



# Lessons Learned: HPV Vaccine Introduction in Madagascar

*March 2016*

Exhibit A-6



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JSI, Research & Training Institute, Inc.  
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# ACRONYMS

ASOS	Actions Socio-Sanitaire-Organisation-Secours
CHW	Community Health Worker
COSAN	Comité de Santé
CRS	Catholic Relief Services
CSB	Centre de Santé de Base
CSO	Civil Society Organization
DHS	Demographic Health Survey
DRSP	Direction Régionale de la Santé Publique
FFKM	Fikambanana'ny Fiagonana Kristiana Madagasikara
Fkt	Fokontany
HPV	Human Papilloma Virus
JSI	John Snow, Inc.
MCHIP	Maternal Child Health Integrated Program
MCHW	Maternal Child Health Week
MI	Médecin Inspector
MEN	Ministère de l'Education Nationale
MoHFW	Ministry of Health and Family Welfare
NGO	Non-Governmental Organization
PIE	Post Introduction Evaluation
SDSP	Service de District de Santé Publique
SLMV	Service de Lutter contre les Maladie liée à la Mode de Vie
UNFPA	United Nations Population Fund
UNICEF	United Nations International Children's Emergency Fund
WHO	World Health Organization
ZAP	Zones Administratives et Pédagogiques

# EXECUTIVE SUMMARY

In 2013 Madagascar began its pilot introduction of the Human Papilloma Virus (HPV) vaccine, using an introduction grant and vaccines supplied by Gavi, the Vaccine Alliance (Gavi). The pilot was carried out in two districts – Toamasina I (urban) and Soaviandriana (rural), over a two-year period. Throughout the first phase of the introduction, the implementing agencies, led by the Ministry of Health and Family Welfare (MoHFW) and the Ministère de l'Éducation Nationale (MEN), followed a collaborative, iterative planning and monitoring process that included coordination through a multi-partner HPV pilot committee, with technical representatives from immunization and infectious diseases, adolescent services, education, and partner organizations. This required new strategies – such as school-based vaccination and enumeration and special outreach services – for the health program, schools, and communities to work together to target an age group not traditionally covered by vaccination services.

The experiences from the pilot identified several challenges in planning and implementation, but also demonstrated the country's ability to overcome bottlenecks and ultimately succeed in reaching Gavi's required coverage target of 50% or higher. One particular challenge included engaging all appropriate stakeholders well in advance in order to garner their support for the introduction. Another bottleneck involved resistance from religious organizations stemming from a combination of misunderstandings about the vaccine and oversight by the planning committee in properly informing and involving church leadership in the planning and implementation process. A third important difficulty involved the heavy resource burden (human, time and financial) required to carry out the original campaign-style strategy.

This report details the lessons learned from the pilot experience and provides recommendations for consideration when designing and implementing HPV introductions that can be applied to future pilots and/or nationwide rollout in Madagascar and other countries. Important factors to keep in mind throughout the introduction process, including during planning and preparation, information dissemination, coordination with partners, capacity building, service delivery, and evaluation include:

**Integration:** Integration with existing platforms for youth/adolescent health and education is essential for maximizing resources and reaching the most members possible of the target population. For girls not in school, it is critical that community programs and organizations are identified which have reach and influence over adolescents in the community. Where there is already health education or other health-related activities in school, these should be leveraged and any health education curriculum should integrate messaging to explain and promote HPV vaccine. It may also be possible to include administration of the vaccine into already programmed school-based health activities, such as de-worming days or annual school-based physicals.

**Understanding new partners:** It is important to understand the organizational structure and lines of approval/authority for new partners, and to respect their protocols and fully engage their leadership. It is also important to engage and link with other organizations like UNFPA and those that support youth and cancer prevention early-on so that they are partners throughout the process.

**Engaging Civil Society Organizations (CSOs):** CSOs and NGOs can play a critical role in the introduction of the HPV vaccine, and should be identified and oriented early on. The SV and MoHFW should keep CSOs/NGOs involved for all immunization activities.

**Community participation:** Influential leaders and community members must be engaged in disseminating information and promoting the vaccine. Their input should be sought when developing strategies for reaching the target population and identifying critical messages and potential road blocks that should be accounted for in order to ensure a successful introduction. Their support for HPV activities will build the community's confidence, and these community members should be enlisted to conduct targeted advocacy in cases where there may be vaccine resistance.

**Considerations for religious organizations:** Communication and messages targeted to religious-affiliated schools should be nuanced and tailored prior to introduction of the vaccine, including advocacy and messaging with the religious authorities and administrative system.

**Clear Communications Strategy:** Communications need to be tailored to the target population – including having materials available in the local language/dialect with images from the community, and disseminated through channels with the widest reach and influence.

**Identifying the target population:** Clear definition of the target population and communication with planners, educators/school administrators, mobilizers and parents/guardians is important to help ensure more accurate population estimates. This can help avoid frustrations by guardians/parents of girls who are not eligible, and to ensure efficient mobilization of the appropriate girls to be vaccinated.

**Advocacy for Sufficient Funding:** Given the cost of the HPV vaccine and different strategies for reaching this non-traditional target population, advocacy and buy-in must be achieved with decision makers at the highest-levels of government so that sufficient funds are planned, approved and allocated. A strong advocacy plan must be developed by the country, with key messages that include comparing the cost of the burden of the disease to the (lessor) cost of prevention via the vaccine. In addition, a scaled approach may be needed to introduce the vaccine so that the burden of introduction costs is spread across years and is more feasibly managed within existing budgets.

**Capacity building:** Comprehensive training of all key players prior to the introduction (in addition to refresher training after each dose to reduce drop-out) is essential. Key stakeholders that should be targeted for training on the introduction strategy and sensitization on the benefits of vaccinating against HPV include health staff down to the lowest level, including health post staff and community health workers; parents' associations; school district leaders; school directors and teachers; community leaders; religious leaders; and local CSOs and NGOs.

**Readiness check:** Before the introduction date, supervision should be conducted to verify that preparations are in place, training has been completed, and materials and funding are available. In some cases, customized approaches may need to be developed to motivate specific school and health leaders, if it is detected that they are not fully invested in the introduction.

# INTRODUCTION

In 2013 Gavi, the Vaccine Alliance (Gavi) initiated grants to countries to carry out a pilot introduction of the HPV vaccine. Madagascar was awarded approximately USD 250,000<sup>1</sup> to carry out a pilot introduction of the bi-valent HPV vaccine, Cervarix, in two districts over the course of two years. The pilot was launched with dose one of the vaccine given in November 2013 to girls in the target populations of one urban district – Toamasina I and one rural district -Soavinandriana. Doses two and three in the first year of the pilot were administered in December 2013/January 2014 and May 2014, respectively. Year two of the pilot began with the first dose of the vaccine administered in November/December 2014, with the second and third doses given in December 2014/January 2015 and May 2015, respectively.

In addition to the funding support for vaccine procurement and introduction activities, the government of Madagascar expressed a need for technical assistance with the planning and introduction of the HPV vaccination pilot (as well as other vaccine introductions and immunization activities). To respond to this need, Gavi awarded JSI Research and Training Institute, Inc. (JSI) - a company with extensive experience and expertise in new vaccine introduction as well as routine immunization system strengthening - a fifteen-month contract beginning in September 2013 to provide technical guidance & support to the MOH/DPEV in the introduction of HPV. This support was intended to provide complementary technical assistance to that of other in-country partners including WHO, UNICEF and UNFPA. In April 2015, the project was extended to continue supporting the government and partners to plan for phase II of the pilot introduction and strategies for eventual scale-up.

The following report provides a detailed summary of the preparations and implementation of the HPV vaccine pilot introduction in Madagascar, as well as the planning for additional HPV vaccine roll-out, highlighting the successes, bottlenecks and lessons learned which can be used to inform the decision making for possible scale-up.

# PLANNING & PREPARATION

For the HPV vaccine pilot co-financed with Gavi, the Ministry of Health and Family Welfare and its partners (e.g. WHO, UNFPA, UNICEF and others), identified two health districts, one urban (Toamasina I), and one rural (Soavinandriana), based on Gavi guidance. A multi-agency planning committee was formed in 2013, led from national level by the Service de Vaccination (SV) and the Service de Lutte Contre les Maladies Liées à la Mode de Vie (SLMV) and including Ministère de l'Éducation Nationale (MEN) colleagues, adolescent health representatives, health and education teams from the two districts and the regional level, as well as donor partners. A joint workplan and timeline were developed in September 2013 for the HPV phase one preparations that also included partner roles and responsibilities (at national level and within the two districts) for each activity. For the second phase of the pilot, these partners continued to collaborate, with further participation also from the Ministry's Direction of Family, Youth and Adolescent as well as the Catholic Diocese.

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<sup>1</sup> For more information see “Côûts de la vaccination contre HPV à Madagascar – Démonstration Project”

## Key Actors

At national level, the HPV pilot committee was well organized, with the MoHFW (notably the SV and SLMV) leading the planning for the introduction, and representation from numerous partners<sup>2</sup>.

In order to ensure continuity and ownership throughout the introduction, HPV committees were also formed and worked effectively in each pilot district to assist with coordination at the lower levels. The committees included representatives from the district health teams, Community Health Committees (COSANs), school administration and community leaders. The objective of the committees was to ensure that the highest possible coverage of the HPV vaccine was reached amongst the target population, by conducting advocacy and supporting preparations for roll-out of the first dose. After the first dose was administered, the district committees, in consultation with the national committee, reviewed the coverage results and identified reasons for any gap in coverage in order to develop strategies to mobilize the community to address these. These committees were only anticipated to be active before and during administration of the first dose of the vaccine; however, due to challenges with vaccine acceptance by the Catholic Church (see below for further information), their role was reprised for the second dose in order to continue advocacy efforts, including encouraging the Church's support.

Representatives from the education sector (including Regional Directors for Education, School Administrative Zones (ZAPs), teachers and school administrators) also played an important role in introduction activities, including identification of girls in the target population (based on school enrollment figures and registers) as well as advocacy and information dissemination to students and parents in order to motivate them to accept the vaccine. They also played a lead role in the mobilization of school girls slated to receive the vaccine, assisting with organization of the HPV session within the schools, in some cases accompanying the girls personally to the nearest school/health center (when the vaccine was not administered directly at their respective school), or by ensuring that arrangements were made for a guardian to accompany the girls.

### Learning on key actors and partners:

- Key community partners were essential for supporting the pilot, including not only the usual immunization partners but also the SLMV (Ministry for Non-Communicable Diseases), the Catholic Congregation, Health Committees and facility levels and adolescent health programs. With “new” partners, it is important to understand their structure and lines of approval/authority from the planning phase, to respect their protocols and fully engage their leadership. It is also important to engage and link with other organizations like UNFPA and those that support youth and cancer prevention early-on so that they are partners throughout the process.
- Having women play an active role in introduction leadership and implementation increases acceptance and helps to provide “approachability” of the vaccination concept.
- Sufficient time should be given to engaging the different partners at all levels in advance, to ensure that they are familiar with the vaccine introduction rationale and prepared to carry-out their respective roles and activities.

<sup>2</sup> Including WHO, UNICEF, DRSP Itasy, SDSP Soavinandriana, DRSP Atsinanana, SDSP Toamasina I, Direction de la lutte contre les Maladie Non transmissible, le SLMV, FNUAP, Service de la Santé des Adolescents, and the Ministère de l'Éducation Nationale, Service de la Santé Scolaire, Ministère de la Population, Service de l'Activité Sociale du Ministère de la Population, Service de la Communication du Ministère de la Santé Publique

## Timelines and Checklists

In year one, scheduling of HPV vaccination was harmonized with the 2013-2014 school calendar. In order to minimize potential loss to follow-up as student's transition to new classes or drop-out between school years, it was agreed that all three doses should be administered during the same school year. Another important consideration was that the final dose should not coincide with school exams (to prevent any potential discomfort or distraction for the girls during exam time). This necessitated that introduction activities be planned well in advance with the school administrators/staff (who were part of the planning committee and development of the timeline/workplan) and that all efforts be made to remain on target with the dates for the vaccination.

*Because MoHFW and MEN work closely together and have established strong communication, it was possible to have school registration data at the beginning of the school year to help with vaccine distribution and planning for the dates for the first dose.*

Maintaining the vaccination schedule within the school year timeframe required careful coordination. One area identified as in need of improvement during

the planning for phase one was in better integrating local civil society organizations (such as the Catholic Diocese, Social Mobilization Service, and adolescent programs) into the planning processes. During year two, a strategy for stronger coordination was put in place and significant improvements were seen in communication, advocacy and involvement of all stakeholders, including with the leaders from the Catholic Church.

