

Field Guide

Monitoring and Evaluation
for HPV Demand Promotion

About This Guide

Monitoring and Evaluation for HPV Demand Promotion

This guide is meant to provide practical and useful information around Monitoring and Evaluation (M&E) to country-level staff involved in planning, designing, and implementing Social Behavior Change (SBC) program interventions for Human Papillomavirus (HPV) vaccination. A guide like this one is in response to the emphasis on strengthening the evidence-based efforts of SBC programs in order to show how SBC helps promote lasting change in values, attitudes, perceptions, practices, and social norms around key health issues. This guide will provide the rigorous and comprehensive M&E framework at country level that allows for timely decision making, accountability, and provides the basis for learning to guide future programming in communication for HPV vaccination. This guide can be adapted at country level to address the specific M&E needs of each country's unique context, but the fundamental elements should be maintained to ensure that the M&E plans remain systematic and robust. This guide should be used in conjunction with the other companion guides created for HPV communication, specifically:

- The “Field Guide–Planning for HPV Demand Promotion” shows how M&E fits into and informs the seven steps of program planning.
- The “Field Guide–HPV Message Framework” provides key messages for different target audiences that can be used to define SMART objectives for your campaign's outcomes and impacts.
- The “Field Guide–Advocating for HPV Vaccination” provides special guidance on how to monitor and evaluate the advocacy component of your campaign.

Development of this field guide is the result of an extensive collaboration between UNICEF, American Cancer Society, Bill and Melinda Gates Foundation, CDC, CHAI, Gavi, the Vaccine Alliance, Girl Effect, JHPIEGO, JSI, PATH, WHO, UNFPA & PCI Media. UNICEF wishes to recognize their contributions to this important initiative and expresses gratitude to all those who supported the development of the package through their time and expertise.

UNICEF also thanks the following staff members and consultants from the Country and Regional Offices, and the Headquarters who substantially contributed to the development of these Guidelines, and their input and support is gratefully acknowledged: Elnur Aliyev, Indrani Chakma, Chancy Mauluka, Titus Bonie Moetsabi, Jennifer Barak, Fikiri Mazige, Karl Spence, Vololomanitra Belalahy, Tesfaye Simireta, Miriam Lwanga, Gianluca Flamigni, Marcelline Ntakibirora, Halima Dao, Omar Habib, Awa Diallo Bathily, Raabi Diouf, Grev Hunt, Jonathan Shadid, Johary Randimbivololona, Violeta Cojocar, Deepa Pokharel, Iwan Hassan, Helena Ballester Bon, Flint Zulu, Nasir Yusuf, Natalie Fol, Chikondi Khangamwa, Attiya Qazi, Azhar Abid Raza, Celina Hanson, Oya Zeren Afsar, Willibald Zeck, Diane Summers, Robin Nandy and Stefan Peterson.

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These field guides have been developed to support country teams and partners in their HPV communication planning, rollout and monitoring. These guides are available online/offline for use and adaptation in line with local context and requirements.

To access and download the HPV Communication Field Guides, other related resources and examples, please visit <http://globalhpv.com/>

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Guide Users

This M&E guide is intended to be used by communication specialists and program implementation staff who will find this guide useful as it offers descriptions of key process as well as the rationale for each research method used in measuring the effects of communication interventions. In addition, the guide offers step-by-step guidance on how to conduct monitoring and evaluation at various levels of implementation, i.e., national, sub-national, and district levels. The guide also provides guidance on the various tools available for monitoring and evaluation and offers examples of key indicators for conducting monitoring and evaluation.

What's in This Guide

In this guide you will find the following:

- Clear roles and responsibilities of various stakeholders in M&E at national, sub-national and district levels.
- Step by step guidance on how to plan for and undertake M&E.
- Overview of common M&E methods.
- Examples of SMART objectives and indicators used in M&E.
- Examples of tools used in M&E.



