine?	New vaccine well accepted Health-care workers <input type="checkbox"/> Yes <input type="checkbox"/> No Schools/Teachers <input type="checkbox"/> Yes <input type="checkbox"/> No Professional societies <input type="checkbox"/> Yes <input type="checkbox"/> No Community/public <input type="checkbox"/> Yes <input type="checkbox"/> No Parents <input type="checkbox"/> Yes <input type="checkbox"/> No Girls <input type="checkbox"/> Yes <input type="checkbox"/> No Religious groups <input type="checkbox"/> Yes <input type="checkbox"/> No Media <input type="checkbox"/> Yes <input type="checkbox"/> No Elaborate and discuss any problems:

GEN	<p>74. Were there financial implications in implementing the HPV vaccine?</p>	<p>Ask about the financial implications of each of the following:</p> <p>Cold chain <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify: _____</p> <p>Vaccine delivery <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify: _____</p> <p>Vaccine administration <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify: _____</p> <p>Wastage <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify: _____</p> <p>Communication materials/ media <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify: _____</p> <p>Training <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify: _____</p> <p>Transport costs? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify: _____</p> <p>Other costs? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify: _____</p>
GEN	<p>75. What effect has the introduction of the HPV vaccine had on your EPI programme?</p>	<p>Please check one that best describes the introduction:</p> <p><input type="checkbox"/> Improved the EPI programme. Please explain _____</p> <p><input type="checkbox"/> Made the EPI programme worse. Please explain _____</p> <p><input type="checkbox"/> No effect. Please explain _____</p>
	<p>For countries where delivery is done through the school health programme.</p> <p>76. What effect has the introduction of the HPV vaccine had on your school health programme?</p>	<p>Please check one that best describes the introduction:</p> <p><input type="checkbox"/> Improved the school health programme. Please explain: _____</p> <p><input type="checkbox"/> Made the school health programme worse. Please explain _____</p> <p><input type="checkbox"/> No effect. Please explain _____</p>
GEN	<p>77. In your opinion, was the introduction of the HPV vaccine a smooth process or problematic?</p> <p>Please explain.</p>	<p>Please check one that best describes the implementation:</p> <p><input type="checkbox"/> Very smooth. No problems</p> <p><input type="checkbox"/> Generally smooth, minor problems. Please, explain: _____</p> <p><input type="checkbox"/> Somewhat smooth, some major problems. Please, explain _____</p> <p><input type="checkbox"/> Not smooth at all. Major problems Please, explain _____</p>
GEN	<p>78. Many other countries will be introducing the HPV vaccine and other new vaccines soon. What have you learned from this experience, and what advice do you have for other countries to ensure a smooth process?</p>	
16. NOTES AND COMMENTS		
GEN	<p>If you were unable to visit the cold store or dry store area, please mention reason.</p> <p>Record any interesting positive or negative anecdotes or comments by all people interviewed.</p>	

Appendix 2.2 *HPV Post-Introduction Evaluation Questionnaire Ministry of Education and Ministry of Religious Affairs – Central/Provincial/District Levels*

Date of interview: _____

Name of interviewer: _____

This questionnaire was conducted at:

Central level: _____

Provincial level: _____

District Level: _____

Name(s) and title/position(s) of person(s) interviewed (please list all persons that you interviewed):

Name: _____

Title/position: _____

Cell No. _____

Name: _____

Title/position: _____

Cell No. _____

Name: _____

Title/position: _____

Cell No. _____

Contact details of most senior person:

Telephone: _____ E-mail address: _____

Documents to request at beginning of interview or during the desk review:

Document / data	Document received	Document reported to exist but not available at time of interview	Document unavailable	Not Applicable
HPV vaccination ID card(s) or school health record				
Introduction plan for HPV vaccine				
Training materials/reference documents utilized at HPV vaccine training				
HPV vaccination field guide				
Media campaign/social mobilization/education materials (e.g. brochures, posters, pamphlets)				
AEFI protocol/reporting form				
Coverage for dose 1				
Coverage for dose 2				
Latest data on school enrollment for girls relevant grade				

1. BACKGROUND INFORMATION	
1. Date HPV vaccine introduced in schools.	(DD/MM/YYYY) ____ / ____ / ____
2. What was the main role of the Ministry of Education/Religious Affairs in the planning for the introduction of the HPV vaccine? (central/province/district level) <i>Ask about attending partnership and coordination meetings with MOH.</i>	Describe: _____ _____ _____ _____
3. What strategies are in place to vaccinate girls who are not in school? <i>Note: The school may not be aware of this.</i>	<input type="checkbox"/> Facility based <input type="checkbox"/> Community outreach <input type="checkbox"/> Other: _____
4. What is the target group for HPV vaccination?	Target age group: _____ Target grade/class: _____
5. What is the size of target population for HPV vaccination nationwide/province/district?	Number of girls: In school..... Out of School..... Source/Year: _____
6. What disease(s) does the HPV vaccine prevent? Interviewer: Do not mention these diseases to the interviewee. <i>HPV vaccine prevents cervical, vulvar, vaginal and anal cancer (caused by HPV types 16 and 18); genital warts (caused by HPV types 6 and 11) Adjust based on vaccine type chosen by the country</i>	<input type="checkbox"/> All diseases (cervical and other cancers and genital warts) <input type="checkbox"/> Vaccine protects against cancer <input type="checkbox"/> Not able to mention specific diseases

2. PRE-IMPLEMENTATION PLANNING AND VACCINE INTRODUCTION PROCESS	
3. TRAINING (Socialization)	
<p>7. Please describe training (socialization) of school staff for the HPV vaccine introduction, if any, and numbers trained.</p> <p>Do you have any photos, agenda or meeting minutes from socialization activities? _____</p>	<p><input type="checkbox"/> School staff (specify):</p> <p><input type="checkbox"/> Class teacher(s) Number: _____</p> <p><input type="checkbox"/> School Head teacher(s) Number: _____</p> <p><input type="checkbox"/> Other (specify): _____</p> <p>Who conducted the training/socialization? _____</p> <p>Was training/socialization conducted before dose 1?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, how long before dose 1: _____</p> <p>How long was the training? _____</p> <p>Was any additional training conducted before a subsequent dose?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Other comments on training: _____</p> <p>_____</p>
<p>8. What specific training/socialization messages were given?</p>	<p>Note: Check all correct answers</p> <p><input type="checkbox"/> Introduction to HPV infection and cervical cancer</p> <p><input type="checkbox"/> HPV vaccine eligibility (age/grade) and contraindications</p> <p><input type="checkbox"/> Assisting with organizing the school-based sessions</p> <p><input type="checkbox"/> Responding to questions from girls and/or guardians</p> <p><input type="checkbox"/> Social mobilization about HPV with key stakeholders</p> <p><input type="checkbox"/> Dealing with care of adolescent clients</p> <p><input type="checkbox"/> Identification and reporting of AEFIs</p> <p><input type="checkbox"/> Other, specify _____</p> <p><input type="checkbox"/> Don't know</p>
<p>9. Do you think there are any ways in which the training/socialization could be improved for next time?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know</p> <p>If yes, please describe: _____</p>
<p>10. What educational and reference materials were provided to teachers at time of training/socialization? <i>Ask for samples.</i></p>	<p>Describe: _____</p>
4. VACCINE COVERAGE	
<p>11. Is HPV vaccine recorded in a personal vaccination card or school health record?</p>	<p>Personal vaccination card</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know</p> <p>School health record</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know</p>

5. VACCINE DELIVERY	
12. Did the Ministry of Education/Religious Affairs (Province/District/School) play a role in obtaining informed consent for HPV vaccination?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, please describe: _____ _____
13. If yes, are there any problems implementing the informed consent process?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, please describe: _____ _____
14. Are there any problems implementing the HPV delivery strategies? (Note: For example – out of school girls not being reached; schools/heads refusing vaccination teams; absenteeism on day of vaccination; etc)	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, please describe problems: _____ _____ _____ and solutions: _____ _____ _____
15. What methods were used to ensure girls return for the 2 nd dose they need?	Please list the methods: _____ _____ _____
16. Describe what happens with the injection waste materials (e.g. used needles) from the HPV vaccination session.	<input type="checkbox"/> The health care workers take the all used needles and injection materials away with them. <input type="checkbox"/> The used needles and materials are left at the school. <input type="checkbox"/> Don't know <input type="checkbox"/> Other: Explain _____ _____
6. MONITORING AND SUPERVISION	
17. How often are supervisory visits made to the school (district) during vaccination session?	Describe: _____ _____
7. ADVERSE EVENTS FOLLOWING IMMUNIZATION (AEFI)	
18. Have you had any reported AEFIs for the HPV vaccine or another vaccine since the introduction of the HPV vaccine? Note: Verify using AEFI logbook/registry if available.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, how many: _____ What were the AEFIs? _____ How were they handled? _____

8. ADVOCACY, COMMUNICATION & ACCEPTANCE

<p>19. Did you prepare or distribute any health education material on the HPV vaccine?</p> <p>If yes, what were they? Who were the target audiences (e.g. girls or parents)? When and how were they distributed? Were they translated into local languages?</p> <p>Note: Please ask for copies of any materials.</p>	<p>Check all that apply:</p> <p><input type="checkbox"/> Posters</p> <p><input type="checkbox"/> Brochures</p> <p><input type="checkbox"/> Flyers</p> <p><input type="checkbox"/> Clothing (t-shirts, hats etc.)</p> <p><input type="checkbox"/> Other (specify) _____</p> <p>Target audiences _____</p> <p>Main messages _____</p> <p>When and how were they distributed: _____</p>
<p>20. How well was the HPV vaccine accepted? If there were any problems, please comment for each group.</p> <p>Note: Was it considered to be a safe and effective, and needed vaccine?</p>	<p>New vaccine well accepted</p> <p>Health-care workers <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Schools/Teachers <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Professional societies <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Community/public <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Parents <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Girls <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Religious groups <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Media <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Elaborate and discuss any problems: _____</p> <p>_____</p> <p>_____</p>

9. SUSTAINABILITY

<p>21. Were there financial implications in introducing the HPV vaccine?</p>	<p>Ask about the financial implications of each of the following:</p> <p>Costs for the school <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, specify: _____</p> <p>Communication materials/ media <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, specify: _____</p> <p>Training <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, specify: _____</p> <p>Transport costs? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, specify: _____</p> <p>Other costs? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, specify: _____</p> <p>How were these costs covered? Explain: _____</p> <p>_____</p> <p>_____</p>
---	---