The first dose of HPV was administered in the two districts starting on November 18, 2013, with the majority of girls vaccinated either in schools or health facilities within that week (with follow-up on missed girls over the subsequent week, as possible if funding and human resources were available). In order to comply with the HPV vaccination schedule (i.e. second and third doses 1 and 6 months after the first, respectively), administration of the second dose was planned to take place in mid-December, 2013. However, the presidential elections that coincided with the original vaccination schedule led to subsequent challenges with logistics and implementation during that period. In addition, due to several national holidays in December, the districts and coordinating committee agreed to push back the second dose until the week of January 14, 2014. The third dose took place on the week of Wednesday, June 11, 2014, one week before end of year exams. Some parents expressed concern with the vaccine being administered so closely to these exams, but no issues were reported after the third dose was administered.

## Mapping & Identifying Target Population

Unlike the majority of vaccines currently targeted at infants in the routine immunization system in Madagascar, the target population for the HPV vaccine is adolescent girls. Therefore, in order to calculate the size of the target population and create a strategy for reaching the eligible girls, the SV and SLMV coordinated efforts within the MoHFW, and also worked closely with the MEN, as well as local community groups and leaders (e.g. Chiefs Fokontany). After reviewing the most recent Demographic Health Survey (DHS), which reported that in Madagascar girls become sexually active around the age of 13, it was decided during 2012 planning discussions that 10 year old girls would be the target vaccine recipients. The need to reach girls at an age before they would be exposed to the virus (i.e. before they are sexually active) was the primary factor in determining the target population.

Based on a mapping of the various public and private schools in the pilot districts as well as a review of available school records, it was calculated that the majority of eligible girls attending school would be found in the CM2 class, in which girls were primarily between the ages of 9-13. In order to minimize the administrative burden of singling out just the 10 year old girls in each CM2 class, it was agreed that the vaccine would be provided for all girls in this class. For those who were not enrolled in school, it was decided that the vaccine would be administered only to 10-year-old girls and that health professionals would work with community leaders to identify these eligible girls within their communities.

The initial estimate of girls enrolled in school who would receive the vaccine in 2013 was calculated based on a count of the number of girls in CM1 in 2012, but this proved to be inaccurate, due to high levels of drop out of girls enrolled in school between CM1 and CM2. Therefore, it was decided that the calculation of girls who should receive the vaccine should be based on a count of girls enrolled in CM2 at the very beginning of the school year.

*While most girls were reached on the first attempt during phase one of the introduction, the lack of a unified strategy for missed girls - to include messaging and social mobilization with schools, teachers and parents - was identified as a challenge. Although this was a priority for subsequent doses, it was difficult to ensure, due to the need for further funding and targeting of resources specific to follow-up.*

### **Learning from target population identification:**

“It is important for there to be a comprehensive and effective method for identifying and reaching the target population – particularly girls not in school. Community leaders must be involved and CHWs should carry out door-to-door censuses in their communities.” – Dr. Antoinette, Youth and Adolescent Health Service, and Midwife, Soaviandriana.

Clarity on the target population and clear communication on this with planners, educators/school administrators, mobilizers and parents/guardians is important to help ensure more accurate estimates and to avoid frustrations by guardians/parents of girls who are not eligible and to ensure efficient mobilization of the appropriate girls to be vaccinated.

## **Strategy Development and Implementation**

In the rural district, each school designated one day for the vaccine to be administered by a health worker, with health workers visiting 1-3 schools per day depending on the number of eligible girls at the school and the distance of the school from the health facility (CSB). The biggest challenge with this strategy was in reaching girls who were absent the day of vaccination, because funding and human resource constraints did not allow for health workers to conduct follow-up visits to each school.

*In communities where teachers were heavily involved in the awareness/mobilization, it was observed that the coverage for girls in school was high.*

The strategy with schools was less consistent in the urban district. In some cases, certain centrally located schools were designated as vaccination locations, and eligible girls from nearby schools were accompanied there to receive their vaccination. In other cases, where the number of eligible girls in a school was minimal (or in the case of

Catholic schools), and the strategy was to have them escorted by their teachers or parents to a central health facility to receive the vaccine. However, when the HPV committees requested this assistance of the teachers, they found that some teachers were reluctant to participate. This was partially because it was difficult for teachers to fit this into their schedules, as well as due to the lack of provision in the budget to provide them any financial motivation or assistance with the transportation costs they would incur. As a result, many teachers provided support in these cases by communicating with parents of these girls to encourage them to accompany their daughters to receive the vaccine.

Analysis of the preliminary coverage results showed a significant drop-out between the first and second doses (aggregated coverage for the two districts went from 72% to 62%). To address the sharp drop in coverage for HPV dose 2, partners worked quickly to identify the reasons behind this and collaborated to find ways to keep coverage from dropping even further during the administration of the third dose. The primary reasons identified for this sharp drop included:

- Continued lack of support in the case of the Catholic schools: Some parents who had allowed their daughters to be vaccinated with dose one had not approved/supported participation for their daughters to continue;
- Vaccination was not provided in all schools: Because the vaccine was only offered in centrally located schools, many girls had to be escorted from their own schools in order to receive the vaccine, which had additional logistics and communication challenges;
- Continued insufficient knowledge amongst parents and teachers about the vaccine, the need for multiple doses, and its relevance/importance.
- Once these challenges were recognized, several concerted efforts were made to address the issues:
  - Advocacy continued with the Catholic Church, to at least dissuade them from speaking out against the vaccine;
  - Health workers began visiting all schools to carry out the third dose;
  - Social mobilization and community dialogues were scaled-up to increase community knowledge and acceptance of the vaccine.

While third dose coverage did not reach the second dose level, the rate of drop out was lower than between the first and second doses, which was attributed to the added social mobilization efforts (see Table 1 below for Toamasina I district). This was taken into account during planning for phase 2 of the introduction, with social mobilization scaled up to include all parents of school-aged girls (not just CM2) so that information on HPV was available well before the HPV1 administration and parents prepared and supportive of the vaccine by the time their daughters reach grade CM2 (see additional strategies for phase 2 in the section “Linkages with adolescent health and/or other cervical cancer programs).

**Table 1: Phase I HPV coverage in Toamasina I (2013-2014 school year)**

	Target Pop.	HPV1	Coverage Rate HPV1	HPV2	Coverage Rate HPV2	HPV3	Coverage Rate HPV3
<b>TOTAL GIRLS IN SCHOOL VACCINATED</b>	3234	2,202	68%	1,963	61%	1,962	61%
<b>TOTAL GIRLS NOT IN SCHOOL VACCINATED</b>	208	173	83%	120	58%	115	52%
<b>TOTAL</b>	3442	2375	69%	2083	61%	2077	60%

### **Learning from strategy development:**

Understand the influencers of the target population! If the majority of the population belongs to a particular religion or is strongly influenced by the same organizations and institutions, it is important that this be taken into account and strategies employed to leverage these influencers in promoting the vaccine.

Ensure that the roles are allocated to the appropriate stakeholders with the most influence and direct involvement in implementing the vaccination strategy. For instance, in Madagascar, while higher-level school administration needed to be informed and give approval for the collaboration to implement the vaccination strategy, it was the school directors and teachers who were involved hands-on and who should receive sufficient advanced training and clarity about their roles.

“It is essential that part of the strategy development include microplanning at district level and include church representatives, school directors, parents’ associations members, and community leaders, to ensure that all key stake holders are informed and receive the same information.” – Dr. Marius Rakotomanga, EPI Director

For a school-based strategy, in order to avoid the administrative burden of mobilizing only certain eligible girls within a school based on their grade, consider vaccinating all girls of eligible age within the school. – Recommendation of Mrs. Jacqueline Ampary, Chief of ZAP interviewed

## Coordinating the Dates for the Vaccination Rounds with Schools

Given the strategy to reach the majority of girls during the school year, phase one of the HPV vaccine pilot resembled more of a campaign approach, rather than an ongoing routine immunization service. The MoHFW worked closely with the MEN in a strategic effort to ensure that all three doses were able to be administered to the same cohort (and according to the required intervals between doses) within the school year. However, this left little flexibility in timing, and there are potential challenges to maintaining the necessary vaccination schedule with the school year (although this may be easier with a two-dose HPV schedule, per the change in global HPV recommendations that came after this pilot began).

*The Ministry of Health and Family Planning worked closely with the Ministry of Education in a strategic effort to ensure that the dates for administering each dose of the HPV vaccinations (0, 1 and 6 months) were compatible with the school year.*

For the HPV pilot, the COSANs and CSBs were to collaborate with the ZAPs Directors – District-level MEN staff - and local teachers and meet regularly for the planning. This collaboration proved successful, and they worked together for the sensitization and planning. However, in some cases there were some tensions between the CSB Directors and the ZAP Directors, since financing was only provided to the Chief CSB to visit the schools for administering the vaccine, while the ZAPs felt it was important that the ZAP Directors be present as well. This was noted during the planning process for the second phase and provision was made for both the CSB Directors and the ZAP Directors to attend supervision visits together.

In some cases, particularly with private Catholic Schools, there was a gap in the transmission or exchange of pertinent information from school district officials to teachers. Some schools were also ill prepared for the administration of the vaccine on the scheduled date, due to reasons such as delayed cascade trainings from school directors to teachers, no planned vaccination day, lack of knowledge about the purpose of the vaccine itself amongst teachers and students, or absence of registers to identify eligible girls.

### Learning from coordination of the HPV vaccination dates with schools:

- The role of MoNE staff should be recognized as equal to MoHFW staff, and compensation, such as travel reimbursement, should be distributed equally to staff of both Ministries.
- Due to the many stakeholders and the need to coordinate between institutions that may not already be involved in providing health services, it is critical that sufficient time is allotted to the planning process (including trainings, development and dissemination of communications materials, and scheduling of vaccine administration), with sufficient advanced notice about the activities affecting them so that all parties can prepare and plan accordingly.

## Funding, the Co-financing Process & Communication with Gavi

Although Gavi funds were available for the HPV introduction, delayed release and availability of the funds in-country were common issues during the introduction. Due to overall funding constraints for the pilot, it was not possible to carry out all activities for communication, introduction and monitoring/supervision as laid out in the micro-plan (for example, for follow-up of missed girls, additional communication for parents and communities, monitoring visits to facilities). In addition, while funding for the first phase of the pilot included support for the coverage survey, due to the high costs involved with social mobilization and unforeseen gaps in funding to support printing of training materials (see “IEC materials (for HWs, communities, media, launch)”) remaining phase one funds were not sufficient, and it therefore became necessary to use some of the funding that had been allocated for phase two of the pilot to pay coverage survey costs. This necessitated some reprogramming of the phase two activities to align with the reduced budget.

Results from the cost analysis identified the cost implications of introducing the HPV vaccine and the possibility for sustainable scale-up. After completion of year two of the introduction it was clear that a nationwide HPV introduction, even with the improvements to the strategy being made for phase two, will be too expensive to continue with a school-based strategy. There will be some cost savings due to the updated WHO guidelines for 2-dose vaccine administration, and the Gavi Alliance has agreed to support a third phase of the pilot in the 2 districts to examine how much of an effect that change would have on cost. It is possible that reducing the number of doses will sufficiently decrease cost to make it feasible to further apply a school approach, but it is more likely that a routine strategy (e.g. through facility-based services or a phased campaign/introduction approach) will need to be adopted if the country is to support introducing the HPV vaccine at scale. If it is decided that HPV will be brought to scale, this will most likely need to be done incrementally after completion of phase three of the pilot (e.g. phased in regions over time and/or offered in select facilities), as the MoHFW budget would not be able to support such a heavy increase in the budget once co-financing becomes required, especially considering the high price of the HPV vaccine relative to other vaccines. These options and scenarios were considered as part of the second phase and cost analyses, and have informed further committee discussion on the findings from the pilot and needs for roll-out and sustainability. Social Mobilization and Communication

### Learning from funding, co-financing and communications with GAVI:

Given the cost of the HPV vaccine and different strategies for reaching this new target population, advocacy and buy-in must be achieved with decision makers at the highest-levels of government so that sufficient funds are planned, approved and allocated. A strong advocacy plan must be developed by the country, with key messages that include comparing the cost of the burden of the disease to the (lessor) cost of prevention via the vaccine. In addition, a scaled approach may be needed to introduce the vaccine so that the burden of introduction costs is spread across years and is more feasibly managed within existing budgets.