What Is Monitoring and Evaluation and Why Is It Important

Monitoring and evaluation are often referred to as one entity, but in fact are two distinct but complementary research processes. Both are used to systematically collect and assess information to determine whether program interventions are achieving their goals through activities and predefined deliverables. The M&E framework refers to the process and tools used to measure whether an intervention has been implemented according to plan (monitoring) and whether it is having the desired effect (evaluation) on the intended populations.

Monitoring encompasses all the research that is conducted to plan, design and monitor the implementation of the demand promotion program and serves three discrete purposes at different steps in the campaign planning process (refer to “Field Guide–Planning for HPV Demand Promotion” for detail on the seven steps in planning). Each of the three purposes is referred to by its own name even though they often use similar methods:

1. Formative research is conducted during the Communication Research and Analysis step (refer to “Field Guide–Planning for HPV Demand Promotion”) and is considered to be the first stage of monitoring. Formative research is used to inform campaign planners and help to guide the design of the communication program. It provides the communication team with a basic understanding o:

a. The current prevalence of HPV and cervical cancer in the country.

- b. The current status of the HPV vaccine campaign nationally.
- c. The population’s knowledge, attitudes, and behaviors that are related to HPV vaccination adoption among target populations.
- d. An understanding of any barriers to vaccine adoption, or false rumors about the vaccine.
- e. The key target audiences to reach with campaign messages.
- f. The local communication channels available to the program and how the target population uses them.

Information learned during the formative research is summarized in a situation analysis report

2. Process monitoring is the continuous and routine observation and tracking of inputs, processes, and communication outputs/activities over time. Process monitoring determines whether or not your communication activities are being carried out as planned, tracks progress against set action plans, checks compliance with objectives, and ensures that the program is proceeding as planned, on schedule, and within budget. If any aspect of the process is not on schedule, process monitoring allows for timely correction to be taken by program implementers.

3. Pre-testing of campaign messages and activities/materials is an important third component of monitoring that is used to make sure that communication messages

and materials (outputs such as pamphlets, posters, videos, radio spots, etc.) are clear, properly understood by, and culturally acceptable to the target audience(s). For example, focus groups of adolescent girls (or their parents or school health administrators) can be used to pre-test SBC materials at several stages of development (concept, first drafts, prototypes). Pre-testing is conducted during Step 4 (refer to “Field Guide–Planning for HPV Communication”), Messages, Branding, Material, and Pre-test.