10. GENERAL IMPRESSIONS	
<p>22. What effect has the introduction of HPV vaccine had on your school health programme?</p>	<p>Please check one that best describes the introduction:</p> <p><input type="checkbox"/> Improved the school health programme. Please explain _____</p> <p><input type="checkbox"/> Made the school health programme worse. Please explain _____</p> <p><input type="checkbox"/> No effect. Please explain _____</p>
<p>23. In your opinion, was the introduction of the HPV vaccine a smooth process or problematic?</p> <p>Please explain.</p>	<p>Please check one that best describes the introduction:</p> <p><input type="checkbox"/> Very smooth. No problems <input type="checkbox"/> Generally smooth, minor problems. Please, explain _____</p> <p><input type="checkbox"/> Somewhat smooth, some major problems. Please, explain _____</p> <p><input type="checkbox"/> Not smooth at all. Major problems Please, explain _____</p>
<p>24. Many other countries will be introducing the HPV vaccine and other new vaccines soon. What have you learned from this experience, and what advice do you have for schools in other countries to ensure a smooth process?</p>	<p>Describe:</p>
<p>Record any interesting positive or negative anecdotes or comments by all people interviewed.</p>	

Appendix 2.3 *HPV Post-Introduction Evaluation Questionnaire Other Ministry Department or Partner or Other – Central/Provincial/District Levels*

Date of interview: _____

Name of interviewer: _____

Name(s) and title(s) of person(s) interviewed (please list all persons that you interviewed):

Name: _____

Title: _____

Cell No. _____

Name: _____

Title: _____

Cell No. _____

Contact details of most senior person:

Telephone: _____ E-mail address: _____

Documents to request at beginning of interview or during the desk review:

Document / data	Document received	Document reported to exist but not available at time of interview	Document unavailable	Not Applicable
Media campaign/social mobilization/education materials (e.g. brochures, posters, pamphlets)				
Training materials/reference documents utilized at HPV vaccine training				
HPV vaccination field guide				

1. BACKGROUND INFORMATION	
1. Date HPV vaccine introduced in the country.	(DD/MM/YYYY) ____ / ____ / ____
2. What was the main role of your department/agency in the introduction of the HPV vaccine?	Describe: _____ _____ _____ _____ _____ _____ _____ _____ _____
2. PRE-IMPLEMENTATION PLANNING AND VACCINE INTRODUCTION PROCESS	
3. Please provide any comments on the initial decision-making process and pre-implementation planning for the introduction of the HPV vaccine, and the role of your department/agency in this.	Describe: _____ _____ _____ _____ _____ _____ _____ _____ _____
4. Were there any problems with this process?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know Describe: _____ _____ _____
3. MONITORING AND SUPERVISION	
5. Do you make any supervisory visits during the introduction of the HPV vaccine?	Describe: _____ _____ _____ _____ _____

4. ADVERSE EVENTS FOLLOWING IMMUNIZATION (AEFI)	
6. Have there been any reported AEFIs for the HPV vaccine (or another vaccine) that you have had to respond to in any way?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, please describe the AEFIs and the community's concerns: _____
	How did you respond?

5. ADVOCACY, COMMUNICATION & ACCEPTANCE	
7. How well was the HPV vaccine accepted? If there were any problems, please comment for each group. Note: Was it considered to be a safe and effective, and needed vaccine?	New vaccine well accepted Health-care workers <input type="checkbox"/> Yes <input type="checkbox"/> No Schools/Teachers <input type="checkbox"/> Yes <input type="checkbox"/> No Professional societies <input type="checkbox"/> Yes <input type="checkbox"/> No Community/public <input type="checkbox"/> Yes <input type="checkbox"/> No Parents <input type="checkbox"/> Yes <input type="checkbox"/> No Girls <input type="checkbox"/> Yes <input type="checkbox"/> No Religious groups <input type="checkbox"/> Yes <input type="checkbox"/> No Media <input type="checkbox"/> Yes <input type="checkbox"/> No Elaborate and discuss any problems or other key issues: _____

6. SUSTAINABILITY	
8. What were the costs to your department/agency for the introduction of the HPV vaccine?	<p>Describe: _____</p> <p>_____</p> <p>_____</p> <p>_____</p>
7. GENERAL IMPRESSIONS	
<p>9. In your opinion, was the introduction of the HPV vaccine a smooth process or problematic?</p> <p>Please explain.</p>	<p>Please check one that best describes the implementation:</p> <p><input type="checkbox"/> Very smooth. No problems</p> <p><input type="checkbox"/> Generally smooth, minor problems.</p> <p>Please, explain _____</p> <p><input type="checkbox"/> Somewhat smooth, some major problems.</p> <p>Please, explain _____</p> <p><input type="checkbox"/> Not smooth at all. Major problems</p> <p>Please, explain _____</p>
10. Other countries will be introducing the HPV vaccine soon. What have you learned from this experience, and what advice do you have for them to ensure a smooth process?	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>Record any interesting positive or negative anecdotes or comments by all people interviewed.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	

Appendix 2.4 HPV Post-Introduction Evaluation Questionnaire Observation of Vaccine Storage Area – All Levels

Date of interview: _____

Name of observer: _____

This observation was conducted at:

Central: _____

Province: _____

District: _____

Name of Health Facility: _____

Name(s) and title(s) of person(s) interviewed (please list all persons that you interviewed):

Person responsible for vaccination (or their deputy) should be interviewed

Name: _____

Title: _____

Cell No. _____

Name: _____

Title: _____

Cell No. _____

Contact details of most senior person:

Telephone: _____

E-mail address: _____

OBSERVATION OF VACCINE STORAGE AREA AT THE CENTRAL/ PROVINCIAL / DISTRICT/HF LEVELS		
1.	Are all cold rooms freezers and refrigerators clean and functioning properly?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.	Does the fridge have a fixed external thermometer?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Some Are the thermometers working? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Some
3.	Are there thermometers <u>inside</u> the freezers and refrigerators?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Some Are the thermometers working? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Some
4.	Is the temperature inside the refrigerators currently between +2° and +8° C?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Some
5.	Is there a temperature monitoring chart for each of the freezers/cold room and refrigerators?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Some If yes, has temperature consistently been between +2° and +8° C for refrigerators in the last two months? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Some
6.	How often are temperatures recorded?	<input type="checkbox"/> Twice daily <input type="checkbox"/> Daily <input type="checkbox"/> No records <input type="checkbox"/> Other (specify)
7.	Are temperatures monitored and recorded on weekends and holidays? Note: Check specifically for date of last public holiday	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sometimes
8.	Are all vaccines arranged as "First expiry, First out"?	<input type="checkbox"/> Yes <input type="checkbox"/> No. If no, why not? _____ <input type="checkbox"/> Not applicable. Why? _____
9.	Did you observe any expired vaccines?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, which vaccine, and how many?
	For vaccines with a VVM	<input type="checkbox"/> Yes, all vaccines usable <input type="checkbox"/> No, some vaccines stage C or D (unusable) specify vaccine and proportion unusable: _____
10.	Did the VVMs that you observed indicate that vaccine is usable, i.e. stage A or B	★ Key Finding: Vaccines with VVM stage C or D?
11.	Are vaccines with VVM in stage B arranged so that they are used first?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable, no stage B
12.	Are there spaces between the vaccine boxes/trays to allow air circulation?	<input type="checkbox"/> Yes <input type="checkbox"/> No

	13. Is injection equipment stored in good condition? Needles, safety box, etc.	Adequate space <input type="checkbox"/> Yes <input type="checkbox"/> No Clean and dry conditions <input type="checkbox"/> Yes <input type="checkbox"/> No Well organized <input type="checkbox"/> Yes <input type="checkbox"/> No (i.e. easily accessible) <input type="checkbox"/> Other observation (specify)
	14. Are all cold box/ vaccine carriers clean and properly functioning?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Some
18.NOTES AND COMMENTS		
	If you were unable to visit the cold store or dry store area, please mention reason. Record any interesting positive or negative anecdotes or comments by immunization staff. Please provide additional photographs.	

Appendix 2.5 HPV Post-Introduction Evaluation Questionnaire — Health Facility Level

Date of interview: _____ Name of interviewer: _____

This observation was conducted at:

Province: _____

District: _____

Name of Health Facility: _____

Name(s) and title(s) of person(s) interviewed (please list all persons that you interviewed):

Person responsible for vaccination should be interviewed.

Name: _____

Title: _____

Cell No. _____

Name: _____

Title: _____

Cell No. _____

Contact details of most senior person:

Telephone: _____

E-mail address: _____

★ Denotes suggested Key Findings.

Documents to request at beginning of interview or during the desk review: (check appropriate boxes)

Document / data	Document received	Document reported to exist but not available at time of interview	Document unavailable
HPV vaccination ID card			
Introduction plan for HPV vaccine			
Training materials/reference documents utilized in HPV vaccine training			
HPV vaccination field guide			
Media campaign/social mobilization/education materials (e.g. brochures, posters, pamphlets, etc.)			
Vaccine stock records			
Site visit reports			
Vaccine wastage reports			
AEFI protocol/reporting form			
Vaccine stock books, HPV vaccination register HPV vaccination summary sheets for schools HPV vaccination summary sheets for out of school adolescent girls Health facility HPV vaccination report form			
Coverage for dose 1 (can be by school)			
Coverage for dose 2 (can be by school)			
Latest Health facility data on school enrollment for girls relevant grade/class i.e. target population for HPV vaccination			

1. PRE-IMPLEMENTATION PLANNING		
GEN	1. Were you (interviewee) working at this health facility at the time the HPV vaccine was introduced?	<input type="checkbox"/> Yes <input type="checkbox"/> No Interviewer: If “No”, try to get a staff member who was present when the HPV vaccine was introduced to participate. If not, continue with the interview although it may not be possible to answer all questions.
	2. When and how did you identify the schools in your catchment area to receive the HPV vaccine?	(DD/MM/YYYY) ____ / ____ / ____ Explain how _____ <input type="checkbox"/> Don't know
	3. When and how did you identify the number of girls in the selected grade/class in each school to receive the HPV vaccine? <i>NOTE: when adapting the questionnaire, identify eligible grade or class in line with national strategy.</i>	(DD/MM/YYYY) ____ / ____ / ____ Explain how _____ <input type="checkbox"/> Don't know
	4. When and how did you identify and enumerate the eligible out of school girls in your catchment area to receive the HPV vaccine? <i>NOTE: when adapting the questionnaire, identify age eligibility in line with national strategy (11-13 year old girls).</i>	(DD/MM/YYYY) ____ / ____ / ____ Explain how _____ <input type="checkbox"/> Don't know
GEN	5. When did you start administering the HPV vaccine to girls?	(DD/MM/YYYY) ____ / ____ / ____ <input type="checkbox"/> Don't know
2. TRAINING		
GEN	6. Please describe health-facility staff training for the HPV vaccine introduction, if any.	Were you yourself trained? <input type="checkbox"/> Yes <input type="checkbox"/> No In total, how many people and which staff categories from this health facility were trained? _____ How many of them are still working at this health facility? _____ How long was the training for health facility staff? _____ Did the person from this health facility who was trained, train others in the health facility? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know Was training conducted before dose 1 of HPV vaccine? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, how long before? _____ Was training conducted before dose 2 of HPV vaccine? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, how long before? _____ Who conducted the training for health-facility staff? _____