Securing financing for HPV introduction in Madagascar is being done in two ways – (1) HPV is integrated into the immunization cMYP and advocacy is being conducted for approval and (2) the country is in the process of passing the vaccine finance law. For ratification and acceptance of co-financing the vaccine, this requires advocacy with Parliament, civil society, and the Ministry of Finance.

## Community level participation

The COSANs, in collaboration with the CHWs, proved a great resource for mobilizing the community, given their familiarity with the population. Their in-depth knowledge of the community facilitated the process of identifying the girls in the target populations. The tasks of the COSANs at CSB level were similar to those of the HPV Committees at district level. COSAN members and CHWs received training on HPV and shared information related to the vaccine and the details of the introduction with their communities (e.g. who should receive the vaccine, where and when). They also worked with health workers to mobilize girls who were not enrolled in school on the days of vaccination, and to identify girls who missed the vaccination day and needed follow up.

*In communities where the COSANs were well- functioning, coverage was higher, suggesting that the role of the COSAN is likely a key to the success of the vaccine introduction (and immunization coverage as a whole).*

One challenge encountered during the introduction was the potential to over-burden CHWs with one more task in addition to their regular responsibilities. Compensation for the CHWs was also an issue. In some cases, CHWs had not yet been compensated for their work during previous, separately organized Maternal Child Health Weeks (MCHWs), resulting in a delay in their involvement in announcing the HPV vaccine to their communities until this issue was reconciled.

### Learning from community participation:

It is important that community dialogues are conducted with the various influential leaders and community members and that they are engaged in disseminating information and promoting the vaccine. Their input should be sought when developing strategies for reaching the target population and identifying critical messages and potential road blocks that should be accounted for in order to ensure a successful introduction. Their support of the HPV activities will build the community's confidence, and these community members should be enlisted to conduct targeted advocacy in cases where there may be or there is vaccine resistance.

## Advocacy and awareness building

*The importance of advocacy and sensitization messaging should be stressed in advance – to let possible gatekeepers know that the purpose behind giving HPV vaccine at this age is the ability to reach the maximum number of girls to enable full protection against cervical cancer caused by HPV*

Information on the vaccination schedule and target population was disseminated and displayed in health facilities. However monitoring visits determined that this could have been made available further in advance of the vaccination day so that the community is better informed on the purpose of the vaccine, has time to ask questions, and can ensure that the girls are available on the vaccination days. It was also determined after the first round that community leaders, CSOs, NGOs, schools and CSBs should be involved as resources and audiences,

as they are best able to inform on community sensitivities. Also, because they are respected and trusted, they are well positioned to provide orientation and background information on HPV during field visits.

Key messages that are to be promoted during advocacy efforts in subsequent rounds/phases include:

- Explanation on reason for the vaccine and prevention of cervical cancer
- Assurance that the vaccine is safe
- Information on the schedule and target population

Review of the first phase found that radio and television campaigns can be effective when focused in areas with reliable transmission and where the messages are well-scripted with the actions and reasons for the vaccination to reach the widest audience in order to stimulate diffusion acceleration. In Madagascar, as the majority of rural communities do not have access to television, communications should be disseminated by radio and local organizations and leaders. Dissemination of key messages via television proved effective in the urban pilot district, in addition to radio spots and support by local organizations and leaders. The following table provides key messages that were targeted to each of the key audiences for HPV vaccine introduction:

**Table 2: Key messages for advocacy/sensitization on HPV introduction**

Target Audience	Key Messages
Parents/ Guardians	Promote HPV vaccination for the good of girls' health Educate children on their personal health, including against early sexual activity
Community Leaders	Preventing cervical cancer with the HPV vaccine is the best option and it is important
Health Workers	Persuade everyone that the HPV vaccination is a government initiative Arrange the planning and vaccination schedule in a practical and participative manner Ensure the availability of the vaccine at the vaccination site, at the right time
Religious Organizations	Inform the community that prevention against illness is important Inform the community that the PCV vaccine is safe
School Administrators	Release eligible students on vaccination day for the so they can benefit from receiving the HPV vaccine
Teachers	Inform teachers/parents and children about the HPV vaccination program and its benefits Reassure everyone that the vaccine given at the schools is the same as the vaccines in the CSBs
Target Population	Reassure the population that the HPV vaccine does not affect a girl's fertility Inform everyone that the administration of the vaccine in the two chosen districts is not a trial, but a pilot

## Learning from advocacy and awareness building:

- In order to garner buy-in and motivate the districts/communities in the pilot phase, stress with community members/influencers that it is a privilege that they have been selected for the pilot (or demonstration) and to benefit from the protection of the vaccine.
- Use testimonials from known women in the community who have suffered from cervical cancer to inform the population about the danger and burden and to motivate them to get vaccinated.
- Students themselves are good resources for disseminating key messages to guardians and decision makers, and should be equipped with the skills and information they need to fulfill this role.
- It is critical that communications are tailored to the target population – including having materials available in the local language/dialect with images from the community, and disseminated through channels with the widest reach and influence, for instance:
  - by radio in communities with little access to television
  - by high-level health officials whose medical advice is respected and taken seriously

## Avoiding vaccine “refusers” and missed opportunities

A particular challenge in Madagascar was a lack of cooperation from the Catholic Church administration, which interfered with vaccination efforts at most Catholic schools in the pilot districts, as well as had a dissuasive influence on whether or not parents whose girls were in these schools and/or congregations allowed their daughters to be vaccinated. The reason(s) for the Church’s hesitancy to accept and allow the vaccine to be administered in its schools were not straightforward. Monitoring visits found that some Church leaders had concerns that the vaccine would encourage promiscuity or promote intercourse out of wedlock. Another reason for hesitance was due to misconceptions/rumors, notably from key influencers at high levels of the Catholic administration, that the vaccine was a type of birth control. Monitoring visits were conducted to Catholic schools that had accepted and conducted HPV vaccination to learn from what worked there and to solicit their advice on resolving the issues.

Once EPI and MOH officials became aware of this resistance, the Secretary General, Director General and the Director of MNCH at the MoHFW convened a series of meetings with Church officials in an attempt to clarify any misconceptions about the vaccine and to advocate for their acceptance for administering the vaccines in their schools. They advocated to the Archbishop of the Catholic Church in Madagascar to support the HPV vaccination, who instructed them to discuss with the Director of Catholic Schools. The team arranged several meetings with the Catholic Schools Director to request that he disseminate a communication to all Catholic school administrators instructing them to participate in the vaccination activities. Although these efforts came too late for the first phase of the introduction, during the planning process for the second phase, the team was able to garner acceptance by the Catholic Church and Director of Catholic Schools to administer the vaccine.

### Learning from avoiding refusers and missed opportunities:

- Where there may be resistance to the vaccine due to fears that it will encourage sexual activity, it is important to highlight the importance of the vaccine for cancer prevention and the need to reach the majority of girls when they can most easily be contacted (i.e. in school). It could also be useful to emphasize that youth need to be empowered with the knowledge and skills they need to make healthy choices about their health.
- Be conscientious of words/phrases that might have connotations that can lead to misunderstanding and resistance. For instance, some communities thought the word “pilot” indicated that the vaccine was being tested on their daughters and that the vaccine had not yet been proven safe and effective.

## Launch

The HPV Committee played a critical role in organization of the national launch, which was held on 18 November, 2013. It was decided that holding the launch at regional level in Toamasina would be beneficial in raising awareness and garnering support for the vaccine at lower levels. The launch was an opportunity to convene all key actors in a display of support for the vaccine, which was broadcast on radio and television, providing wide coverage of the launch and key messages. Participants included the Deputy Mayor, District Chief, technical and financial partners (WHO, JSI/GAVI, ASOS), DG of the MoHFW, donor partners and other regional leaders and representatives.

### Learning from the launch:

- A well-publicized vaccine launch, attended by respected and influential community leaders who speak out in support of the vaccine with clear, scripted messages is a very effective way of garnering community buy-in. Strategies for organizing a successful launch event employed by Madagascar included:
  - Holding the launch on a market day when the majority of the population was present;
  - Publicly vaccinating girls at the launch event to demonstrate that it is safe and easy. If possible, include the daughters of community leaders to help solidify their confidence in and acknowledgement of the importance of the vaccine.

# PARTNER ENGAGEMENT/ICC

## CSO Engagement

*Existing CSOs and NGOs should be identified and oriented early on. (This can be aided by records of their official organizations and key name and contacts in a national database.) The SV and MoHFW should keep CSOs/NGOs involved for all immunization activities.*

Due to the short timeframe for the first phase of the introduction, the HPV pilot committee did not actively engage CSOs with the introduction of the vaccine. This was emphasized as a need by partners like JSI, and therefore as part of planning for the second phase, representatives from the EPI met with partners involved in immunization and MCH communication and community involvement, including CRS, ASOS and others

active in the districts to inform them about the new vaccine introduction plans and discuss opportunities for strengthening community linkages. To involve CSOs in HPV prevention at each level of the administrative/health system requires more specified orientation, given that the target audience for HPV vaccination is school-aged girls (not children under five years, as with MCHWs). There is also the potential to engage a broader range of partners not previously involved with immunization, such as Adolescent and Reproductive Health and school-based programs/organizations.

## Coordination with religious groups

During planning for phase one of the introduction, the organization Fikambanana'ny Fiagonana Kristiana Madagasikara (FFKM), a consortium of leaders from religious groups including Catholics, Protestants, Anglicans and Lutherans, was kept informed and was invited to participate. While most religious organizations in the country did not have objections to the HPV vaccine, as mentioned previously, garnering the support of the Catholic Church proved challenging. While these issues were minimal in Soaviandriana district, local Catholic leadership in Toamasina was reluctant to endorse the vaccine, and in fact advised the local congregation against it, based on rumors/misconception that the vaccine was a contraceptive.

In order to administer the vaccine in Catholic schools, special permission was sometimes required but not always obtained. However, it was found that if the parents of children enrolled in Catholic Schools were sensitized on the importance and safety of the vaccine, they would support vaccination of their daughters, even if it was not provided at the school. In these cases, parents accompanied their daughters to the local health facility to receive the vaccine.

*Communication and messages targeted to religious-affiliated schools should be nuanced and tailored prior to the administration of HPV1, including advocacy and messaging with the religious authorities and administrative system.*

Upon investigation into the reasons for the challenges posed by Catholic Church officials, it came to light that the structure of the Catholic organization in Madagascar had not been well understood by the HPV introduction planners, and the appropriate protocol was not followed for engaging church leaders. For this reason, higher-level leadership within the Catholic organization was reluctant to collaborate on the introduction, as they did not feel sufficiently informed or involved in the planning, and directors at the lower levels did not feel they had the authority to collaborate on the introduction until the appropriate channels

*In year two (to help address resistance), HPV vaccination mobilizers and Catholic Church leaders were able to point to the adolescent health curriculum being taught in schools that equip youth with the knowledge and skills they need to make good choices surrounding their sexual health, and that the vaccine did not pose a risk.*

had been engaged and support given from church leadership. As noted above, a strong advocacy effort was made to work with the appropriate church leadership to gain their support and to rectify the situation. During planning for year two of the introduction, key members of Catholic church leadership were included in the planning and implementing of the vaccination strategy and collaboration was much more successful at all levels.

See the section on “Recommendations and Next Steps” for additional strategies that have been developed to address this challenge for phase two of the pilot.

## **CAPACITY BUILDING (TRAINING, IEC AND REPORTING MATERIALS)**

### **Recording, reporting & monitoring tools updated, printed, distributed**

As introduction activities progressed, it was apparent that there was a need to clarify/modify the recording tools to distinguish between girls in school and girls not in school, and to specify the age of each girl who received the vaccine. To respond to this need, partners worked together to develop an HPV name-based vaccination register (linked with the school register data, as possible). There were also a daily HPV vaccination tally sheet, an HPV tally sheet (by age, week and dose) summary per round, and summary tables on doses administered by age, total doses administered (by round) and coverage rates (see *Annex VI for examples of these tools*). These tools were distributed and used in the districts and facilities, with the reports by day and round consolidated by district focal points and submitted to SV for review and data consolidation by SV, SLMV and partners. Having these various tools up-to-date and ensuring that the health staff knew how to track, complete and submit these facilitated the reporting process.

### **Capacity Building of Health Workers and Educators**

HPV technical working group meetings were held for planning of the first round but will benefit from meeting earlier in the planning process for subsequent phases and should be continued regularly throughout the introduction. The TWG was involved in organizing training of trainers at the central level for the regional and district health and education staff, and should have representatives participate in supervisory visits to the pilot districts to prepare for and monitor HPV roll-out activities. During phase one, in addition to CSB staff, at least one representative for each school participated in the training.