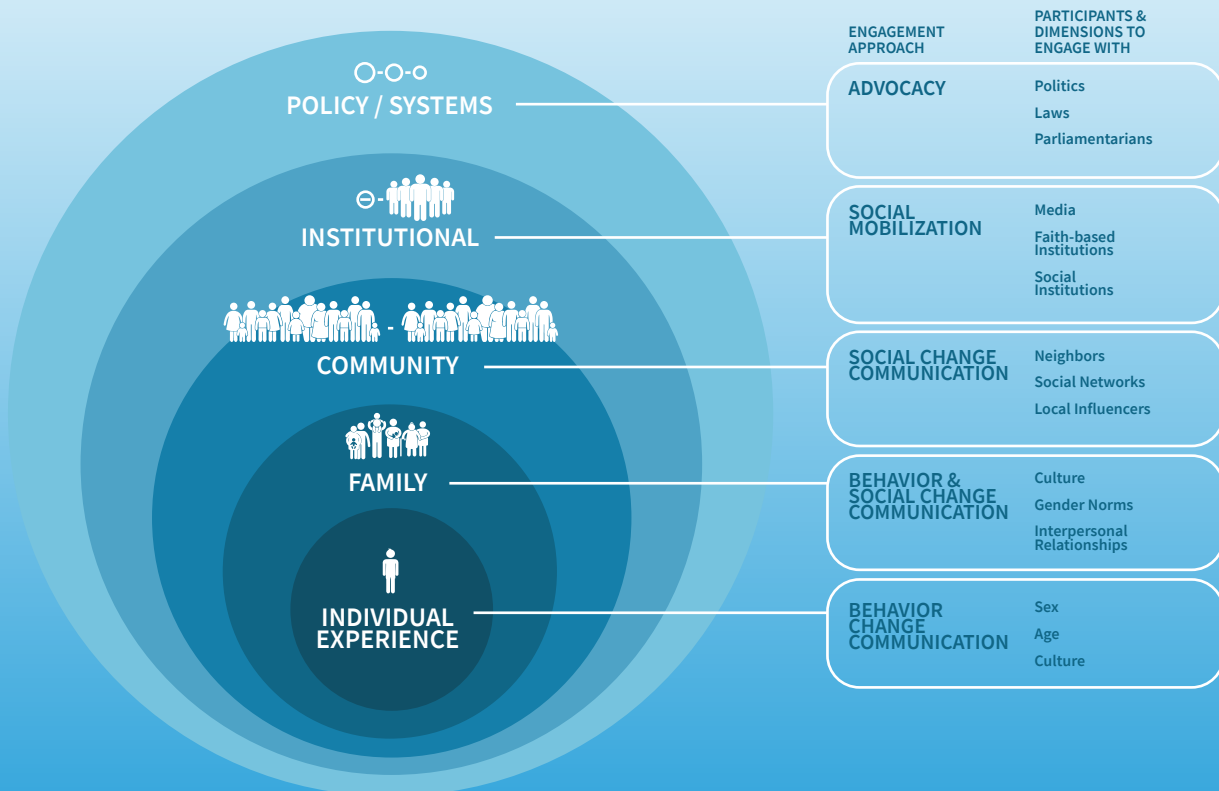
Evaluation, on the other hand, uses research to determine whether your communication program is making the difference it is seeking to make or not, by systematically gathering evidence. Evaluation is designed specifically to attribute changes to the program interventions focusing on outcomes and impact assessments.

M&E in the context of SBC programs utilizes the Socio-Ecological Model (Figure 1) to measure the progress and effects of an intervention on the five different behavioral determinants highlighted in the model, which include:

1. Individual-level determinants (knowledge, beliefs, attitudes, perceived self-efficacy, and practices).
2. Interpersonal-level determinants (interpersonal communication, peer influence, and social norms).
3. Community-level determinants (advocacy from community influencers).
4. Organizational-level determinants (access to services).
5. Policy and environmental-level determinants (advocacy for national and local policies and legislations).

Figure 1. Socio-Ecological Model (SEM)

A MODEL TO UNDERSTAND AND INFLUENCE CHANGE





Overarching Actions and Guidance



Roles and responsibilities

In general, the national level team should provide preliminary guidance and measurement tools that can be adapted at both the sub-national and district levels. More specifically, as you develop and carry out the M&E activities described in this Guide, tailor them to the specific activities at your level. However, if M&E data is to

be collected at the subnational or district level but then aggregated and analyzed at the national level, the data gathering must follow a standard protocol and use standard tools so that data obtained from different districts are comparable. The levels and their responsibilities are:

1. National level

- Develop monitoring and evaluation protocols that correspond to national level reporting needs. For example, if the national program needs to report on the number of schools that have received interpersonal communication training around HPV vaccination of school girls each quarter, then each district must be collecting monitoring data quarterly that reveals the number of schools visited, the number of teachers trained, and the learning achieved during the training as part of its process monitoring.
- Develop measurement tools and instruments required to carry out both the monitoring and evaluation protocols at sub-national and community levels.
- Share the protocols and instruments with sub-national level teams and, if necessary, provide guidance on how to adapt the materials to their specific needs and provide training on how to properly implement them.
- Monitor and evaluate national level activities related to HPV Demand Promotion. For example, advocacy activities are likely to be conducted at the national level (refer to “Field Guide – Advocating for HPV Vaccination”), and so you will need to monitor advocacy activities (e.g., tracking the number of meetings with health policy makers) and their outcomes (e.g., the successful integration of HPV vaccine into the national immunization schedule) at the national level.
- Collect M&E data from sub-national level teams and aggregate them into a national database.