GEN	7. What specific training did you receive on the administration of the HPV vaccine?	Check all mentioned <input type="checkbox"/> Correct administration (intramuscular, shake well before use) <input type="checkbox"/> Correct technique (intramuscular injection in deltoid region of the upper arm or in the higher anterolateral area of the thigh) <input type="checkbox"/> Introduction to HPV infection and cervical cancer <input type="checkbox"/> HPV vaccine attributes and storage conditions <input type="checkbox"/> HPV vaccine eligibility and contraindications <input type="checkbox"/> HPV vaccine administration <input type="checkbox"/> Microplanning <input type="checkbox"/> Recording and monitoring of HPV vaccine doses <input type="checkbox"/> Social mobilization about HPV with key stakeholders <input type="checkbox"/> Dealing with care of adolescent patients
GEN	8. Do you think there are any ways in which the training could be improved for next time?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, please describe _____
GEN	9. Are HPV vaccine field guide, training slides materials from the training available? Ask to see samples.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know ★ Key Finding: Guidelines/training materials provided?
GEN	10. Overall, were you satisfied with the training provided?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know Explain: _____ ★ Key Finding: Satisfaction with training?
3. VACCINE COVERAGE		
GEN	11. Is HPV vaccine recorded in a personal vaccination card?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
GEN	12. What is the target age group and/or target grade or class for HPV vaccination?	Target age group: _____ Target grade or class: _____ Target age of out of school _____
GEN	13. What is the size of the target population for HPV vaccination in this health facility? What is the source of this figure?	Number of girls: In grade/class Out of School..... Source/Year: _____
GEN	14. What formula do you use to calculate vaccine coverage? Include the source of the numerator (doses administered) and denominator (target population).	Formula Numerator source _____ Denominator source _____ Correct formula used <input type="checkbox"/> Yes <input type="checkbox"/> No

GEN	15. What is the coverage of the first and second dose of the HPV vaccine?	<i>Note: Please, fill the table below for HPV1 and HPV2 coverage by the two different target groups, and indicate the difference between Dose 1 and Dose 2.</i>																														
	<table border="1"> <thead> <tr> <th rowspan="2">Target Group</th> <th colspan="3">HPV1</th> <th colspan="3">HPV2</th> <th rowspan="2">Difference Between Doses 1-2</th> </tr> <tr> <th>Target Number</th> <th>Number Vaccinated</th> <th>Coverage %</th> <th>Target Number</th> <th>Number Vaccinated</th> <th>Coverage %</th> </tr> </thead> <tbody> <tr> <td>Grade 5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Out of School girls</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Target Group	HPV1			HPV2			Difference Between Doses 1-2	Target Number	Number Vaccinated	Coverage %	Target Number	Number Vaccinated	Coverage %	Grade 5								Out of School girls								
Target Group	HPV1			HPV2			Difference Between Doses 1-2																									
	Target Number	Number Vaccinated	Coverage %	Target Number	Number Vaccinated	Coverage %																										
Grade 5																																
Out of School girls																																
GEN	16. Have you had any problems calculating HPV coverage with the target population, as it is defined?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, please describe _____ ★ Key Finding: Problems with calculation of the target population?																														
GEN	17. How often do you report HPV immunization data to the district? Ask to see a report.	<input type="checkbox"/> After administration of each dose <input type="checkbox"/> After all doses have been administered <input type="checkbox"/> After mop up <input type="checkbox"/> Don't know <input type="checkbox"/> Other, Specify _____																														
GEN	18. Are immunization reporting and recording tools and forms for HPV vaccine available?	<input type="checkbox"/> Yes, all forms developed <input type="checkbox"/> Yes, most tools, except (please list) _____ <input type="checkbox"/> No <input type="checkbox"/> Don't know																														
	19. How many outreach sites do you have for HPV vaccine delivery?	Number of sites _____ <input type="checkbox"/> Outreach not performed																														
	20. Are outreach data collected separately?	<input type="checkbox"/> Yes <input type="checkbox"/> No																														
	21. Has the introduction of HPV vaccine had any impact on delivery of outreach immunization services?	<input type="checkbox"/> No changes required <input type="checkbox"/> More vaccine carriers required <input type="checkbox"/> Increased number of outreach sessions <input type="checkbox"/> Other changes (specify) _____																														
4. VACCINE DELIVERY																																
GEN	22. What process do you follow for obtaining informed consent for HPV vaccination?	<input type="checkbox"/> There is no requirement for consent <input type="checkbox"/> Consent required from parents (form) <input type="checkbox"/> Consent from girl required <input type="checkbox"/> Implied consent, unless girl/parents indicate they do not want the HPV vaccination <input type="checkbox"/> Don't know																														

GEN	23. Are there any problems implementing the consent process?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, please describe: _____
GEN	24. Are there any problems implementing the HPV delivery strategies? Note: For example – out of school girls not being reached; schools/heads refusing vaccination teams; absenteeism on day of vaccination	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, please describe both problems and solutions:
GEN	25. What methods were used to ensure girls return for their subsequent dose(s)?	Please list the methods:
	26. Did you have girls outside target group wanting to be vaccinated? Note: For in school: outside the grade/class; For out of school older or younger than 9 yrs	<input type="checkbox"/> Yes <input type="checkbox"/> No What did you do and say to them? _____
5. COLD-CHAIN MANAGEMENT		
GEN	27. What are you using for cold storage in this health facility?	Check all that apply <input type="checkbox"/> Cold storage box <input type="checkbox"/> Vaccine carrier <input type="checkbox"/> Refrigerator, kerosene <input type="checkbox"/> Refrigerator, electricity <input type="checkbox"/> Refrigerator, solar <input type="checkbox"/> Refrigerator, mixed power source <input type="checkbox"/> Other (specify) _____
GEN	28. The last time there was an interruption in your power supply, what did you do?	Explain _____
GEN	29. Did you have to make any changes to the cold chain before introducing the HPV vaccine? Note: Try to distinguish cold-chain expansion/replacement of equipment that is part of normal cold-chain rehabilitation from changes specifically for the new vaccine.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, describe:
GEN	30. Were any problems with the cold chain identified after the introduction of the HPV vaccine? If yes, what were the problems and how have the problems been addressed?	<input type="checkbox"/> No problems <input type="checkbox"/> Inadequate space <input type="checkbox"/> Frozen vaccine <input type="checkbox"/> Malfunctioning refrigerators <input type="checkbox"/> Power supply/fuel shortage <input type="checkbox"/> Other (specify) <input type="checkbox"/> How resolved? _____ ★ Key Finding: Percentage health facilities observed or reported problems with the cold chain
6. VACCINE MANAGEMENT, TRANSPORT & LOGISTICS		
FIXED	31. How do you forecast HPV vaccine requirements?	Describe: _____

GEN	32. Please describe how HPV vaccines are ordered and delivered to the health facility.	Who orders? _____ How often are vaccines delivered? _____ Any problems with this? _____
	33. Did the frequency of distribution change with the introduction of the HPV vaccine? If yes, by how much?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, Frequency of distribution before introduction of the HPV vaccine _____ times/year Frequency of distribution after introduction of the HPV vaccine _____ times/year Reason for change? _____
	34. What effect did the HPV vaccine have on dry storage space requirements?	Describe: _____
	35. What were the costs associated with increased transport or cold-chain requirements?	Please state how many of the following were required: Extra trucks/cars rental or purchase: Extra logistic staff: Extra fuel: Extra cold-chain space: Other costs (specify)
	36. Who paid for these extra costs?	<input type="checkbox"/> Government <input type="checkbox"/> Local partners <input type="checkbox"/> NGOs <input type="checkbox"/> Other
GEN	37. Did you run out of any vaccines, including the HPV vaccine, or vaccine supplies in the past six months?	<input type="checkbox"/> Yes, vaccines (specify) _____ <input type="checkbox"/> Yes, vaccine supplies (specify) _____ <input type="checkbox"/> No If yes, how many weeks _____ If yes, reason for stock out _____
GEN	38. Have you had any expired vaccine in the last six months? If yes, which vaccine, and what did you do with the expired stock?	<input type="checkbox"/> Yes (which vaccine) _____ <input type="checkbox"/> No If yes, action taken? _____
GEN	39. Have you had any vaccine with the vaccine vial monitor VVM in stage C or D in the last six months? If yes, which vaccine, and what did you do with these vaccines?	<input type="checkbox"/> Yes (which vaccine) _____ <input type="checkbox"/> No If yes, action taken? _____
GEN	40. Did you run out of any vaccines, including the HPV vaccine, or vaccine supplies in the past six months?	<input type="checkbox"/> Yes, vaccines (specify) _____ <input type="checkbox"/> Yes, vaccine supplies (specify) _____ <input type="checkbox"/> No If yes, how many weeks? _____ If yes, reason for stock out _____ ★ Key Finding: Percentage of health facilities reporting vaccine or supply stock out in last six months