Although trainings were successfully conducted before the launch of the HPV demonstration, materials/training kits were distributed right beforehand or during training, limiting the trainers’ ability to familiarize themselves with the content and inform participants in a timely manner of the training. Several trainings were delayed due to

confusion over the source of funding and availability of funds, thus compromising the organization of the trainings and their quality.

Although some supervision visits were conducted by SV, JSI and others, supervision visits post-training should be conducted systematically to ensure that preparations for the introduction and between rounds are being appropriately met and that health workers have a clear comprehension of the introduction/implementation plan, launch date and vaccine details. During these supervision visits, the following activities should be carried out:

- Interviews with Chief CSB and his/her team, focusing on basic technical strategy, cold chain, and links with the community;
- Interviews with Chief Zap and CM2 teachers, focused on their knowledge of the HPV vaccine and schedule/number of injections, the launch date, and status of training;
- Interviews with community leaders, parents' associations, etc. to gauge their involvement in introduction activities and how well they've been informed on the HPV vaccine/through which communication channels;
- Distribution of materials and equipment, including communication materials (fliers, banners, and stickers), workshop supplies (flip charts, permanent markers, copy book, masking tape), etc.);
- Supportive visits to health facilities to verify that the target population has been determined and funding has been allocated, and to identify issues and assist with problem solving;
- Supervision to verify cold chain capacity to receive/store vaccine and ensure that conditions are appropriate.

The HPV pilot PIE also noted some issues around capacity building and documented these findings (see Annex I).

### **Learning capacity building:**

- Training of all key players sufficiently in advance throughout the pilot areas (in addition to refresher training after each dose to reduce incidence of drop-out) is essential. Refresher training can be scaled-down once the vaccine is accepted and established in the routine system. In order to efficiently train the highest number of stakeholders, various methods can be used – including review meetings, supervision and cascade trainings that should be ensured to the lowest levels. Key stakeholders that should be targeted include:
  - Health staff down to the lowest level, including health post staff and community health workers
  - Parents' associations
  - School district leaders
  - School directors and teachers
  - Community leaders
  - Religious leaders
  - Local CSOs and NGOs

## IEC materials (for HWs, communities, media, launch)

There was good collaboration between partners and the MoHFW's Service de Information, Education, Communication (IEC) in coordinating the material development. The various materials were adapted for each of the two pilot districts to be compatible to the particular region (pictures, language, radio spots/TV, etc.). Originally, GSK agreed to print the IEC materials; however, those funds were only able to support printing of the management tools. This necessitated use of Gavi funds to rapidly support the printing of the remaining IEC materials for phase one. For phase two of the pilot, IEC material development was again supported through Gavi funding, but was not entirely sufficient to meet the needed increase in community dialogues combined with the advocacy and social mobilization in order to address the vaccination hesitancies experienced in phase one.

## LOGISTICS AND COLD CHAIN

### Cold chain and logistics management preparedness

Initial estimates for doses of vaccine required for phase one were calculated based on population data. However, during the implementation, a more precise population count was carried out and found that the need was slightly less than originally calculated. This difference ensured that sufficient doses were available for the initial pilot as well as some remaining doses for a third phase.

In preparation for the launch, the SV and partners worked with the regional and district teams to assess the cold chain capacity and ensure its readiness, with sufficient storage capacity at all levels to receive and keep the vaccines. The HPV vaccines were sent to the districts prior to the launch, based on the approval from this readiness assessment. The vaccines were distributed separately and sufficiently for all three doses (with no problems in restocking), and left over vaccines between rounds were kept at CSB or district cold stores.

At central level, doses of the vaccines distributed were recorded, and at district level all shipments were recorded in the stock cards for each CSP. While monitoring of wastage was not automatically done, all of the verification tools (doses distributed and children vaccinated) are available. Based on these available records, the estimated wastage rate during the first year of the pilot was less than 5% in the two districts.

## SERVICE DELIVERY

The biggest constraints to service delivery and administration of the vaccine were limited financial resources and the amount of time required by health professionals. Especially in the rural district, vaccinators sometimes had to travel long distances to reach girls, which required funding for transportation/fuel. If, during school-based vaccinations, girls were absent on the day of vaccination, additional financial support was needed in order for health workers to conduct mop-up. What

*In order to support the current school-based strategy, additional funding needs to be allocated for transportation costs and to either extend the vaccination timeframe or increase the number of health workers to complete vaccination within the timeframe.*

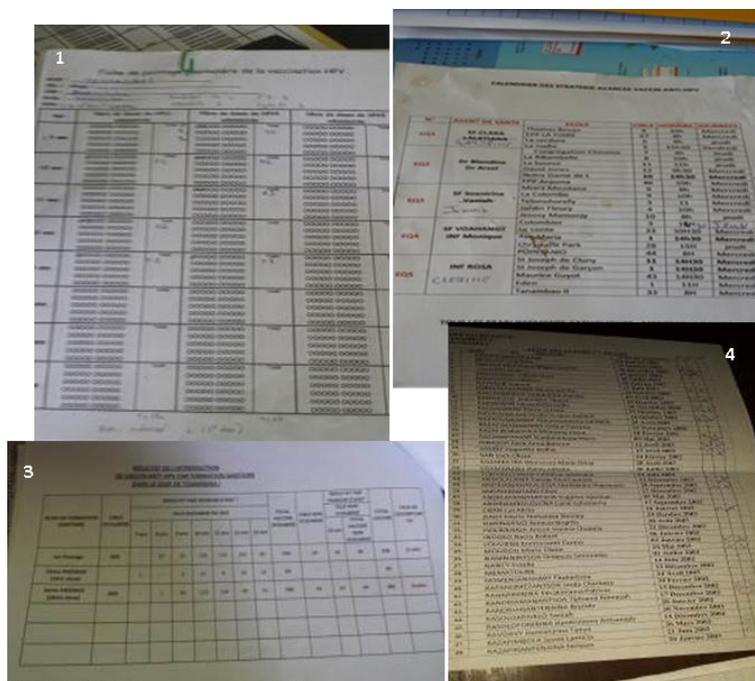
was budgeted for these activities during the micro-planning process proved to be insufficient? The short window of time allotted for the health workers to complete vaccinations in schools was also insufficient; therefore the school-based vaccinations should be given over several days and additional time and funding built in for mop-up. In addition to funding and time constraints, another challenge observed during vaccine administration was a lack of organization and large crowds at some vaccination sites. This discouraging some parents and was one reason that contributed to drop-outs after the first and second dose.

## REPORTING, MONITORING AND EVALUATION

The reporting process during the first phase was implemented systematically and collaboratively between the schools and health facilities as well as with the district teams. Throughout the introduction, the Chief CSBs provided reporting tools to staff, and each day HF staff (with Chief ZAP) came to the SDSP to submit daily reports. The SDSP collected data for each CSB and a report summary was done to consolidate the data. The Medicine Inspector (MI) submitted electronic versions to the SV, which were summarized at the end of the week and submitted to WHO and Gavi the following week.

Each day, HFs used a new tally sheet and did separate calculations, with totals by school. Each school had a separate register for the eligible girls (using school lists as well as a notebook to track girls by name). For non-school girls, the COSAN, who were trained through cascade training and guidance from the CSB, worked with Chief Fokontany (Fkt) to determine the target population and to locate eligible girls and track down girls who had been missed (i.e. for HPV1 mop-up and for HPV2 drop-out). The COSAN and Chief Fkt registered girls with the CSB by name and address. The COSAN representatives were given a weekly per diem during introduction activities.

Although some supportive supervision was conducted, additional supervision to ZAP and Chief CSBs would have been helpful throughout the process, including after each training and vaccination round, to follow-up on pending questions and issues, and to provide recommendations for areas in need of improvement.



Reporting tools: 1) Tally sheet, 2) CSB plan for school visits, 3) CSP consolidated data report, 4) School register for eligible girls

The MI and the Chief ZAP worked together to compile the list of schools and areas with non-school girls and held meetings to organize the mop-ups. In the end, three days were dedicated to mop-up, during which health workers visited schools to locate girls who missed the initial vaccination day, and worked with COSANs, CHWs and Chief Fkt to identify missed girls who were not in school.

Because of the different target population and non-traditional service delivery locations (i.e., schools), supervision for HPV was planned separately, where normally it is integrated with other immunization or child health services. This approach required additional resources so that CSBs could organize school visits.

## **Assessment between rounds**

### **Cost Analysis**

MOH, PATH and WHO carried out a cost analysis between the administration of HPV2 and HPV3 during this first year of phase one. Results from the cost analysis illustrated that the original school-based strategy was too resource intensive to be sustainable in Madagascar. After the completion of the next phase, using the fixed strategy and two-dose schedule, an additional analysis will need to critically look at the costs involved with bringing the vaccine to scale (e.g. what it would cost the Government and what would be requested from Gavi); including recommendations for whether the introduction of the vaccine at-scale should be phased in over time in selected districts or regions rather than nationwide roll-out.

### **Monitoring Coverage and the Coverage Survey**

Achieving and maintaining the coverage rate above the required 50% was a challenge over the course of phase one, due to the need for more critical monitoring of HPV performance indicators and the lack of resources to conduct follow-up with girls/CSBs that dropped out between rounds. CSB links with schools must continue to be fostered, and instructions during supervision visits need to be monitored for implementation. In the second phase, school registers can be used more purposefully to track data. For girls not in school, the Chief CSB and health workers - and for girls in school, the Chief CSB and teachers - can also strengthen community links and networks to track the girls (e.g., CHWs, Chiefs Fkt, teachers and parents associations).

According to the HPV pilot recommendations, the coverage survey should take place six weeks after the third dose of HPV vaccine. The purpose of the coverage survey is to generate the necessary data to help inform policy and practice for the government, as it decides when and how to introduce HPV vaccine on a national level. This is achieved by evaluating the level of complete and partial vaccination coverage achieved during the demonstration and estimated coverage compared to administrative data. Additionally, the coverage survey examines the acceptability of the vaccine by parents, as well as characteristics of vaccinated girls and un-vaccinated girls who were eligible for the demonstration. The coverage survey took place in Madagascar from August 25-September 3, 2014, with the results summarized below in Tables 3, 4, 5 and 6:

**Table 3: Results from Coverage survey vs. Administrative Data**

Sources	Toamasina I	Soavinandriana
Administrative Data (SDSP→SV)	60.34%	62.93%
Coverage data (survey)	61%	69%

**Table 4: Coverage survey results – Vaccine Completion**

Demonstration district	Completely Vaccinated (3 doses)	Partially Vaccinated	Not vaccinated
Toamasina I	61%	13%	26%
Soavinandriana	69%	11%	20%

**Table 5: Possession of a girl's vaccination card (HPV cards)**

Possession of card	Toamasina	Soavinandriana
	12%	42%

**Table 6: Information sources for HPV vaccine:**

Information Sources	Toamasina I	Soavinandriana
	Television	Spot radio
	Spot radio	Poster
	Community Film	Word of mouth/VAD

The coverage survey identified principal reasons for HPV vaccination accepted, which included:

- The vaccine is free
- The vaccine is good for health
- Parents want their daughters protected from cervical cancer.

The coverage survey also identified principal reasons for refusal, which included:

- Lack of knowledge of the HPV vaccine campaign;
- Existence of rumors about the HPV vaccine, such as the vaccine being misperceived as having a negative impact on girls' fertility, or that it was only in a trial phase;
- The vaccine was too new (i.e. since this was a new vaccine and a different target population than the usual infant population, the community did not have sufficient information about it and its purpose);
- Insufficient exposure to health messaging.

Results and recommendations from the coverage survey are more detailed and available in the separate report.

Of note for the second phase are suggestions to:

- Involve local partners (e.g. Red Cross, adolescent/youth organizations) in the identification of girls in the target age group;
- Involve public and private partners in the implementation of recommendations from the coverage survey, including dissemination via private local radio to inform the local community;
- Given the significant coverage differences during the first phase between girls in school and those not in school, during the second phase, health staff and community structures should conduct more social mobilization activities with girls not in school;
- Given that radio spots were noted as important sources of information, ensure the quality and airing of these for the second phase.

## **Link with PIE**

The National Technical Team (Service de la Vaccination, Santé Scolaire, Service Sociale du Ministère de la Population, SLMV, Service de la Santé de l'Adolescent du Ministère de la Santé Publique, JSI/Gavi-NVI, and WHO) conducted a Post-Introduction Evaluation (PIE) from June 10-14, 2014. This report is available separately from WHO, with the key recommendations included in Annex I. The results from the PIE should be linked with the coverage survey results and used to identify areas where management and implementation for the second phase should be improved.