2. Subnational level

- Adapt the national level monitoring and evaluation protocols to local context and needs as well as the requirements of the national level. However, adaptation should not make the protocol or tools incompatible with the overall M&E being implemented in other regions of the country. Some activities, such as community-based vaccination festivals may only be implemented in regions where school attendance is low, whereas in other regions school-

based vaccination festivals will be implemented, so the M&E will need to be adapted accordingly.

- Adapt the national level measurement tools and instruments required to carry out both the M&E protocols at the subnational level. For example, it may be necessary, because of variations in culture and language, to adapt pre-test protocols to make sure that questions used in the pre-test focus groups are culturally sensitive and appropriate in different regions/districts, this may be especially true when pre-testing materials with adolescent/unmarried girls as parents are often very protective of their children.
- Share the protocols and instruments with district level teams and, provide guidance on how to adapt the materials to their local needs while maintaining the key reporting requirements.
- Monitor and evaluate sub-national communication activities for HPV vaccination.
- Collect and compile monitoring and evaluation data from sub-national level teams.
- Share all M&E results with the national-level monitoring and evaluation results in a timely manner.

3. District level

- Adapt sub-national level monitoring and evaluation protocols to the local activities and needs. However, adaptation should not make the protocol or tools incompatible with HPV vaccination promotion M&E being implemented in other regions.
- Adapt the sub-national level measurement tools and instruments required to carry out both the monitoring and evaluation protocols.
- Monitor and evaluate all district level communication activities related to HPV vaccination.
- Share with the sub-national level all monitoring and evaluation results in a timely manner.

Developing and Creating a Demand Promotions M&E Protocol

Overview

There are five key steps to creating a communications monitoring and evaluation protocol:

1. Identifying program components

The first step requires determining which components of your HPV vaccination communication programs you will be monitoring and evaluating. This comes from having a clear idea about what you are trying to achieve and how you plan to achieve it. Identify the program components that you want to monitor and evaluate and classify each of them into one of the following categories:

- Inputs (staffing, budget, expenses).
- Process (meetings, trainings, implementation activities).
- Outputs (messages, materials, campaign activities).
- Outcomes (exposure to communication campaign, change in SMART objectives).
- Impacts (change in SMART objectives for vaccination rates, HPV incidence/prevalence rates and cervical cancer incidence/prevalence).

Capture all of your program components in a logical framework, usually referred to as a Logframe. Logframes are living, dynamic documents that compile and align a program's objectives, activities, and results alongside M&E indicators that will be used to measure progress and effect. Refer to Appendix 1 for a sample logframe.

2. Establishing Demand Promotion objectives for inputs and processes and SMART objectives

for outputs, outcomes, and impacts

- You should define objectives for all M&E research activities that you undertake. Normally, this means you expect to achieve a certain outcome as a result of your work. It is often not possible to make objectives totally “SMART” for inputs and processes (but make them as SMART as you can), but you should define SMART objectives for your outputs, outcomes and Impacts. Each objective will be paired with an indicator that will be used to measure attainment of the objective. Here is a description of the SMART acronym (**Specific, Measurable, Appropriate, Relevant, and Time-bound**):
- **Specific:** Objectives need to be “precise”, or clearly state what objective is being measured and how much change you expect to see.
- **Measurable:** Objectives must be measurable, so you must be able to identify a research method that will allow you to measure the objective's indicator. Indicators must also be “sensitive enough” so that if your program has a small effect on an outcome, you should be able to detect it statistically.
- **Appropriate:** The SMART objective must be culturally and locally appropriate.
- **Realistic:** The SMART objective should provide an educated estimate of the amount of change you expect your communication work to effect. This can be based on outcomes from prior experience in your or other countries or on expert opinion.
- **Time-bound:** Time and/or milestone by which the objective is to be achieved or within which it will occur. The time bound provision provides guidance on when indicators that measure the objective (see below) must be measured, and helps make it possible to assess whether or not they are realistic to achieve.