GEN	41. Are vaccine quantities aligned with injection supplies when distributed (i.e. bundling)? Note: Look at stock records to get this information.	<input type="checkbox"/> Yes <input type="checkbox"/> No Verified by checking stock records <input type="checkbox"/> Yes <input type="checkbox"/> No
7. WASTE MANAGEMENT AND INJECTION SAFETY		
GEN	42. Did you have to make changes to your waste-management system for the introduction of the HPV vaccine?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, explain _____
GEN	43. Have you experienced any problems with your waste-management system? Observe waste disposal site. Record findings in Annex 2.6 Section 3.	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, explain _____
GEN	44. Did you have to make changes to your injection safety practices for the introduction of the HPV vaccine? If yes, explain.	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, explain _____
8. VACCINE WASTAGE		
GEN	45. What formula is used to calculate vaccine wastage and what is the source of the data? Ask for wastage report. Vaccine Wastage Formula: <i>Doses Consumed - Doses administered</i> <i>Doses Consumed</i> Include the source of the numerator (doses administered) and denominator (target population).	<input type="checkbox"/> Vaccine wastage not calculated Formula: Data source, numerator _____ Data source, denominator _____ Is formula provided correct? <input type="checkbox"/> Yes <input type="checkbox"/> No Source of data: <input type="checkbox"/> stock books <input type="checkbox"/> summary sheets <input type="checkbox"/> Other ★ Key Finding: Wastage report on site? <input type="checkbox"/> Yes <input type="checkbox"/> No
GEN	46. What is the vaccine wastage rate of the HPV vaccine for dose 1? Dose 2?	HPV vaccine wastage rate: Dose 1 _____% Dose 2 _____%
9. MONITORING AND SUPERVISION		
GEN	47. How many times since the introduction of HPV vaccine have you received supervisory visit from district or provincial level or from a partner agency? Was the visit documented? Ask to see the supervisory book, copy of last report.	Number of visits _____ Is there a written report of the visit? <input type="checkbox"/> Yes <input type="checkbox"/> No ★ Key Finding: At least one documented visit since the introduction of HPV vaccine?
GEN	48. If yes, who visited, and what were the problems identified? Are they specifically related to introduction of the HPV vaccine? How have they been resolved?	Who visited? _____ (job title) Problems identified _____ Solutions _____

10. ADVERSE EVENTS FOLLOWING IMMUNIZATION (AEFI)		
GEN	49. Do you have a system and written protocol for monitoring and reporting AEFIs for all vaccines? Please describe the procedure. Ask for a copy of the AEFI protocol and reporting form.	<input type="checkbox"/> Yes <input type="checkbox"/> No If no, why not? _____ ★ Key Finding: AEFI system/protocol in place?
GEN	50. Do you have a crisis plan in place to manage AEFIs? Please describe.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
GEN	51. Were you informed of any changes to the national AEFI protocol specifically for the HPV vaccine?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
GEN	52. Have you reported any AEFIs for the HPV vaccine or another vaccine since the HPV vaccine was introduced? Note: Verify using AEFI log book/registry, if one.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes: How many for the new vaccine? _____ How many for a traditional vaccine? (specify vaccine) _____ _____ What were the AEFIs? _____ How were they handled? _____
11. ADVOCACY, COMMUNICATION & ACCEPTANCE		
GEN	53. Did you have an official launch ceremony at the health facility at the time the HPV vaccine was introduced? Note: What did it involve, was it successful, did it get much media coverage, how long before the introduction of the HPV vaccine did it take place?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, describe _____
GEN	54. Did you provide any health education messages or materials to the community about the HPV vaccine at the time of introduction? Ask to see copies of materials.	Check all that apply <input type="checkbox"/> None provided <input type="checkbox"/> Posters <input type="checkbox"/> Brochures <input type="checkbox"/> Health education sessions <input type="checkbox"/> Public meetings <input type="checkbox"/> Other (specify) _____
GEN	55. Did you experience any resistance from the community regarding the HPV vaccine?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, from who in particular? _____ How many girls were in this group of people who expressed resistance? _____ How many girls were finally vaccinated? _____ ★ Key Finding: Percentage of Health Facilities indicating resistance to the HPV vaccine?
GEN	56. Were there rumours affecting HPV vaccination that you needed to address?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, describe the rumours? _____ _____

GEN	57. Is there a communication plan to prevent and respond to rumours and to the concerns of anti-vaccination groups?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, describe _____ _____
GEN	58. Do you remember any media focus on the introduction of the HPV vaccine (e.g. on radio, television or newspapers)	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe _____
12. HEALTH-CARE WORKER KNOWLEDGE		
GEN	59. What is the immunization schedule for the HPV vaccine?	Schedule: Dose 1 _____ Dose 2 _____
GEN	60. Please explain the correct way to administer the HPV vaccine.	Check all mentioned <input type="checkbox"/> Correct administration (intramuscular, shake well before use) <input type="checkbox"/> Correct technique (intramuscular injection in deltoid region of the upper arm or in the higher anterolateral area of the thigh) <input type="checkbox"/> Other, specify _____ <input type="checkbox"/> Don't know
GEN	61. Have you or other staff experienced any problems with administering HPV vaccine?	Record any problems mentioned
GEN	62. What disease(s) does the HPV vaccine prevent? Interviewer: Do not mention these diseases to the interviewee. <i>HPV vaccine prevents cervical, vulvar, vaginal and anal cancer (caused by HPV types 16 and 18); genital warts (caused by HPV types 6 and 11) Adjust based on vaccine type chosen by the country</i>	<input type="checkbox"/> All diseases (cervical and other cancers and genital warts) <input type="checkbox"/> Vaccine protects against cancer <input type="checkbox"/> Not able to mention specific diseases ★ Key Finding: Percentage HCWs who knew what diseases the HPV vaccine prevents? <input type="checkbox"/> Yes <input type="checkbox"/> No

GEN	63. What information do you provide to girls (and their parents if accompanied) before and after vaccination with the HPV vaccine?	<p>Check if mentioned — don't prompt but can tell afterwards</p> <p><input type="checkbox"/> Name of the vaccine</p> <p><input type="checkbox"/> Diseases it protects against</p> <p><input type="checkbox"/> Benefits to the girl</p> <p><input type="checkbox"/> Vaccine schedule/when to return</p> <p><input type="checkbox"/> Normal side effects</p> <p><input type="checkbox"/> What side effects they should return for</p> <p><input type="checkbox"/> Bring vaccination card to next visit</p> <p><input type="checkbox"/> Other health messages – related to cervical cancer prevention (specify)</p> <p>Two or more mentioned? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>★ Key Finding: Percentage HCWs providing two or more accurate pieces of information to girls and/or parents?</p>
GEN	64. Are there any other messages or interventions (including vaccines) to improve the health of adolescents that you provided with the last HPV vaccine?	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, describe _____</p> <p>_____</p>

13. GENERAL IMPRESSIONS		
GEN	65. Were there financial implications for the health facility involved in introducing the HPV vaccine?	<p>Ask about the financial implications of each of the following:</p> <p><input type="checkbox"/> Don't know</p> <p>Cold chain <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify _____</p> <p>Vaccine transport <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify _____</p> <p>Wastage <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify _____</p> <p>Communication materials/media <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify _____</p> <p>Training <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify _____</p> <p>Other costs? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify _____</p>
GEN	66. What effect has the introduction of HPV vaccine had on your EPI programme?	<p>Please check one that best describes the introduction:</p> <p><input type="checkbox"/> Improved the EPI programme. Please explain _____</p> <p><input type="checkbox"/> Made the EPI programme worse. Please explain _____</p> <p><input type="checkbox"/> No effect. Please explain _____</p> <p>★ Key Finding: Percentage sites reporting that new vaccine improved the EPI programme?</p>
GEN	67. What effect has the introduction of HPV vaccine had on your school health programme?	<p>Please check one that best describes the introduction:</p> <p><input type="checkbox"/> Improved the school health programme. Please explain _____</p> <p><input type="checkbox"/> Made the school health programme worse. Please explain _____</p> <p><input type="checkbox"/> No effect. Please explain _____</p>
GEN	68. In your opinion, was the introduction of the HPV vaccine a smooth process or problematic? Please explain.	<p>Please check one that best describes the implementation:</p> <p><input type="checkbox"/> Very smooth. No problems</p> <p><input type="checkbox"/> Generally smooth, minor problems. Please explain _____</p> <p><input type="checkbox"/> Somewhat smooth, some major problems. Please explain _____</p> <p><input type="checkbox"/> Not smooth at all. Major problems. Please explain _____</p> <p>★ Key Finding: Percentage sites reporting a smooth or very smooth introduction</p>
GEN	69. Many other countries will be introducing the HPV vaccine and other new vaccines soon. What have you learned from this experience and what advice do you have for other health facilities to ensure a smooth introduction?	Describe:

Appendix 2.6 *HPV Post-Introduction Evaluation - Observation at Vaccination Session*

Date of interview: _____ Name of interviewer: _____

This observation was conducted at:

Province: _____

District: _____

Name of Health Facility: _____

Name(s) and title(s) of person(s) interviewed (please list all persons that you interviewed):

Person responsible for vaccination should be interviewed.

Name: _____

Title: _____

Cell No. _____

Name: _____

Title: _____

Cell No. _____

Contact details of most senior person:

Telephone: _____

E-mail address: _____

★ Denotes suggested Key Findings.

1. OBSERVATIONS AT VACCINATION SESSION	
<p>1. How well is the site organized?</p> <p><i>Check all that apply.</i></p>	<p><input type="checkbox"/> At least 2 trained health workers on the site?</p> <p><input type="checkbox"/> At least one teacher available?</p> <p><input type="checkbox"/> Is there a waiting area?</p> <p><input type="checkbox"/> Is furniture organized?</p> <p><input type="checkbox"/> Screening area available?</p> <p><input type="checkbox"/> Registration area?</p>
<p>2. Are vaccines stored/handled properly during the session, e.g. clean, organized, vaccine vials outside carrier are in foam pad?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know</p> <p>(N = unsafe practice)</p>
<p>3. Are appropriate administration techniques observed (e.g. HPV intramuscular injection in the deltoid region of the upper arm)?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know</p> <p>(N = unsafe practice)</p>
<p>4. Did health worker observe the girl afterwards for 15-30 minutes after vaccination for any adverse reactions?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>(N = unsafe practice)</p>
<p>5. Are AD syringes used?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>(N = unsafe practice)</p>
<p>6. Are needles recapped (look in safety box for capped needles)?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>(Y = unsafe practice)</p>
<p>7. Are AD syringes disposed of in a safety box?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>(N = unsafe practice)</p>
<p>8. Summary: How many unsafe practices, based on questions above, were observed?</p>	<p>Number of unsafe practices _____</p> <p>★ Key Finding: Percentage of sites with two or more unsafe practices observed</p>
2. HEALTH COMMUNICATION	
<p>9. Are any posters or other literature about the HPV vaccine noted in the school?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>10. What messages did the health worker provide? Give any health messages related to cervical cancer or its risks?</p>	<p><input type="checkbox"/> Health messages related to cervical cancer or its risks?</p> <p><input type="checkbox"/> Health messages related to other health interventions?</p> <p><input type="checkbox"/> Health messages on other health issues?</p> <p><input type="checkbox"/> Other?</p>
3. WASTE DISPOSAL	
<p>11. How are used AD syringes being disposed of?</p> <p>(If not observed, ask how AD syringes are disposed).</p>	<p><input type="checkbox"/> safety box</p> <p><input type="checkbox"/> Open bucket</p> <p><input type="checkbox"/> Other containers, specify</p> <p><input type="checkbox"/> Other safety related observations</p> <p>_____</p>

<p>12. How are used safety boxes disposed of?</p> <p>(If not observed, ask how boxes are disposed – check to ensure that the safety boxes are removed from the school premises).</p> <p>Note: Specify whether box is emptied and reused or destroyed with contents inside.</p>	<p><input type="checkbox"/> Incinerator</p> <p><input type="checkbox"/> Pit-burned</p> <p><input type="checkbox"/> Pit-exposed</p> <p><input type="checkbox"/> Pit-buried</p> <p><input type="checkbox"/> Above-ground area</p> <p><input type="checkbox"/> Box reused</p> <p><input type="checkbox"/> Other observations</p>
<p>13. Were discarded needles and syringes observed on the ground outside the facility?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>14. Is the waste-disposal site fenced?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>★ Key Finding: Percentage of health facilities with clean, closed-off disposal sites</p>
<p>15. Describe any other observations of the disposal site.</p>	
<p align="center">4. NOTES AND COMMENTS</p>	
<p>If you were unable to visit the cold store or dry store area, please mention the reason.</p> <p>Record any interesting positive or negative anecdotes or comments by health-care workers.</p>	

Appendix 2.7 *HPV Post-Introduction Evaluation Questionnaire - Interview with Girls*

Date of interview: _____

Name of interviewer: _____

District: _____

Health Center: _____

Place of vaccination: _____

School: _____

Interview girls who have just received the HPV vaccine. Identify a place with some privacy.