# RECOMMENDATIONS AND NEXT STEPS (NATIONWIDE ROLL-OUT OR ADDITIONAL PILOTS)

## Working with religious organizations

Promote dialogue and clarity on phase two of the demonstration as well as on HPV vaccination and cervical cancer prevention with the appropriate community and religious groups as part of the advanced planning and partner with them for the roll-out. Based on the lessons learned with the Catholic Church leadership and schools during phase one of

the pilot, partners are working with the Church to integrate lessons on HPV into the Church's youth program that teaches health and life skills to adolescents. HPV vaccination will also be integrated into the de-worming program that is already established as part of this youth group organization. In addition, as a precaution, targeted sensitization on HPV will be provided to all parents of children enrolled in Catholic and other private schools, so that regardless of whether the vaccine is administered at the school, parents will take action to ensure that their daughters receive the vaccine.

*Key discussion points at the adolescent health workshop included:*

- *Ensure that financing needs are planned in advance and met and that staff are at the appropriate capacity level.*
- *There are many competing priorities that must be managed at the same time by limited numbers of staff*
- *Integration should be strengthened and implemented*

## Linkages with adolescent health and/or other cervical cancer programs

Phase two strategy and planning for future HPV roll-out should be integrated with other adolescent health programs and strategies. This was discussed with the HPV pilot committee in meetings held in October and November 2014 for phase two. A pilot training on adolescent health for three CSBs in each district, including health workers and teachers, was conducted during the second phase of the HPV introduction by the national technical team, led by the Adolescent Health Service, DSFa, MoPH and SLMV, in collaboration with School Health/Ministère de l'Éducation Nationale and Ministry of Population Social Service and with JSI/Gavi-NVI and WHO. The capacity of these health workers and teachers should be built so that they can provide training to all primary school teachers on adolescent health in the future. (This will need to be planned and budgeted). As mentioned previously, the Catholic Church already has a curriculum for adolescent health and this will be harmonized with the national strategy.

A preparation workshop was held on 19 September 2014 to support the effective integration of HPV vaccination with adolescent health programming in the second year of its introduction (with the support of a national consultant). The workshop participants included the MoHFW/SV, MEN, Ministry of Communication, WHO, UNICEF, JSI, SLMV, Adolescent Services, GSK, Regional Directors and District Directors. Representatives from religious organizations were also invited; however there was not official representation from the Catholic Church.

During the workshop, the following key elements of the strategy were introduced:

- At the CSBs, there should be an “Amis des Jeunes” environment and network that offers youth a place/forum where they can be open about health concerns and comfortable to discuss health needs;
- Health workers should be trained in the “life skills for youth” approach (there is already a module on HPV included in this approach);
- HPV flyers/posters should be developed as a complement to the existing “Amis des Jeunes” documents and information on HPV should be integrated into existing materials for Adolescent Health;
- HPV lessons will be integrated into curriculum for primary school (funds need to be mobilized to train teachers);
- Administration of HPV vaccine will be linked with school deworming activities.

**Integration with existing platforms for youth/adolescent health and education is essential for maximizing resources and reaching the most members possible of the target population.**

For girls not in school, it is critical that community programs and organizations are identified which have reach and influence over adolescents in the community. These programs and organizations should be leveraged to assist with conducting censuses to: (1) identify the target population, (2) identify places where community sensitizations can take place and where girls can be mobilized to be vaccinated, and (3) enlist and encourage collaboration with community leaders to promote and support the vaccine. Two examples from Madagascar include:

- “Espace des Jeune” at Fokontany – in certain communities, youth centers are already operating where community youth gather and where health and life skills lessons are provided. These will be leveraged in the next phase of the HPV vaccination to reach the target population.
- “Ami de Jeune” – in certain community health facilities (Centre de Santé de Base), a youth health program is already established, where health workers are specially trained to offer health services specific to the needs of adolescents. These centers are being used to disseminate HPV messaging and can also be leveraged to administer the vaccine in a fixed strategic approach.

Where there are already health education or other health-related activities in school, these should be leveraged. Where there is a health education curriculum, messaging to explain and promote HPV vaccine should be integrated. It may also be possible to include administration of the vaccine into already programmed school-based health activities, such as de-worming days or annual school-based physicals. Messaging promoting the HPV vaccine can be integrated with other health promotion including on drinking, drugs and sex, through combined posters and other media as well as through life skills training in schools.

## Linkage of vaccine with the routine immunization system

To determine further roll-out for HPV beyond the two demonstration districts, several factors need to be taken into consideration and discussed within the MoHFW as well as with the ICC and donors: financing; agreement of phasing of nationwide introduction; human resource capacity and commitment with MoHFW and schools; advocacy and buy-in of the community (notably to assist with social mobilization, local resources, and targeting girls outside of schools). Further information on this can be found in the PIE and the findings from the coverage survey (refer to Annexes I and II), with the recommendations to be further addressed in the next phase of the demonstration.

Administering the HPV vaccine is labor and resource-intensive, and it is challenging to ensure that there are enough human resources, supplies and equipment to carry out the school-based administration as well as to ensure facility-based administration, tracking for girls not in-school and timely and complete reporting. This is an added challenge when funding is limited and if the staff who do the HPV vaccination are also responsible for continuing their other work during this time period. Ultimately, the best strategy may be to have HPV available as part of the routine immunization services to avoid displacing CSB staff and reduce the burden of required financial and human resources for school-based vaccination in the absence of a school health strategy. However, individual tracking would need to be ensured as well as clear communication and coordination with the schools, if girls were to be expected to go to the CSB for vaccination. Based on findings from the coverage and cost studies as well as the second phase of the demonstration, a hybrid approach may be needed that adapts school-based HPV vaccination, as feasible in terms of resources, along with HPV vaccination being routinely provided through routine fixed and outreach services.

### **Key recommendations for scale-up/nation-wide rollout:**

- *An HPV vaccination strategy, linked with adolescent health and school health strategies, needs to be developed to determine further roll out and how this will be phased and scaled.*
- *The HPV planning committee needs to provide guidance for roll-out based on analysis and documentation of the demonstration experience.*
- *HPV reporting tools and cards should be ready and distributed in a timely manner, with sufficient time for training and monitoring.*
- *Plans for HPV vaccine roll-out need to include discussions with community, school and religious groups and stakeholders to build common understanding and consensus on approaches*

## Key lessons learned for replicability and scale-up

### **Training/Capacity building**

- a. Cascade training is not always as efficient as needed – e.g. Chiefs CSB participate in training, but what is learned is not always passed on to all of the staff, particularly in larger facilities where several staff are involved in vaccination. This should be taken into consideration and addressed in future demonstrations and/or national roll-out, for example by planning for additional training at facility levels (within large facilities or by grouping facilities for training), accompanying

the training with fact sheets and job aids for the Chiefs CSB to use with their facility staff, and ensuring a timeline and monitoring for facility trainings.

- b. All teachers should receive a standardized training/orientation on HPV prevention and the rationale for vaccination, not just CM2 teachers. This should also include guidance on how they and the school administration can share information with girls and parents, so that they are well informed when it comes time for the girls to be vaccinated.
- c. Before the vaccination date, supervision should be conducted to verify that preparations are in place, training has been completed, and materials and funding are available. In some cases, customized training may need to be conducted to motivate specific school and health leaders, if it is detected that they are not fully invested in the introduction.
- d. Ensure that authorities within the districts (as well as all members of the HPV pilot committee) are provided with data on HPV coverage (e.g. from previous round) and updated on the accomplishments as well as the importance of HPV vaccination in preventing cervical cancer with each new cohort of girls.

### Planning/Strategy Development

- a. Although immunization programs usually aim to achieve 100% coverage of the target population for a given antigen, this is not always feasible. If HPV vaccination is to be given through a more campaign-like approach (i.e. in schools during one week for each dose at the beginning and end of the year), then this should include a mop-up strategy (in collaboration with health staff, teachers and the CHWs) to reach the maximum number of girls and to agree on the cut-off vaccination date after the first dose in order to maintain the appropriate intervals between doses.
- b. For bringing the vaccine to scale, consider the possibility of focusing on the age (i.e. 10 years) rather than the school grade level to ensure maximum impact with that target in the school and non-school and to avoid confusion on a “class” strategy versus focus on a target age. This was difficult to differentiate for the school-based strategy being used in the pilot but could be more specifically outlined in additional pilots and/or roll-out.
- c. Map out a detailed timeline for vaccine distribution to ensure sufficient capacity and space in the cold chain in the pilot districts, particularly given roll-out or periodic surges in stocks of other vaccines, based on various vaccine distribution cycles.
- d. Need to revise the micro-planning for the second phase of HPV to ensure the updating at CSB and community level within the districts (in process).
- e. Have a ‘Guide on HPV Introduction’ that can be used to help with planning and monitoring (and adapted, as needed, for each phase) and also “tested” so that it can be available for use with other districts as HPV rolls-out.
- f. Ensure that reporting tools are available in advance of HPV vaccination (and in sufficient quantity before the launch of each round). This should include distribution of HPV cards for each girl, along with explanation of its importance,

for her to have a document of her vaccination and to have available for coverage surveys, as needed.

## Communications/Social Mobilization

- a. For phase two and further roll-out, have a letter from WHO or other reputable international source (i.e. not just MoHFW) that the vaccine is WHO-approved and acceptable for worldwide use and to show that this is not an experiment. This will help to reassure parents that they are getting a quality vaccine that is also used in other countries.
- b. Do a briefing/results document to demonstrate the success of previous pilots/demonstrations and after the first year within each district, particularly in schools/CSBs where good coverage was achieved and to promote positive messages and experience.
- c. While disseminating HPV messages in fliers was useful for the first round of the pilot, the HPV pilot committee should consider developing FAQs, particularly around more political questions – Why this district? What is meant by this “pilot”? Why not boys? Why not older women? In messaging, the word “consent” should be used carefully, as in some context people link “consent” to experimental studies.
- d. Develop and disseminate more targeted communication messages and materials with parents (e.g. through focus groups, dialogues, parent-teacher-nurse/doctor meetings/discussions, briefers).
- e. Design a specific communication strategy that includes working with religious or other private institutions. For example, with the Catholic administration (to be used within the church hierarchy and with the Catholic schools as well as for the communities and parents).
- f. Design radio or TV spots with girls that have been vaccinated to show that the HPV vaccine is safe, not painful, not a contraceptive, etc. (Possibly also use testimonial of a woman/couple who lost a mother to cervical cancer and now their daughter has been vaccinated and protected).
- g. There was some observed hesitance amongst girls to accept the vaccination because they were scared of the injection (pain), and would therefore claim that their parents refused to let them be vaccinated. This demonstrated a need to improve the sensitization targeted at the girls themselves so that they understand the importance of the vaccine so that they accept/want to get vaccinated.
- h. Meetings with parents are important, but time with them is limited and therefore must be well-planned and prioritized (e.g. There may only be one opportunity at the beginning of the school year to organize this; special meetings may also need to be organized with parents of girls who are not in school -- or with the girls themselves, in some cases).
- i. Include messaging about HPV and the vaccine’s role in preventing cervical cancer in earlier grades (before the grade of the eligible target population), so that awareness and acceptance of the vaccine is garnered early on to avoid resistance when the time comes for the vaccination.

## Financing/Resource Allocation

- a. Additional motivation for COSAN and community mobilizers is needed, as workers had to go door-to-door, particularly to reach non-school girls, which involved transportation costs.
- b. For CSBs with larger numbers of schools, either increase the number of teams or extend the number of days for the teams for the second phase. These planning contingencies should also be considered in the costing for future pilots/roll-out, if school-based vaccination is to be provided.
- c. Develop a better system for estimating operational costs, particularly for urban areas where there are a large number of schools and for schools with large numbers of girls.
- d. Ensure some additional funding for mop-up (to revisit schools) to avoid this being a “one-day” campaign with each school and also to enable coverage of girls who were absent or unavailable.

## Collaboration between Partners/Key Actors

- a. Continue involvement of COSAN and development of calendars (i.e. on the HPV vaccination activities and locations for each day and over each round) with Medicine Chiefs in the CSBs; this worked well with communities and to help inform the schools.
- b. In urban areas, have a meeting after each round with the CSBs and ZAP to find schools where acceptance by the administrators was a problem (not just Catholic schools) or where it was difficult to arrange sessions.
- c. List key actors and standardize communication for all of these key actors to ensure, as possible, that no one is left off or missed in the messaging or meeting invitations.