Begin the interview by saying the following:

"I would like to ask you a few questions about the vaccines you have received today. It will take five minutes. The answers you give will help us learn more about how to introduce a new vaccine. Whatever you say will be dealt with in a confidential manner and I will not note down your name. Finally, I want you to know your participation is voluntary: you are not obliged to participate if you don't want to."

1. What is your age? What is your Grade in school? _____	Age of girl <input type="checkbox"/> Age _____ <i>If girl doesn't know her age, crosscheck with vaccination card</i>
2. Do you have your HPV vaccination card with you today? <i>Make sure you see the card.</i>	Use vaccination card to answer the following Card present <input type="checkbox"/> Yes <input type="checkbox"/> No If not, ask for reason: _____ Vaccines received today <input type="checkbox"/> Second dose HPV (if not – get reason, check 1 and 2) <input type="checkbox"/> Other (specify) _____
3. What vaccine(s) did you receive today?	Check one box <input type="checkbox"/> Names HPV vaccine (answer correct) <input type="checkbox"/> Names some vaccine (partially correct) <input type="checkbox"/> Does not know
4. What dose of the HPV vaccine did you come to receive today?	<input type="checkbox"/> First dose <input type="checkbox"/> Second dose <input type="checkbox"/> Does not know
5. Did you talk with your parents about receiving the vaccine?	Talked to parent <input type="checkbox"/> Yes <input type="checkbox"/> No
6. Who decided that you should be vaccinated?	Parent <input type="checkbox"/> Yes <input type="checkbox"/> No Girl <input type="checkbox"/> Yes <input type="checkbox"/> No Other _____
7. What are the benefits of receiving the HPV vaccine?	Check one or more boxes <input type="checkbox"/> Mentions specific health benefit of vaccine (e.g. for HPV vaccine says, "got vaccine to prevent cervical cancer or genital warts") <input type="checkbox"/> Mentions general beneficial effects of vaccines, e.g. "I got vaccines to be healthy" <input type="checkbox"/> Other (specify) _____ ★ Key Finding: Girls aware of the benefits of the HPV vaccine
8. What disease(s) does the HPV vaccine prevent? Correct answers include: Cervical cancer, other cancers (including vaginal, penile, anal and oro-pharyngeal cancers), genital warts.	Check one box <input type="checkbox"/> Answer correct (must include either "cervical cancer" or "cancer" to be considered correct) <input type="checkbox"/> Answer incorrect <input type="checkbox"/> Does not know
9. For the out-of-school girl ask: How did you know that you had to return for the final dose now? Who reminded you?" probe if its Parent/guardian or health worker	Check those that apply <input type="checkbox"/> I was told at my previous vaccination <input type="checkbox"/> The community health worker came to my village/house <input type="checkbox"/> My parent-guardian told me <input type="checkbox"/> Told by a friend Other: _____

<p>10. Did you have any problems when you received the previous dose of the HPV vaccine ?</p> <p><i>Ask for any mild reactions</i></p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Describe: _____</p>
<p>11. Do you have to return for any further HPV injection?</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No, why? _____</p> <p><input type="checkbox"/> Don't know</p>
<p>12. How did you hear about the HPV vaccine?</p> <p>Note: <i>Radio, newspaper, television, health-care worker, friend, teacher, parent, public meeting.</i></p>	<p>List first three mentioned</p> <p><input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____</p> <p>Other _____</p>
<p>13. Apart from HPV vaccine and cervical cancer what else did the health care worker talk about before giving you the vaccine today?</p> <p><i>Ask about other health messages e.g. personal hygiene, prevention of HIV, STIs etc.</i></p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, list first three mentioned</p> <p><input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____</p>
<p>14. Were you satisfied with the services provided?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Explain: _____</p>
<p>15. Is there anything you want to ask about the vaccination?</p> <p>Is there any other comment you want to make about the vaccination, or on how to make it easier for girls like you to get all the doses of the vaccine?</p> <p><i>Record any interesting positive or negative</i></p>	<p>List questions, comments or suggestions</p>

End the interview by thanking the girl for participating and giving her time.

Appendix 2.8 *HPV Post-Introduction Evaluation Questionnaire - interview with teachers*
(ideally teacher assigned for school health programme, if available)

Date of interview: _____

Name of interviewer: _____

Province: _____

District: _____

Health Center: _____

School: _____

Interview teachers in the school where girls have just received the HPV vaccine

Begin the interview by saying the following:

"I would like to ask you a few questions about the HPV vaccination that is taking place in your school. It will take five minutes. The answers you give will help us learn more about how to introduce a new vaccine. Whatever you say will be dealt with in a confidential manner and I will not note down your name. Finally, I want you to know your participation is voluntary: you are not obliged to participate if you don't want to."

Basic information on the teacher	<input type="checkbox"/> Male <input type="checkbox"/> Female
Are you the teacher for the girls who have been vaccinated?	<input type="checkbox"/> Yes <input type="checkbox"/> No
1. TRAINING	
1. Did you receive any training/briefing on the HPV vaccine?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Please describe the training/briefing/socialization that you received for the HPV vaccine introduction, if any?	<p>a. How many teachers from this school were trained? _____</p> <p>b. Who from this school was trained? _____</p> <p>c. How many of the teachers/staff trained are still working at this school? _____</p> <p>d. How long was the training for school staff/teacher? _____</p> <p>e. Did the person from this school who was trained, train others in the school? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know </p> <p>f. Was training conducted before each dose of vaccination? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, how long before? _____ </p> <p>g. Who conducted the training/socialization? _____</p>
3. What key messages did you learn from the training/socialization received on the HPV vaccination?	<p>Check all mentioned</p> <input type="checkbox"/> Diseases vaccine protects against <input type="checkbox"/> Vaccine is safe <input type="checkbox"/> Vaccine is for girls in Grade 5 and 6 <input type="checkbox"/> Each girl needs 2 doses over 12 months <input type="checkbox"/> Potential side effects of the vaccine <input type="checkbox"/> Dealing with rumours on fertility, sexual behaviour <input type="checkbox"/> Reminding girls and parents of next visit <input type="checkbox"/> Reminding girls to bring vaccination card to next visit

4. Did you receive any materials on HPV vaccination?	Leaflets/brochures <input type="checkbox"/> Yes <input type="checkbox"/> No Posters <input type="checkbox"/> Yes <input type="checkbox"/> No Field manual <input type="checkbox"/> Yes <input type="checkbox"/> No Other, Specify _____
5. Overall, in your opinion, did the training/socialization and support materials you received prepare you to answer the questions that girls, parents or other persons from the community asked you?	<input type="checkbox"/> Yes sufficient <input type="checkbox"/> No, insufficient If not sufficient, probe the reasons why _____ ★ Key Finding: Satisfaction with training?
6. Did the District Education Office or District Religious Affairs inform the school to authorize the HPV vaccination to take place in your school?	<input type="checkbox"/> Yes I was informed by my District Education/Religious Affairs Office <input type="checkbox"/> No, I was informed by the health worker <input type="checkbox"/> Not applicable
7. Who did you talk to about the vaccine: Did parents ask you questions about the HPV vaccine? Did girls ask you questions about the HPV vaccine? Did community leaders (or other influential persons in the community) ask you questions	Parents <input type="checkbox"/> Yes <input type="checkbox"/> No Girls <input type="checkbox"/> Yes <input type="checkbox"/> No Community leaders <input type="checkbox"/> Yes <input type="checkbox"/> No Others _____
2. KNOWLEDGE OF TEACHER	
8. What disease(s) does the HPV vaccine prevent? Correct answers include: Cervical cancer, other cancers (including vaginal, penile, anal and oropharyngeal cancers), genital warts.	Check one box <input type="checkbox"/> Answer correct (must include either "cervical cancer" or "cancer" to be considered correct) <input type="checkbox"/> Answer partially correct (e.g mentions genital warts but does not mention cancer) <input type="checkbox"/> Answer incorrect <input type="checkbox"/> Does not know ★ Key Finding: Knowledge of Teacher
9. Were there any girls or parents/guardians of girls who refused/were reluctant to receive the HPV vaccine?	<input type="checkbox"/> No <input type="checkbox"/> Yes, please provide details _____
10. Were there any rumours on HPV vaccine that you had to deal with? Do you have a crisis communication plan for managing rumours? _____	<input type="checkbox"/> No <input type="checkbox"/> Yes, please provide details _____
11. Were there any challenges caused by the fact girls in other grades were not vaccinated?	<input type="checkbox"/> No <input type="checkbox"/> Yes, please give details on what challenge and how you solved this _____
12. Were there any challenges caused by the fact boys were not vaccinated?	<input type="checkbox"/> No <input type="checkbox"/> Yes, please give details on what challenge and how you solved this _____

<p>13. Did the delivery of vaccines in the school affect school activities in any way?</p>	<p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes, please give details on what challenge and how you solved this</p> <hr/>
<p>14. Is there anything you want to ask about the HPV vaccination?</p> <p>Is there any other comment you want to make about the HPV vaccination, or on how to make it easier for girls to get all the doses of the vaccine?</p> <p><i>Record any interesting positive or negative anecdotes or comments by teachers.</i></p>	<p>List questions, comments or suggestions</p>

End the interview by thanking the teacher/staff for participating and giving his/her time.

Appendix 2.9 *HPV Post-Introduction Evaluation Questionnaire - interview with
Community Leaders*

Date of interview: _____

Name of interviewer: _____

Province: _____

District: _____

Health Center: _____

School: _____

ASSESSMENT OF HPV IMMUNISATION SERVICES – Interview with Community Leader		
No.	General information/ Background characteristics	
1.	Date: (DD/MM/YYYY)	_ _ / _ _ / _ _ _ _ _ _ _ _ _ _
2.	District: Sub-district: Health facility: Village:	
3.	Designation or role in the community	1. Traditional leader 2. Religious leader 3. Community health worker 4. Political official (sub-district head) 5. Village head or neighborhood head 6. Other _____
4.	Name of interviewer:	
Training/socialization on HPV vaccine		
5.	Have you heard that a new vaccine called HPV vaccine has been given to girls in your community?	1. Yes 2. No
6.	Have you attended any socialization session about this vaccine?	1. Yes 2. No
7.	Where can eligible girls receive HPV vaccine? <i>Check all that apply</i>	1. At School 2. At the health facility 3. In the community 4. Others Specify _____ 5. I don't know
8.	Have you seen or received any informational materials on HPV vaccination? <i>E.g. brochures, posters, TV or radio spots</i>	1. Yes (What materials were received? _____ _____ _____ _____ Where/whom? _____ _____ _____ 2. No informational material received

Knowledge on HPV Vaccination		
9.	What key messages did you get about the HPV vaccine?	<p><i>Check all that apply</i></p> <ol style="list-style-type: none"> 1. Vaccine protects against cervical cancer 2. Vaccine is safe 3. Vaccine is for girls 9-13 years of age 4. Vaccine is for girls in Grade 5 5. Vaccine is for girls in Grade 6 6. Each girl needs 2 doses, 12 months apart 7. Others _____
10.	What disease(s) does the HPV vaccine prevent? <i>Correct answers include: Cervical cancer, other cancers, genital warts.</i>	<ol style="list-style-type: none"> 1. Answer correct (includes cervical cancer) 2. Answer incorrect 3. Doesn't know
	11. How many doses of HPV vaccine should a girl receive?	<ol style="list-style-type: none"> 1. One dose 2. Two doses 3. I don't know
	12. After how many months should a girl receive the second dose?	<ol style="list-style-type: none"> 1. 6 months 2. 12 months 3. I don't know 4. Other _____
Championing HPV vaccine in the community		
	13. Do you encourage parents in your community to have their girls vaccinated with HPV vaccine?	<ol style="list-style-type: none"> 1. Yes 2. No (Why? _____)
	14. Do you encourage parents in your community to have their children vaccinated with routine vaccines?	<ol style="list-style-type: none"> 1. Yes 2. No (Why? _____)
	15. Overall what would you say is the perception of the HPV vaccine in the community? (include positive and negative, community has many questions/concerns, etc.)	

16.	<p>What suggestions do you have for the government to ensure girls in your community receive the HPV vaccine?</p> <p>Thank you for your time and support.</p>
	<p><i>Observations on the interview</i></p>

Appendix 2.10 *HPV Post-Introduction Evaluation Questionnaire - interview with Caregiver and Parents*

Date of interview: _____

Name of interviewer: _____

Province: _____

District: _____

Health Center: _____

School: _____

ASSESSMENT OF HPV IMMUNISATION SERVICES – Interview with Parent/Caregiver		
No.	General information/ Background characteristics	
1.	Date: (DD/MM/YYYY)	_ / _ / _ _ _ _ _ _ _ _ _ _ _ _
2.	District:	
3.	Relationship to eligible girl	1. Father/Mother of girl(s) 2. Relative (specify _____) 3. Other _____
4.	Name of interviewer:	
Training/socialization on HPV		
5.	Have you heard that a new vaccine called HPV (or vaccine against cervical cancer) given to girls in your community?	1. Yes 2. No → Thank for participation and stop interview.
6.	Where did you hear/learn about HPV vaccination? (circle all that apply)	1. Radio 2. TV 3. Brochure/poster/banner 4. Health worker 5. Cadre (community health worker) 6. School/teacher 7. Girl 8. Community leader 9. Other (specify _____)
7.	Where can girls receive HPV vaccine?	1. At School 2. At the health facility 3. In the community 4. Others (Specify _____) 5. I don't know
8.	What else have you learned about the HPV vaccine? <i>Tick all that apply</i>	1. Vaccine protects against cervical cancer 2. Vaccine is safe 3. Vaccine is for girls 9-13 years of age 4. Vaccine is for girls in Grade 5 or 6 5. Each girl needs 2 doses over 12 months 6. Others (specify) _____
Knowledge on HPV		
9.	What disease(s) does the HPV vaccine prevent?	1. Answer correct (includes cervical cancer)

	<i>Correct answers include: Cervical cancer, other cancers (including vaginal, penile, anal and oropharyngeal cancers), and genital warts.</i>	2. Answer incorrect 3. Doesn't know
10.	How many doses of HPV vaccine should a girl receive?	1. One dose 2. Two doses 4. I don't know
11.	After how many months should a girl receive the second dose?	1. 12 months 2. I don't know
	Perceptions and observations on HPV	
12.	Will you allow your daughter/ relative to receive HPV vaccine?	1. Yes 2. No or not sure (Reason why not? _____)
13.	What is your perception of HPV vaccine? <i>(include any positive feedback, questions, concerns)</i>	Describe:
14.	Do you think other parents in your community will get their daughters vaccinated with HPV vaccine? 1. Yes 2. No (if not, why?) _____	
15.	Do you have suggestions to the government on how to ensure girls get vaccinated including the second vaccine dose?	
	<i>Observation by the interviewer</i>	

Thank you for your collaboration

Annex 3: Team members

International Team Member

No	Names	Organization	Position
1	Dr. Anagha Loharika	CDC Atlanta	Team Leader (Technical)
2	Dr. Julie Garon, M.PH.	CDC Atlanta	Member
3	Dr. Stephanie Shendale	WHO - HQ	Member
4	Charlie Whetham	GAVI	Member
5	Anissa Sidibe	GAVI	Member

National Team Member

No	Names	Organization	Position
1	Hashta Meyta	MOH - EPI	Team Leader
2	Agustina Sarangan, SKM	MOH - EPI	Member
3	Hakimi, SKM, M.Kes	MOH - EPI	Member
4	dr. Sherly Karolina	MOH - EPI	Member
5	Imam Subekti, MPH	GAVI	Member
6	Chandra Rudyanti, MPH	MOH - Health Promotion	Member
7	Dr. Rusipah	WHO - Country Office	Member
8	dr. Fina Tams, MPH	WHO - Country Office	Member
9	Tri Murti Andayani, PhD, Sp.FRS, Apt.	UGM	Principle Investigator
10	Dwi Endarti, PhD, Apt.	UGM	Member
11	Susi Ari Kristina, PhD, Apt.	UGM	Member
12	Didik Setiawan, PhD, Apt.	UGM	Member
13	Dr. Satibi, M.Si, Apt.	UGM	Member
14	M Rifqi Rokhman, M.Sc, Apt	UGM	Member
15	Hardika Aditama, M.Sc, Apt	UGM	Member
16	Dr Verry	PHO DKI Jakarta	Member
17	drg. Etrina Eriawati	PHO DKI Jakarta	Member
18	Iga Vita	PHO DKI Jakarta	Member
19	Holisoh	Central Jakarta (DHO)	Member
20	Cucu	East Jakarta - DHO	Member
21	Widi	PHO Yogyakarta	Member
22	Suyani, SKM	PHO Yogyakarta	Member
23	Tuti, SKM	PHO Yogyakarta	Member

Annex 4: List of persons met

Central and Provincial Level:

1. Ministry of Health
2. Ministry of Education
3. Ministry of Religious Affairs
4. Person responsible for vaccination

District Level

1. District Health Office
2. District Education Office
3. District Religious Affairs
4. Person responsible for vaccination

Health Center Level:

1. Head of Health Center
2. Care givers
3. Person responsible for vaccination
4. Community health worker (Kader)
5. Religious leader

School:

1. Teacher
2. Care givers
3. Girls
4. Parents

Annex 5: Presentation made to the ICC

Post-Introduction Evaluation of HPV Vaccine Programme in Indonesia

October 29th, 2018



Global Burden of Cervical Cancer

- ~570,000 new cases per year
- >311,000 deaths per year
- >85% occur in low- and lower-middle income countries



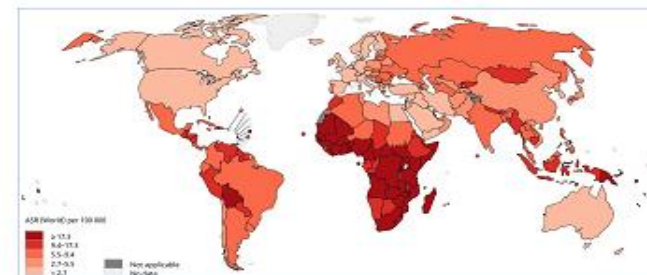
Source: GLOBOCAN, 2018 (IARC)

Estimated Age-standardized Incidence of Cervical Cancer – Worldwide, 2018



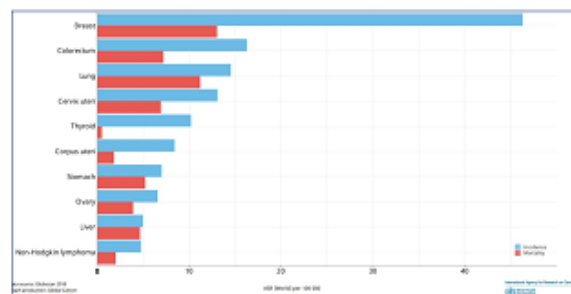
Source: GLOBOCAN, 2018 (IARC)

Estimated Age-standardized Mortality Rate of Cervical Cancer Mortality – Worldwide, 2018



Source: GLOBOCAN, 2018 (IARC)

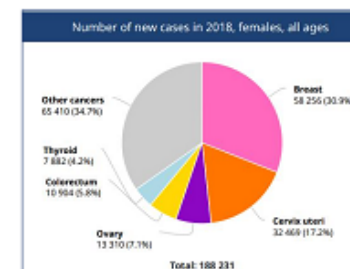
Estimated Age-standardized Incidence and Mortality of Cancers among Females – Worldwide, 2018



Source: GLOBOCAN, 2018 (IARC)