# GENERAL HPV INTRODUCTION LESSONS LEARNED & RECOMMENDATIONS

The HPV vaccine was also introduced in Niger, with a similar Gavi funded supplemental technical assistance arrangement with JSI. Based on experience in the two countries, the following common observations and recommendations emerge:

## Common Challenges with the Niger HPV Experience

- Insufficient financial and human resources to fully accommodate the school-based vaccination schedules and revisits/mop-up activities.
- Rumors that the vaccine is being used as an experiment or to test the vaccine, and/or that the vaccine actually sterilizes girls.
- Worries amongst parents/religious leaders that vaccines will encourage or embolden girls to be sexually active.
- Guidelines from WHO on the vaccination schedule changed mid-pilot (i.e. from a recommended three dose schedule to a two dose schedule).

## Global Recommendations

- An active and functioning HPV pilot committee at national level and in the pilot districts is essential for success. They should meet regularly for planning before each round.
- Ensure that supervision and monitoring visits are conducted as part of the HPV vaccination roll-out and use these as opportunities to provide feedback/improvement for routine immunization.
- Although the HPV vaccination may follow a campaign-like approach (e.g. conducted over a one week period for administration of each dose, if conducted in schools), efforts should be made to ensure that HPV vaccination is perceived as part of a longer-term, routine strategy for each annual cohort.

The following table is illustrative and could be used by the HPV pilot committee at the end of the second phase of the pilot to help guide the planning for future HPV vaccine roll-out:

**Table 7: Considerations for HPV Sustainability:**

<b>HPV SUSTAINABILITY PLANNING (considerations post-pilot)</b>		
	<b>What is Required or Preferred?</b>	<b>What is needed to achieve this?</b>
<b>Financial Costing</b> Recurrent costs (e.g. Petrol, transport) Vaccine Cold chain and logistics Planning and management		
<b>Annual Administration Plan</b> Campaign? Set school period? Routine – fixed facility? Hybrid approach?		
<b>Monitoring/Follow-up Plan</b> Frequency of HPV activities, including implementation schedule, monitoring, supervision, impact/evaluation Linkages with adolescent and community health programs		
<b>Coordination with Schools</b> School calendar Key partners Informing parents and educators, school administrators, community		
<b>Expansion/Scale-up vision?</b> Phased? Additional Pilots? National roll-out?		

# ANNEX I: RECOMMENDATION FROM MADAGASCAR HPV PIE

## Training and Capacity Building

- Impliquer les Chiefs FKT, les directeurs d'écoles et tous les instituteurs pendant la formation
- Prévoir de Guide/manuel de formation à tous les niveaux
- Eviter la formation en cascade, former en même temps les acteurs concernés pour avoir la même information

## Vaccine Coverage

- Bien harmoniser les données au niveau écoles-CSB et District
- Partager les résultats à tous les niveaux: MEN, DREN, CISCO et ZAP
- Mettre à jour les cibles à vacciner avant tous les passages.

## Vaccine Administration

- Plaidoyer à tous les niveaux pour avoir le consentement de toutes les entités impliquées à la vaccination
- Prévoir des sites de proximité pour les jeunes filles non scolarisées
- Collaborer avec les Chiefs FKT pour le recensement des filles non scolarisées
- Renforcer la sensibilisation

## Cold Chain Management

- Prévoir toujours de pétrole même pour les réfrigérateurs électriques
- Surveiller la fonctionnalité des réfrigérateurs au niveau de ces 2 CSB à problème.

## Vaccine Management, Transport and Logistics

- Prévoir des fonds pour l'acheminement des vaccins du SDSP vers les CSB
- Redéployer les vaccins en surstock pour éviter la péremption

## Vaccine Wastage

- Insister le calcul de taux de perte des vaccins pendant les revues périodiques du SDSP.
- Calculer systématiquement le taux de perte des vaccins pour chaque CSB

### Monitoring and Supervision

- Planifier toujours des visites de supervision pour suivre les activités de tous les CSB
- Prévoir des fonds suffisants pour la supervision de toutes les activités au niveau des CSB.
- Ecrire toujours les observations/recommandations de visites de supervision dans le cahier de passage/supervision

### Managing AEFIs

- Elaborer un protocole national de suivi et de notification des MAPI concernant tous les vaccins non disponible à tous les niveaux

### Communication and Acceptance

- Renforcer la sensibilisation
- Organiser des séances de sensibilisation avec la communauté sur le nouveau vaccin;
- Impliquer toutes les personnes influentes dans la sensibilisation
- Consacrer une longue période pour la sensibilisation de la communauté
- Renforcer la compétence des agents de santé sur les techniques de communication avec les parents;
- Saisir toutes les occasions afin de rassurer les populations sur les inquiétudes suscitées par le nouveau vaccin

### Sustainability

- Débloquer à temps la contre-partie de l'Etat pour l'achat des vaccins.

### Surveillance

- Mettre en place le système de surveillance de personnes atteintes de cancer de col de l'utérus
- Relancer le registre de cancers dans la population répertoriant les cas de cancer du col de l'utérus au niveau CHU et CHRR.

### General Observations

- Eviter les chevauchements des activités
- Organiser à l'avance les activités
- Respecter le chronogramme prévu

# ANNEX II: PRIMARY FINDINGS AND RECOMMENDATIONS FROM HPV COVERAGE SURVEY

## Personne d'influence

	Toamasina I		Soavinandriana	
	Oui	%	Oui	%
agent de santé	328	47%	316	48%
leader communautaire	51	7%	107	16%
anciens du village	7	1%	9	1%
leader religieux	12	2%	7	1%
Instituteur/directeur d'école	554	79%	482	73%
époux/épouse	49	7%	21	3%
parent ou beau parents	67	10%	30	5%
autres membres de la famille	42	6%	16	2%
ami	48	7%	22	3%
voisin	68	10%	17	3%
autre	13	2%	12	2%

Dans les deux districts, les personnes d'influences qui poussent les jeunes filles à faire la vaccination contre le HPV sont les instituteurs /directeurs, les agents de santé et les leaders communautaires. Par contre, les anciens du village et les leaders religieux constituent un obstacle.

## Personne qui donne la permission

	Toamasina I		Soavinandriana	
	Oui	%	Oui	%
Agent de santé	159	23%	148	22%
Leader communautaire	14	2%	48	7%
Anciens du village	6	1%	8	1%
Leader religieux	4	1%	3	0%
Instituteur/directeur d'école	375	54%	369	56%
Epoux/épouse	40	6%	13	2%
Parent ou beau parents	44	6%	20	3%
Autres membres de la famille	25	4%	13	2%
Ami	7	1%	13	2%
Voisin	14	2%	12	2%
autre	0	0%	0	0%

Les instituteurs/ directeurs d'écoles ont donné la permission aux jeunes filles de faire la vaccination anti-HPV

## Source d'information

	Toamasina I		Soavinandriana	
	Oui	%	Oui	%

Télévision ou film communautaire	349	50%	12	2%
Spot radio	270	39%	392	59%
Réunion communautaire	261	37%	75	11%
Bouche à oreille	226	32%	99	15%
Poster dans un centre de santé	43	6%	156	24%
Spot par haut-parleur	32	5%	66	10%
Dépliant	20	3%	22	3%
Journal	12	2%	4	1%
Visite à la maison	5	1%	0	0%
Théâtre communautaire	3	0%	3	0%
Aucun	105	15%	80	12%

Les principales sources d'informations des parents sur la vaccination anti-HPV sont :

-Pour Toamasina I, la télévision ou film communautaire et les spots radio

-Pour Soavinandriana, le spot radio, les affiches/ posters, bouche à oreille/ VAD.

Par contre, le théâtre communautaire et le journal ne sont pas efficaces pour sensibiliser les parents des filles.

### Source d'information le plus utile

	Toamasina I		Soavinandriana	
	Oui	%	Oui	%
Télévision ou film communautaire	226	32%	6	1%
Réunion communautaire	170	24%	53	8%
Bouche à oreille	88	13%	64	10%
Spot radio	83	12%	336	51%
Spot par haut-parleur	32	5%	36	5%
Aucun	11	2%	80	12%
Poster dans un centre de santé	10	1%	78	12%
Dépliant	10	1%	9	1%
Visite à la maison	3	0%	0	0%
Journal	3	0%	0	0%
Théâtre communautaire	3	0%	0	0%

A Toamasina I ; Télévision ou film communautaire constitue la source d'information la plus utile tandis que le spot par haut-parleur à Soavinandriana.

### Raison de l'acceptation de la vaccination

	Toamasina I		Soavinandriana	
	Oui	%	Oui	%
a. Croit en la vaccination pour une bonne santé	218	31%	266	40%
b. Veut que sa fille soit protégée contre le cancer ou une infection	209	30%	172	26%
c. Croit que la prévention contre les maladies est importante	149	21%	99	15%
d. La fille voulait être vaccinée et a persuadé les parents	46	7%	20	3%
e. Le programme était gouvernemental et a donc été accepté	62	9%	99	15%
f. L'instituteur a dit que la vaccination était une bonne idée	90	13%	167	25%
g. L'agent de santé a dit que la vaccination était une bonne idée	50	7%	102	15%
h. Une autre personne a dit que la vaccination était une bonne idée	19	3%	33	5%
i. Connait une personne qui a/a eu le cancer du col	16	2%	1	0%

j. D'autres dans la communauté ou l'école se sont fait vaccinés	18	3%	20	3%
k. La vaccination est gratuite	47	7%	54	8%
l. Le lieu/l'horaire était(en)t pratiques	2	0%	5	1%
m. Le lieu de vaccination était propre et sécurisant	6	1%	2	0%
n. Le temps d'attente était convenable	0	0%	3	0%
o. Autre raison	3	0%	1	0%

Dans les deux districts, les principales raisons de l'acceptation de la vaccination anti-HPV sont :

- croient en la vaccination pour une bonne santé
- veut que sa fille soit protégée contre le cancer
- l'instituteur a dit que la vaccination est une bonne idée

### Raison majeure d'acceptation

	Toamasina I		Soavinandriana	
	Oui	%	Oui	%
b. Veut que sa fille soit protégée contre le cancer ou une infection	116	17%	76	12%
a. Croit en la vaccination pour une bonne santé	89	13%	118	18%
c. Croit que la prévention contre les maladies est importante	79	11%	31	5%
f. L'instituteur a dit que la vaccination était une bonne idée	45	6%	104	16%
g. L'agent de santé a dit que la vaccination était une bonne idée	21	3%	64	10%
d. La fille voulait être vaccinée et a persuadé les parents	19	3%	6	1%
e. Le programme était gouvernemental et a donc été accepté	12	2%	33	5%
k. La vaccination est gratuite	10	1%	3	0%
i. Connait une personne qui a/a eu le cancer du col	7	1%	1	0%
j. D'autres dans la communauté ou l'école se sont fait vaccinés	4	1%	5	1%
h. Une autre personne a dit que la vaccination était une bonne idée	3	0%	14	2%
m. Le lieu de vaccination était propre et sécurisant	1	0%	2	0%
l. Le lieu/l'horaire était(en)t pratiques	0	0%	1	0%
n. Le temps d'attente était convenable	0	0%	1	0%
o. Autre raison	2	0%	0	0%

Les raisons majeures de l'acceptation sont :

- croient en la vaccination pour une bonne santé
- l'instituteur a dit que la vaccination est une bonne idée