Cervical Cancer Incidence and Mortality, Indonesia

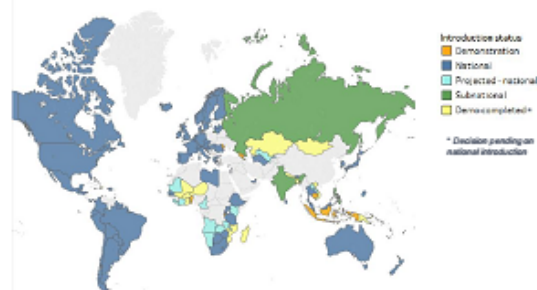
- 2nd most common type of cancer among women
- >32,000 new cases each year
- >18,000 deaths each year



Source: GLOBOCAN, 2018 (IARC)

Global HPV Vaccine Introduction

Year:
2019



Source: ResearchGate, 2019

HPV Vaccination in Indonesia

- HPV vaccine introduction launched:
 - Jakarta Province (all 6 districts) in 2016
 - Yogyakarta (2 districts) and East Java Province (1 district) in 2017
- Quadrivalent (Gardasil) was used
- Target: Girls in Grade 5 for HPV1 and Grade 6 for HPV2
- Delivery strategy: School-based vaccination

Province	Target Class 5 Girls in Year 1	Target Class 5 Girls in Year 2
Jakarta: All districts	71,830	79,053
Yogyakarta: 2 districts	7668	7632
East Java: 1 district	23,145	21,993

Background: Gavi-supported Demonstration Programme

- Indonesia implemented the GAVI-supported HPV vaccine demonstration project in 2 districts in Yogyakarta
- GAVI requirements are to:
 - Conduct a post-introduction (PIE) during administration of second dose in Year 1 to assess feasibility
 - Coverage survey within 6 weeks of second dose
 - Costing evaluation
 - Assessment of other adolescent health interventions

Rationale for the Post-Introduction Evaluation (PIE)

- WHO recommends countries conduct a post-introduction evaluation (PIE) 6-12 months after the introduction of any new vaccine to:
 - identify, document and address any programmatic and logistical difficulties
 - evaluate the incremental costs of introducing the new vaccine
 - document and share lessons learnt to improve planning for introduction of additional vaccines in the future

Rationale for the Post-Introduction Evaluation

- WHO recommends countries conduct a post-introduction evaluation (PIE) 6-12 months after the introduction of any new vaccine to:
 - identify, document and address any programmatic and logistical difficulties
 - evaluate the incremental costs of introducing the new vaccine
 - document and share lessons learnt to improve planning for introduction of additional vaccines in the future
- In October 2018, a team of national and international experts conducted the PIE of HPV vaccine demonstration programme in Indonesia

METHODS

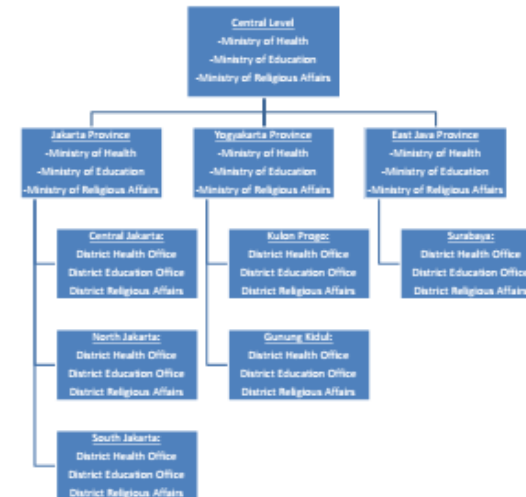
Methodology & Process

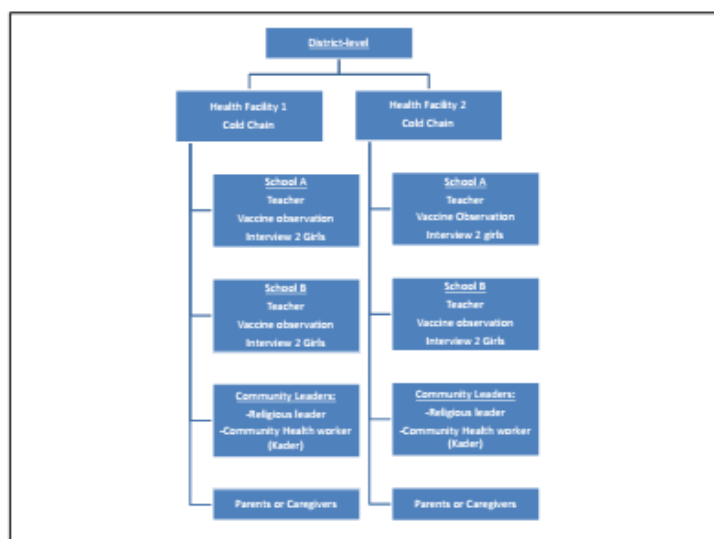
- Standardised protocol to evaluate HPV vaccine introduction, adapted for Indonesia context in consultation with MOH-EPI
- Evaluation at all levels of the health system and include all key stakeholders and sectors
 - National, provincial, district, and health facility levels
 - Health, education, religious affairs, community
- Purposeful sampling to provide a representative sample
 - 6 districts in 3 provinces were selected for the evaluation

Methodology & Process

- Standard questionnaires/ interviews with key stakeholders
 - Officers at all levels of health system
 - Interviews of girls, teachers, community leaders and caregivers
- Observation
 - Vaccination session at schools (wherever vaccination ongoing)
 - Vaccines cold & dry storage
 - Waste management facilities
- Desk review of planning and monitoring documents

Areas and Sectors Reviewed





Standardised Tools for HPV PIE

Appendix 2.2: HPV Post-introduction Evaluation Questionnaire - Ministry of Education - Centre/School/Teacher Levels

Appendix 2.3: HPV Post-introduction Evaluation Questionnaire - Interview with Girls

Appendix 2.4: HPV Post-introduction Evaluation Questionnaire - Observation of Vaccine Storage Area

Appendix 2.5: HPV Post-introduction Evaluation Questionnaire - Interview with Teachers

Appendix 2.6: HPV Post-introduction Evaluation Questionnaire - Interview with Community Health Workers

Appendix 2.7: HPV Post-introduction Evaluation Questionnaire - Interview with Parents/Caregivers

Appendix 2.8: HPV Post-introduction Evaluation Questionnaire - Interview with Religious Leaders

Appendix 2.9: HPV Post-introduction Evaluation Questionnaire - Interview with Kaders

Appendix 2.10: HPV Post-introduction Evaluation Questionnaire - Interview with School Health Promoters

Appendix 2.11: HPV Post-introduction Evaluation Questionnaire - Interview with School Health Promoters

Appendix 2.12: HPV Post-introduction Evaluation Questionnaire - Interview with School Health Promoters

Appendix 2.13: HPV Post-introduction Evaluation Questionnaire - Interview with School Health Promoters

Appendix 2.14: HPV Post-introduction Evaluation Questionnaire - Interview with School Health Promoters

Appendix 2.15: HPV Post-introduction Evaluation Questionnaire - Interview with School Health Promoters

Appendix 2.16: HPV Post-introduction Evaluation Questionnaire - Interview with School Health Promoters

Appendix 2.17: HPV Post-introduction Evaluation Questionnaire - Interview with School Health Promoters

Appendix 2.18: HPV Post-introduction Evaluation Questionnaire - Interview with School Health Promoters

Appendix 2.19: HPV Post-introduction Evaluation Questionnaire - Interview with School Health Promoters

Appendix 2.20: HPV Post-introduction Evaluation Questionnaire - Interview with School Health Promoters

Principle Areas of Evaluation

1. Pre-implementation planning and vaccine introduction
2. Training
3. Vaccine coverage
4. Vaccine delivery
5. Cold-chain management
6. Vaccine management, transport and logistics
7. Vaccine wastage
8. Waste management and injection safety
9. Monitoring and supervision
10. Adverse events following immunization
11. Advocacy, communication and acceptance
12. Sustainability
13. General impressions

Process of the Evaluation

1. Reviewed and adapted tools
2. Field teams conducted site visits
3. Compiled and analyzed collected data
4. Developed recommendations based on findings

FINDINGS

Pre-implementation Planning and Vaccine Introduction Process

Strengths	Needs Improvement
✓ Strong advocacy from all stakeholders and strong partnership between education and health sectors	▪ No existing policy for reaching out of school girls
✓ Strong school health programme, which has existing immunization component (BIAS)	▪ Vaccine procurement delay at national level
✓ Collaboration between MoH and MoRA in many areas; engagement of pediatric and OB/GYN community	▪ Inconsistency in engagement with religious affairs in some levels in some areas
✓ Bottom up microplanning done very well to ensure capturing of all school girls	
✓ Clear policy on target population of class 5 and class 6 girls	
✓ School health vaccination card was adapted to include HPV vaccine and adapted for each health facility	

Pre-implementation Planning and Vaccine Introduction Process

Recommendations

- Revise national policy to include out-of-school girls and clearly define target age for out-of-school girls; collaborate with Ministry of Social Affairs when developing and implementing vaccination for out of school girls
- Engage early with MoRA and high-level religious leaders to ensure commitment, confidence in HPV vaccine, advocacy at the community level and partnership in dispelling rumors
- Ensure timely procurement procedures at national level to ensure vaccine delivery in time for integration with school health vaccinations (BIAS)

Community-level Stakeholders

Stakeholders	Number surveyed
Cold storage rooms	19
Health facilities (health worker interviews)	15
Schools (teacher interviews)	28
Vaccination sessions observed	14
Parents	39
Community leaders	18
Girls	52

Training

Strengths	Needs Improvement
✓ Development of standard training materials at central level and adaptation of materials at district and sub-district levels	▪ Some training materials developed at central level were not disseminated to all levels
✓ Training included all key components: correct vaccine administration/technique, cold storage, AEFI monitoring, HPV vaccine and diseases prevented	▪ Community level stakeholders (teachers, health workers, community leaders) requested additional socialisation to address and respond to rumors in community
✓ Health facility and school staff had good knowledge of disease prevented, HPV vaccine and procedures and were satisfied with training	▪ Some misunderstandings of national policy on vaccination of Class 6 girls who have missed vaccination in Class 5
	▪ Some health workers and teachers had misinformation about initiation of vaccination prior to menstruation