### Raison de refus de la vaccination

	Toamasina I		Soavinandriana	
	Oui	%	Oui	%
a. Ne croit pas que la vaccination soit une bonne chose pour les enfants	49	7%	49	7%
d. N'a pas confiance dans le programme de vaccination du gouvernement	45	6%	20	3%
c. La fille ne voulait pas être vaccinée	38	5%	19	3%
g. Une autre personne a dit que le vaccin n'était pas une bonne idée	36	5%	26	4%
p. Le vaccin a un impact sur la fertilité des filles	30	4%	47	7%
m. Le vaccin HPV n'est pas sûr; inquiétude au sujet des effets secondaires	30	4%	26	4%
o. Les filles sont trop jeunes pour le vaccin HPV	23	3%	10	2%
h. D'autres dans la communauté ou à l'école ont aussi refusé	20	3%	27	4%
b. Pense que le cancer du col n'est pas un risque pour la fille	18	3%	9	1%
s. Le vaccin en courage une activité sexuelle précoce	18	3%	5	1%

aa. Fille absente de l'école le jour de la vaccination	15	2%	13	2%
n. Pas besoin de 3 doses	15	2%	5	1%
l. N'était pas au courant du programme de vaccination HPV	14	2%	35	5%
bb. Fille malade le jour de la vaccination	11	2%	10	2%
y. Douleur trop importante après la 1ère et/ou la 2ème dose	11	2%	7	1%
e. L'instituteur a dit que le vaccin n'était pas une bonne idée	11	2%	1	0%
v. N'a pas confiance dans les vaccins donnés à l'école	11	2%	1	0%
i. Le lieu/l'horaire n'était(en)t pas pratique(s)	10	1%	20	3%
t. Pense que le vaccin HPV est expérimental	10	1%	9	1%
k. Le temps d'attente n'était pas convenable	9	1%	5	1%
q. Il n'est pas bon de recevoir trop de vaccins	7	1%	3	0%
z. Trop occupé pour amener la fille à la vaccination	6	1%	14	2%
w. Le vaccin HPV est trop nouveau	6	1%	4	1%
j. Le lieu de vaccination était sale et insécurisant	6	1%	3	0%
f. L'agent de santé a dit que le vaccin n'était pas une bonne idée	6	1%	1	0%
r. Il y a de meilleures façons de prévenir le cancer du col	4	1%	0	0%
x. La Religion interdit la vaccination	4	1%	0	0%
cc. Le vaccin n'était pas disponible/administrer au lieu de vaccination	1	0%	14	2%
u. A entendu des campagnes contre le vaccin HPV dans les médias	0	0%	2	0%
dd. Autre raison (décrire brièvement)	38	5%	48	7%

Les principales raisons pour le refus de la vaccination anti-HPV sont :

- ne croit pas que la vaccination anti-HPV soit une bonne chose pour les enfants
- existence des rumeurs contre le vaccin anti-HPV
- la vaccination a un impact négatif sur la fertilité des filles

### Raison majeure de refus de la vaccination

	Toamasina I		Soavinandriana	
	Oui	%	Oui	%
p. Le vaccin a un impact sur la fertilité des filles	22	3%	36	5%
c. La fille ne voulait pas être vaccinée	19	3%	8	1%
d. N'a pas confiance dans le programme de vaccination du gouvernement	19	3%	3	0%
g. Une autre personne a dit que le vaccin n'était pas une bonne idée	17	2%	9	1%
m. Le vaccin HPV n'est pas sûr; inquiétude au sujet des effets secondaires	15	2%	9	1%
aa. Fille absente de l'école le jour de la vaccination	14	2%	11	2%
l. N'était pas au courant du programme de vaccination HPV	13	2%	22	3%
a. Ne croit pas que la vaccination soit une bonne chose pour les enfants	13	2%	7	1%
b. Pense que le cancer du col n'est pas un risque pour la fille	11	2%	4	1%
t. Pense que le vaccin HPV est expérimental	10	1%	6	1%
bb. Fille malade le jour de la vaccination	8	1%	10	2%
y. Douleur trop importante après la 1ère et/ou la 2ème dose	8	1%	4	1%
o. Les filles sont trop jeunes pour le vaccin HPV	8	1%	2	0%
s. Le vaccin encourage une activité sexuelle précoce	8	1%	2	0%
i. Le lieu/l'horaire n'était(en)t pas pratique(s)	6	1%	8	1%
h. D'autres dans la communauté ou à l'école ont aussi refusé	6	1%	7	1%

k. Le temps d'attente n'était pas convenable	5	1%	2	0%
n. Pas besoin de 3 doses	5	1%	1	0%
w. Le vaccin HPV est trop nouveau	5	1%	0	0%
v. N'a pas confiance dans les vaccins donnés à l'école	4	1%	0	0%
z. Trop occupé pour amener la fille à la vaccination	3	0%	7	1%
e. L'instituteur a dit que le vaccin n'était pas une bonne idée	3	0%	0	0%
x. La Religion interdit la vaccination	3	0%	0	0%
f. L'agent de santé a dit que le vaccin n'était pas une bonne idée	2	0%	0	0%
j. Le lieu de vaccination était sale et insécurisant	2	0%	0	0%
r. Il y a de meilleures façons de prévenir le cancer du col	2	0%	0	0%
cc. Le vaccin n'était pas disponible/administrer au lieu de vaccination	1	0%	6	1%
q. Il n'est pas bon de recevoir trop de vaccins	1	0%	0	0%
u. A entendu des campagnes contre le vaccin HPV dans les médias	0	0%	0	0%
dd. Autre raison (décrire brièvement)	30	4%	32	5%

Les principales raisons pour le refus de la vaccination anti-HPV sont :

- le vaccin a impact négatif sur la fertilité des filles
- n'était pas au courant du programme de vaccination anti-HPV

### Analyse et commentaire :

Pendant la première année de démonstration du vaccin anti-HPV, les cibles sont respectées: filles en classe CM2 pour les scolarisées, filles âgées de 10 ans pour les non scolarisées.

Les données administratives sont légèrement inférieures par rapport aux données de l'enquête dans les deux districts: dans le district de Toamasina I, 60,34 % contre 61%, dans le district de Soavinandriana 62,93% contre 69%. Ces différences peuvent être dues aux choix de l'échantillon ou sous notification des districts.

La distribution des carnets ou cartes de vaccination aux filles vaccinées est très importante aussi dans le district urbain de Toamasina I que dans le district rural de Soavinandriana. (12% à Toamasina I et 42% à Soavinandriana).

La majorité des responsables des filles enquêtés connaisse les bienfaits de la vaccination anti-HPV mais ils ne connaissent pas en réalité le vaccin anti-HPV.

Les instituteurs/directeurs d'écoles, les agents de santé et les agents communautaires sont les personnes d'influences qui poussent les filles à faire la vaccination anti-HPV. Le renforcement des plaidoyers auprès des leaders communautaires et religieux est capital pour assurer la sensibilisation.

Les principales sources d'information de la population sont: les spots radio, les spots TV et les affiches.

Les principales raisons de l'acceptation de la vaccination anti-HPV sont la protection des jeunes filles contre le cancer du col, et la sensibilisation des instituteurs/directeurs d'école.

Les rumeurs (le vaccin a impact négatif sur la fertilité des filles), la méfiance sur la vaccination anti-HPV sont les principales causes de refus.

## **Recommandations :**

### **Niveau central et partenaires:**

Doter les districts des carnets ou cartes de vaccination.

Faire le plaidoyer auprès des leaders communautaires et religieux

Bien choisir les canaux d'information pour les communautés: affiches, spots radio et télévision

### **Niveau région/district:**

Préparer une réunion d'information des parents et instituteurs

Elaborer et suivre un plan de communication un mois avant la mise en œuvre.

Elaborer un plan de lutte contre les rumeurs

### **Niveau CSB:**

Collaborer étroitement avec les AC pour recenser les filles non scolarisées et les diriger vers les écoles les plus proches pour la vaccination.

Elaborer des stratégies de lutte contre les rumeurs

Participer à la formation des parents et des instituteurs.

# ANNEX III. EXAMPLE CHECKLIST FOR HPV PILOT INTRODUCTION, MADAGASCAR, AUGUST 2014

N°	Issue	Status	Action(s) to be taken	Lead Agency / Focal point
I	Need for cold chain equipment			
A	Assessment for cold chain equipment	Last assessment in 2011 but inventory must be updated within the DVDMT monthly	<p>Ensure the cold chain assessment by desk review or in fields</p> <p>Acquire 100 refrigerators by HSS founding for priority CSBs.</p> <p>Update cold chain database, based on the information collected during the National EPI Review on march 2014</p>	<p>HSS/GAVI</p> <p>SV cold chain responsible Mr. Henry Andrianiaina</p>
B	Advocacy to target new partners for additional cold chain equipment	SV has started it with the partners , 56 with HSS/GAVI, 154 refrigerators acquired by Word Bank, 59 with UNICEF, 02 with WHO	Support technically SV for writing the proposal for additional cold chain	<p>SV and MoHFW</p> <p>Chief of SV</p>
C	Additional cold chain equipment needs	Advocated in central level by Chief of SV (in Madagascar GAVI proposal)	Cold chain assessed and sufficient for HPV in 2 pilot districts.	<p>GAVI and WB (World Bank)</p> <p>SV chief and logistics committee</p>
D	Distribution and installation of new CC equipment at district and health facility levels	Cold chain adequate in HPV pilot districts	Logistics committee to continue to monitor.	<p>HSS/GAVI</p> <p>SV cold chain responsible Mr. Alexandre</p>
<b>2</b>	<b>Revision of recording, reporting and of the monitoring EPI tools</b>			
A	Preparation of technical guideline and other EPI policy documents	National EPI policy not yet updated with HPV introduction; other technical documents updated Developed some guidelines (Logistic manual, Surveillance ...)	Inventory the list of technical files & guidelines which need to be updated	SV logistic and cold chain responsible parties
B	Preparation of all HPV management tools (tally sheet, immunization register, child health card, reporting forms, etc.)	Developed but the vaccination cards for girls need updating and printing.	Follow-up & supervision of its printing and use; reporting tools used for the first phase and are being updated for the second year	SV

N°	Issue	Status	Action(s) to be taken	Lead Agency / Focal point
C	Distribution of HPV tools	Tools dispatched to the field. But they are inadequate for the second year.	Follow-up & supervision of its impression and use, and evaluation of needs in 2nd year	SV and partners
D	Availability of the HPV tools at health facility level	Tools dispatched to the field.	Follow-up & supervision of its impression and use, and evaluation of needs in 2nd year	SLMV and SV (technical development)
<b>3 Training of health workers and logisticians</b>				
A	Availability of the adapted training materials (Trainers' guide, training modules for health workers at peripheral level)	Available only with the content facilitators	Update and centralize these materials and ensure availability for all teams at all levels for the second year; follow-up with supportive supervision	SV and DREN
B	Training of trainers	Trainings complete. However there is not enough follow-up or effective supportive supervision.	Ensure periodic and effective supportive supervision.	MoHFW
C	Training of logisticians (installment and maintenance of cold chain equipment)	2 training sessions carried out for technicians.	Training followed by formative supervision	HSS/GAVI SV cold chain responsible
D	Training of health professionals at the operational level	Achieved for HPV	HPV trainings conducted. Monitoring and formative supervision (JSI visited both districts)	SLMV and SV
E	Training of teachers, community health educators and/or CSOs	achieved	Monitoring and formative supervision during/after rounds	SLMV supported technically by SV and MEN
<b>4 Advocacy, Communication &amp; Social Mobilization</b>				
A	Update of Communication plan, materials and toolkits	Completed for introduction; additional messages developed for Catholic schools	Adapt the strategies for year two from the lessons learned from year one.	SLMV
B	Stakeholder sensitization and advocacy	Conducted for launch for the second phase	Continued as part of monitoring in districts	SLMV
C	Address issues of resistance groups against HPV vaccine	Resolved	Strategy being implemented for Catholic schools for all aspects for the second year.	SLMV
D	Address KAP and any possible concerns of parents for this vaccine	Resolved	Implement the HPV-SRA integrated communication plan with parents and teachers.	SLMV

N°	Issue	Status	Action(s) to be taken	Lead Agency / Focal point
E	Review of communication messages and materials (Schools and CSB).	Achieved and specific for each district, but in need of updating.	Update all the communication materials for the second year	SLMV Supported technically by SV, SSRA, MEN, MoHFW communication service
F	Media identification and sensitization	Achieved	Re-launch for the 2 <sup>nd</sup> phase of the demo and make more dynamic.	SLMV Supported technically by SV, SSRA, MEN, MoHFW communication service
G	Communication in the community, particularly for girls not in school and the parents association in school	Advocacy achieved in NGOs, But not effectively involved	Strengthen community links with Religious leaders, local NGOs, and Fokontany committees and adjust according to the PIE and the ECV	SLMV
<b>5 Vaccine and injection material supply</b>				
A	Readiness to receive the vaccine and injection material	WHO evaluation allowed UNICEF to order the vaccine and injection materials	Evaluation preparations for the second phase	UNICEF SV logistic responsible Dr. Mbola
B	Reception of HPV vaccine and injection material	Achieved	Continued monitoring in districts with SV, UNICEF and in fields	UNICEF SV logistic responsible Dr. Mbola
C	Registration of vaccine doses and of the syringes, etc.	Available in the central level	Monitor and follow-up on distribution and tracking.	UNICEF SV logistic responsible Dr. Mbola
D	Availability of vaccine and injection material at all levels.	Available in pilot districts for both rounds	Monitor and follow-up for the second phase	UNICEF SV logistic responsible
E	Capacity verified at peripheral levels	No stock outs reported by the 2 pilot districts	Check the information with SV cold chain responsible and in the field	RSS/GAVI SV Logistic responsible Dr. Mbola
<b>6 Injection safety, waste management and disposal</b>				
A	Availability of vaccines and syringes, needles, safety boxes, etc. at national level	WHO evaluation allowed UNICEF to order the vaccine and injection materials	Check periodically on information with Chief SV and its partners	Sharing cost between SV and UNICEF, UNICEF ensures to only region or district.
B	Distribution of vaccines and syringes,	HPV vaccine and supplied distributed for the second phase.	Check the information with logistic responsible & EPI	Regional and district Health responsible

N°	Issue	Status	Action(s) to be taken	Lead Agency / Focal point
	needles, safety boxes, etc. to district and facilities	This was checked by SV staff during supportive supervision.	regional coach and carry out formative supervision	
B	Availability of functional incinerators at health facilities	SV team checked during formative supervision	Formative supervision Or desk review	Health facility responsible
C	Training for the correct use of incinerators	Cf. SV team  To be checked during formative supervision	Follow-up needed by SV	MoHFW
D	Follow up on the recommendation of a meeting outside Madagascar on injection safety			
<b>7</b>	<b>Surveillance system updated for VPDs and AEFIs related to new vaccines</b>			
A	Surveillance for AEFI	Refer to SV surveillance team	Discuss preparations with SV and its partners	WHO SV surveillance AEFI
B	Training of staff for surveillance	All regional focal points and districts, as well as VPD surveillance health workers have been trained.	Update training materials and retrain CSB workers	WHO SV surveillance AEFI
C	Introduce surveillance elements on colon and uterine cancer.	Only two districts of Fianarantsoa I and II have benefited from cancer surveillance	Re-launch strategies and tools that are already in place.	WHO SV surveillance AEFI
<b>8</b>	<b>Official Launch</b>			
A	Introduction date set	Achieved on Nov. 18.2013		SLMV WHO
B	Site for launching determined	Toamasina I	Launch conducted on 18 Nov	MoHFW
C	Renew and update the IEC materials and media of the sites and schools. Conduct community dialog to solve the problem of resistance	Achieved	Reinforce IEC in fields and monitor the availability & multiplication of IEC materials and media	SLMV SV/HPV-GAVI funds
D	Arrangements for girls not in schools	Advocacy achieved with Local Min. Population, communication & community link strategies in progress	Follow-up with Community Health Workers and Chief Fokontany to identify non-vaccinated girls.	SV/HPV-GAVI funds SV chief and HPV/SV responsible Dr. Voahangy

N°	Issue	Status	Action(s) to be taken	Lead Agency / Focal point
			Monitoring and formative supervision conducted during HPV activities and for mop-up. Revise the arrangements concerning unschooled girls for the second phase	and Dr. Tiana
<b>9 Documentation</b>				
A	Monitoring system in place for tracking introduction and roll-out	Follow up and dropout tracking system	Use the registry of students in year CM2 and the list of unschooled girls. New list for 2014/2015	SV/HPV-GAVI funds SV chief and HPV/SV responsible Dr. Voahangy and Dr. Tiana
B	Plan for documentation – for each round	Achieved	Finalize the documentation of the first year with detailed findings and observations.	SV/HPV-GAVI funds SV chief and HPV/SV responsible Dr. Voahangy and Dr. Tiana
C	Supportive supervision	Supervision checklist has a section for HPV vaccine	Supportive supervision conducted; Reinforce formative supervision with partners	SV Monitoring and Evaluation Dr. Haja and Dr. Monique
D	6 month plan updated but lack of follow up and recommendations	Monthly EPI review meetings have resumed and follow-up to recommendations is taking place	Tools adapted for the HPV PIE and evaluation complete, with results included in the documentation.	WHO, UNICEF SLMV SV/HPV-GAVI funds SV chief and HPV/SV responsible Dr. Voahangy and Dr. Tiana
E	Plans for integration of HPV pilot lessons with other diagnostics and cancer prevention	In development	Discussions needed with HPV committees, as well as with adolescent and women’s health units and colleagues to utilize HPV findings	WHO, UNICEF SLMV SV/HPV-GAVI funds SV chief and HPV/SV responsible Dr. Voahangy and Dr. Tiana

# ANNEX IV: MADAGASCAR HPV PILOT COMMITTEE- HPV PHASE 2 ACTIVITY PLAN/TIMELINE, MAY 2014

CHRONOGRAMME DES ACTIVITES			Sept				Oct				Nov				Déc				Janv				Fev				Mars				Avril				Mai				Juin			Responsable
activités	Période		S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S					
<b>Stratégie 1: Adresser une lettre signée par SG MINSAN ET MEN sur la tenue de la deuxième année de la vaccination anti-HPV intégrée avec SAJ</b>																																										
Act 1,1	Redynamiser les divers comités de pilotage à tous les niveaux (GCT, CPSP, CP Commune)	Avant																																								SV, SLMV, SRA DRSP SDSP, CSB, MEN
Act 1,2	Atelier de mise à jour des micros plans	Avant																																								MEN, SV, SLMV, DRSP,SDSP,SRA
Act 1,3	Réunir 4 fois les comités (GCT central pour l'INV, au niveau des districts)	Avant Pendant, Après																																								SV, SLMV, SRA DRSP SDSP, CSB, MEN
Act 1,4	Mettre à jour et reproduire un guide de vaccination pour la deuxième année de l'introduction du vaccin anti-HPV	Avant																																								SV, SLMV, SRA DRSP SDSP, MEN
Act 1,5	Actualiser et reproduire les outils de gestion, plan de session et outils de formateurs	Avant																																								SV, SLMV, SRA DRSP SDSP, MEN
Act 1,6	Former les responsables centraux, régionaux, districts (FDF) sur l'intégration des activités SAJ/ EVA /vaccin anti-HPV, Niv 1 (cisco, santé, jeunesse, population sur l'introduction HPV à Antananarivo	Avant																																								SV, SLMV, SRA DRSP SDSP, MEN









# ANNEX V: ILLUSTRATIVE INDICATORS FOR MONITORING A NEW VACCINE INTRODUCTION

Illustrative Indicator	Definition/clarification	Data source /collection method	Frequency of data collection
Vaccine pre-introduction plans finalized and implemented	# and % of plans prepared and implemented; ICC subcommittees established and meeting regularly	Record review	Quarterly
Recording, reporting, and monitoring tools are updated, printed distributed	# and % of EPI management tools revised to reflect new vaccine information	Record review	Once, before vaccine introduction
Health workers capable of using new vaccine properly	Minimum of one trained health worker per health facility providing immunizations (public and private); Minimum of one trained teacher per school providing immunizations for HPV (public and private)	Record review	At least once before vaccine introduction
New vaccine fully integrated into routine immunization system	Technical guidelines revised to reflect new vaccine; reporting tools revised; new vaccines available and used regularly in most HFs; Supervision	Record review and supervision visits	Once for record review; ongoing monitoring through supervision
Country co-financing process and communication with GAVI improved	Key advocacy meetings conducted; teleconference/meeting discussions held between country and GAVI; co-financing discussed on ICC agenda	Annual Progress Report to GAVI	Quarterly

## Madagascar-specific product indicators:

Components:	Process Indicators	Data source /collection method	Frequency of data collection
Advocacy and Community Involvement	# of NGOs/CSOs/Associations involved with the introductions in HPV pilot districts Report on the # of private primary schools that have accepted HPV in the 2 pilot districts / # of total private schools in the districts	Record review	Once, before vaccine introduction

Components:	Process Indicators	Data source /collection method	Frequency of data collection
Logistics: vaccine delivery and cold chain	Availability of vaccines in target districts on the day of vaccination (HPV) Vaccine supply distribution system reviewed and improvements made	Record review and supervision visits	Once, before vaccine introduction; ongoing monitoring through supervision
Service Delivery	# and % of health agents trained Training completed prior to shipment of vaccine Availability of the total population and absolute # of target population at health center and school level for HPV districts # of supportive supervision visits conducted	Record review	At least once before vaccine introduction; quarterly for supervision visits
Management and Reporting	Availability of reports of children vaccinated Availability of a system for tracking missed girls and drop-outs (System in place for identifying girls who are not registered in schools)	Record review	Once, before vaccine introduction
Communication	IEC materials available in districts before launch Community leaders and key members (e.g. Chief Fokontany, CSOs) informed of new vaccine introductions in advance and assisting with mobilization	Record review	Once, before vaccine introduction
Social mobilization	# of teachers trained Report on the # of community mobilizers assisting with identifying target populations / # of mobilizers in intervention areas	Record review	Once, before vaccine introduction; ongoing monitoring through supervision

# ANNEX VI: EXAMPLE RECORDING TOOLS

Fiche de pointage journalière de la vaccination HPV						
SDSP : _____						
ville / village : _____						
CSB : _____						
école : .....						
date : __/__/____						
Age	Nbre de doses de HPV1 administrés		Nbre de doses de HPV2 administrés		Nbre de doses de HPV3 administrés	
≤ 9 ans	0000 0000	Total	0000 0000	Total	0000 0000	Total
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
10 ans	0000 0000	Total	0000 0000	Total	0000 0000	Total
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
11 ans	0000 0000	Total	0000 0000	Total	0000 0000	Total
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
12 ans	0000 0000	Total	0000 0000	Total	0000 0000	Total
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
13 ans	0000 0000	Total	0000 0000	Total	0000 0000	Total
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
14 ans	0000 0000	Total	0000 0000	Total	0000 0000	Total
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
> 15 ans	0000 0000	Total	0000 0000	Total	0000 0000	Total
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
<i>inconnu</i>	0000 0000	Total	0000 0000	Total	0000 0000	Total
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	0000 0000		0000 0000		0000 0000	
	Total :		Total :		Total :	

## Fiche d'enregistrement mensuel de la vaccination HPV

mois et année de rapport : / /	SDSP : _____																			
	CSB : _____																			
Age/année	Nbre de doses de HPV1 administrés						Nbre de doses de HPV2 administrés						Nbre de doses de HPV3 administrés							
	HPV1 9 ans						HPV2 9 ans						HPV3 9 ans							
≤ 9	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total		
10	HPV1 10 ans						HPV2 10 ans						HPV3 10 ans							
	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total		
11	HPV1 11 ans						HPV2 11 ans						HPV3 11 ans							
	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total		
12	HPV1 12 ans						HPV2 12 ans						HPV3 12 ans							
	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total		
13	HPV1 13 ans						HPV2 13 ans						HPV3 13 ans							
	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total		
14	HPV1 14 ans						HPV2 14 ans						HPV3 14 ans							
	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total		
≥ 15	HPV1 > 15 ans						HPV2 > 15 ans						HPV3 > 15 ans							
	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total		
inconnu	HPV1 inconnu ans						HPV2 inconnu ans						HPV3 inconnu ans							
	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total	S1	S2	S3	S4	S5	Total		

Age en années	A	B	C	D	Taux de couverture (%)		
	Total annuel de doses de HPV1 administrés	Total annuel de doses de HPV2 administrés	Total annuel de doses de HPV3 administrés	total cible	(A/D)x100	(B/D)x100	(C/D)x100
					HPV1	HPV2	HPV3
≤ 9							
10							
11							
12							
13							
14							
≥ 15							
inconnu							
Total mensuel de dose administrées à toutes les filles							

## TABLEAU DE RECAPITULATION MENSUELLE

SDSP : \_\_\_\_\_

CSB : \_\_\_\_\_

Nbre de doses de VPH1 administrées													
Age en années	jan	fev	mar	avr	mai	jun	jul	aout	sep	oct	nov	dec	Total annuel de doses de VPH1 administrées
≤ 9													
10													
11													
12													
13													
14													
≥ 15													
inconnu													
Total mensuel de dose de VPH1 administrées													
Nbre de doses de VPH2 administrées													
Age en années	jan	fev	mar	avr	mai	jun	jul	aout	sep	oct	nov	dec	Total annuel de doses de VPH2 administrées
≤ 9													
10													
11													
12													
13													
14													
≥ 15													
inconnu													
Total mensuel de dose de VPH2 administrées													
Nbre de doses de VPH3 administrées													
Age en années	jan	fev	mar	avr	mai	jun	jul	aout	sep	oct	nov	dec	Total annuel de doses de VPH3 administrées
≤ 9													
10													
11													
12													
13													
14													
≥ 15													
inconnu													
Total mensuel de dose de VPH3 administrées													