Training

Recommendations
➤ Ensure that all training and IEC materials developed at central level are shared (electronic copy) to districts (school and health departments) in a timely manner so health facilities can adapt, tailor and print sufficient quantities
➤ Increase socialization on addressing and responding to rumors for stakeholders interacting with the community
➤ Re-emphasize national policy to vaccinate all class 6 girls irrespective of receipt of dose 1
➤ Clarify true and false contraindications during refresher training (example: myth to vaccination only after menstruation)
➤ Clarify guidance on reaching girls who missed dose 1

Vaccine Delivery

Strengths	Needs Improvement
✓ Strong partnership between health and education sectors and strong existing school health program (BIAS)	▪ Variation in consent procedures (some followed opt-out procedures similar to routine, while others implemented informed consent)
✓ Safe vaccination procedures observed during vaccination session	▪ Some negative perception around opt-in consent procedures including increased refusal and increased workload
✓ Well-functioning health system infrastructure at all levels and good ownership of immunization program at the district level	▪ Vaccine procurement and delivery delay resulted in vaccination in October, therefore not integrated with routine BIAS requiring additional staff
✓ Clear messaging on target eligibility for grade 5 and grade 6	

Vaccine Delivery

Recommendations
➤ Consider reinforcing the importance of vaccination and informed consent procedures in areas where current process is perceived to be problematic; engage education and religious sectors to determine best approach for specific areas

Dose-specific Province-level HPV Vaccination Coverage, 2016-2018



Vaccine Coverage

Strengths	Needs Improvement
✓ High vaccination coverage reached through school based delivery, through strong existing school health program	▪ Unclear policy for vaccination of girls missed in class 5
✓ Few refusals in school delivery platform	▪ No policy to reach out-of-school girls
✓ Reporting of coverage from health facility level up to district, province and national	▪ Inconsistencies in data quality from health facility to provincial level
✓ Innovative strategies observed to vaccinate missed girls through return school visits, home visits, etc.	▪ In some areas, numerators for vaccinated girls in class 5 became the denominator for class 6, resulting in elevated coverage estimates

Vaccine Coverage

Recommendations

- Clear policy and guidance needed on how to address vaccination for girls who miss dose 1 in class 5
- Disseminate guidance from national policy on how to define target populations to calculate coverage for dose 2 (clarity on determining denominator)
- Policy needed to reach out-of-school girls and target age eligibility

Vaccine management

	Strengths	Needs Improvement
Cold Chain	<ul style="list-style-type: none"> ✓ Functioning cold chain storage units and good cold chain practices at all levels ✓ Limited cold storage units at district level for larger scale vaccination campaigns, so good procedures in place to deliver vaccine to local level quickly and frequently ✓ Adequate cold chain capacity to manage HPV vaccine needs 	▪ None
Vaccine management, transport and logistics	<ul style="list-style-type: none"> ✓ Existing logistics/vaccine transport able to absorb HPV vaccine. ✓ No stock outs, expiring vaccines, or VVM issues. ✓ Clear procedures for vaccine requests from lower level up to next level 	▪ Delayed vaccine procurement
Waste management and injection safety	<ul style="list-style-type: none"> ✓ Waste management system able to accommodate additional vaccine, no problems seen ✓ Safe injection processes 	

Vaccine wastage

Strengths	Needs Improvement
✓ Standard procedures to send unused vaccine to upper levels	▪ Policy to calculate vaccine wastage needs to be utilized at district level, to forecast necessary buffer stock
✓ First in first out procedures followed	

Recommendations

- Consider policy to calculate vaccine wastage for forecasting needed buffer stock

Monitoring and Supervision

Strengths	Needs Improvement
✓ Routine monitoring in health and education sector at all levels approximately 2 times per year (no major concerns identified)	▪ Documentation of supervisory visits inconsistent
✓ Strong school health program in place with oversight from district or sub-district health sector	▪ Standardized tool for supervisory visits at schools not always implemented

Monitoring & Supervision

Recommendations

- Develop and circulate standard tool and guidance for supervisory visits of vaccination sessions
- Consider integrating MoE and MoRA for supervision/monitoring of vaccination sessions to raise awareness and improve collaboration across sectors at all levels

Adverse Events Following Immunization (AEFI)

Strengths	Needs Improvement
✓ Strong national AEFI policy and procedures in place	▪ Some health facilities indicated lack of awareness around AEFI crisis communication policy and procedures
✓ District- and province-level AEFI committees in place and trained	
✓ Good records and AEFI monitoring practices	
✓ AEFI task force present at all levels	
✓ No serious AEFI with HPV vaccine, some serious AEFIs noted with other vaccine and appropriate management followed	
✓ Health care workers reported observation for 30 minutes following vaccination	

Adverse Events Following Immunization (AEFI)

Recommendations

- Consider including AEFI crisis communication procedure in refresher training with health staff
- Reinforce routine AEFI recording/reporting procedures when implementing scale-up in other provinces

Advocacy, Communication & Acceptance

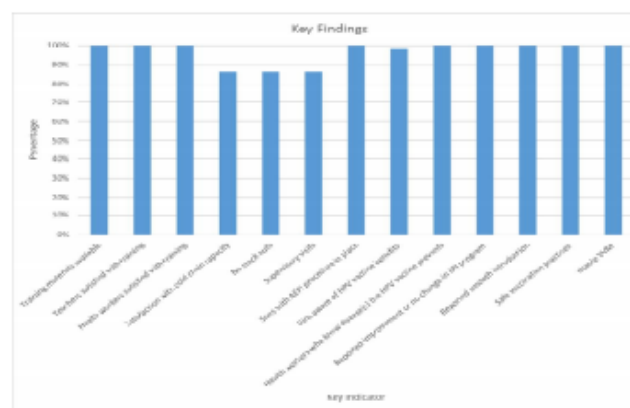
Strengths	Needs Improvement
<ul style="list-style-type: none"> ✓ High acceptance and demand for HPV vaccine among stakeholders across health and education sectors, caregivers and girls 	<ul style="list-style-type: none"> ▪ Inconsistent coordination between health and religious affairs in some areas and at different levels
<ul style="list-style-type: none"> ✓ Good communication and coordination from the provincial health office to health facilities and comprehensive IEC materials 	<ul style="list-style-type: none"> ▪ Rumors include haram vaccine, infertility and early menopause, fear of AEFIs, concern about HPV vaccine being "fake vaccine" <ul style="list-style-type: none"> ▪ 53% (8/15) of Health facilities experienced hesitancy from community
<ul style="list-style-type: none"> ✓ School communication letters and IEC materials sent to parents 	<ul style="list-style-type: none"> ▪ Some IEC materials not distributed to all levels

Advocacy, Communication & Acceptance

Recommendations

- Engage and collaborate with religious affairs and religious leaders in development of key messages and IEC materials
- Increase socialization to key stakeholders (health workers, teachers, private sector, religious leaders) on key messages and how to address and respond to rumors
 - Utilize existing platforms (e.g. school newsletters, PTAs, school annual report)
 - Consider developing short video with girls receiving HPV and disseminate widely
- Ensure clear message about halal certification to avoid misinterpretation to community and messaging that vaccine is not fake
- Ensure sufficient budget for IEC materials at local level
- Encourage cervical cancer screening for women >30 years of age

Key Findings



General Impressions

Strengths

- ✓ HPV vaccine introduction was well accepted by stakeholders, health and education staff, caregivers and girls
- ✓ The HPV vaccination program well implemented and perceived to have improved the immunization and school health program and was perceived to be very smooth
 - ✓ Successful integration of HPV vaccine in existing BIAS programme
- ✓ Coverage was high among target population identified in national policy
- ✓ Good cold chain practices, vaccine management and logistics, injection safety and waste management procedures

General Impressions

Needs Improvement

- Inconsistent engagement with religious leaders and MoRA in some areas at different levels
- Multiple gaps in policy resulting in girls missing vaccination (i.e. no policy for out of school girls, no clear national guidance on "sweeping" procedures, unclear guidance on girls missing dose 1 in class 5/girls receiving dose 1 in class 6)
- Errors noted in data quality at all levels, possibly causing falsely elevated coverage for dose 2
- Insufficient socialization of community leaders, teachers, community health workers to manage and respond to rumors

General Impressions

Recommendations

- Consider revision of national policy to include out-of-school girls and clearly define target age for these girls, in collaboration with Social Affairs
- Clarify policy and guidance on girls missing vaccination in class 5
- Engage religious leaders and MoRA early in planning process and development of key messages to address rumors and questions about halal haram
- Increase socialization of community leaders, teachers, community health workers to manage and respond to rumors
- Reinforce key messages and guidance on enumerating target population and calculating coverage
- Utilize existing platforms to showcase successful HPV introduction experience (e.g. MOH-EPI website, school websites)
- Collaborate with NCD/cancer registry teams (PTM) for broadening vaccination and cervical cancer screening programmes

Sustainability

Recommendations

- Utilize strong demand for HPV and successful demonstration introduction to advocate for political commitment to further scale up
- Define timeline and allocate resources for scale up as part of new cMYP
 - Ensure HPV is included in the roadmap for new vaccine introduction
- Ensure timely vaccine procurement requests so manufacturer can forecast supply needs

**Global vaccine supply shortage may limit vaccine supply availability impacting introduction timelines*

Key Considerations

- Timelines for national scale-up have not been defined, which risks loss of political and financial commitment potentially decreasing demand and slowing momentum
- Potential for significant disruption of vaccination program with increasing rumors, easily and rapidly spread over social media

Next Steps

- Finalization of Action Plan identifying actions, timelines and responsible entities

Appendix 7 – Follow up Action Plan of Recommendations from the HPV Post-Introduction Evaluation

ACTION PLAN FOR FOLLOW UP OF THE RECOMMENDATIONS FROM THE HPV POST-INTRODUCTION EVALUATION

Timeframe	Area of Work	Recommendation/Action	Start Date	End Date	Person(s)/Institution Responsible	Indicator	Comments
Short Term 0-12 months							
Medium Term 14-24 months							
Long Term 25-42 months							
Recommendations for subsequent introductions							

Acknowledgements

- Ministry of Health - EPI
- Ministry of Education
- Ministry of Religious Affairs
- Ministry of Planning
- District Health Offices
- District Education Offices
- District Religious Affairs Offices
- Health Workers
- Head Teachers, school staff and class 5 & 6 girls in schools
- Community leaders and Parents/caregivers
- Partners: WHO, UNICEF, Gavi

Yogyakarta, November 19, 2018

Approved by,
Head of Immunization Sub-Directorate

Chief,
Health Technology Assessment (HTA) and
Pharmacoeconomics Research Center, UGM

dr. Endah Sulastiana S, MARS
NIP. 196409192007102002

Dr. Tri Murti Andayani, Sp.FRS, Apt
NIP. 196902241997022001