For example, a SMART objective for an HPV vaccination impact might be “Increase the national HPV vaccination rate of 9 to 14 YO girls from 20% at baseline to 40% by 1-year post communication program launch”. This objective is specific (defines which rate), is measurable using national statistics, is appropriate for the health of adolescent

girls, is ambitious but also realistic given adequate resources for the campaign and clearly delineates the time frame in which the objective is to be attained.

3. Defining and refining indicators

Indicators are the mechanism that evaluates the progress made against each objective. For SMART objectives, your indicators must be SMART as well. Indicators can be created at the level of inputs, processes, outputs, outcomes, or impacts. Inputs, processes, and outputs are continuously monitored and are defined by specific hierarchical

communication activities that are designed to meet specific communication program objectives. Outcomes and impacts are evaluated at predetermined intervals and are defined by overarching programmatic components for which the communication intervention is a contributor.

Define communication indicators for each activity required to meet an objective using the Logframe Worksheet that you previously populated with program components. Table 1 provides examples of how one would align objectives, indicators, and methods according to a Logframe. Refer to Appendix 2 for a more complete listing of objectives, indicators, and methods.

Table 1. Developing SMART objectives and indicators for your campaign

LOGFRAME COMPONENT	DESCRIPTION	SMART OBJECTIVE EXAMPLE	INDICATOR EXAMPLE	METHOD EXAMPLE
Inputs	Core human and financial resources required to develop and/or implement the program.	The media buying budget will average at least \$XX,XXX per month for the first year of implementation.	<ul style="list-style-type: none"> Amount of money allocated for radio per month. Amount of money allocated for TV per month. 	<ul style="list-style-type: none"> Budget and expense records.
Processes	Activities and efforts implemented to achieve program goals.	Two 30-second radio spots will be broadcast each week on the three main government-owned radio stations and on two private stations during the first year.	<ul style="list-style-type: none"> Number of radio spots aired twice a week as scheduled on each of five radio stations. Number of times when the three government owned radio stations aired the 30 second radio spot. 	<ul style="list-style-type: none"> Broadcast records from radio and TV stations. Volunteer monitors who listen to radio or watch TV. Professional media monitoring firm.
Outputs	Direct results of the efforts/processes at the program level.	50% of caregivers will report having heard an HPV radio spot in the previous week by middle of the first year of broadcasts.	<ul style="list-style-type: none"> Percent of caregivers reporting having heard a radio spot in the previous week. 	<ul style="list-style-type: none"> Survey of caregivers.
Outcomes	Effects of the outputs measured at the population level.	The percentage of caregivers who can name two correct reasons to give girls the HPV vaccine by the middle of the first year of broadcasts will increase by 30 percentage points over baseline.	<ul style="list-style-type: none"> The percentage of caregivers who can name two correct reasons for giving HPV vaccine to girls. 	<ul style="list-style-type: none"> Survey of caregivers.
Impact	Effect of the outcomes on the broader health and well-being of the population attributable to the program.	<ul style="list-style-type: none"> The prevalence of HPV in the population of women aged 20 and younger will decline from X% at baseline to 	<ul style="list-style-type: none"> Number of new HPV cases among women and girls aged 20 and younger 	<ul style="list-style-type: none"> National health records and their trends over time.

LOGFRAME COMPONENT	DESCRIPTION	SMART OBJECTIVE EXAMPLE	INDICATOR EXAMPLE	METHOD EXAMPLE
		<ul style="list-style-type: none"> Y% 5-years later. The incidence of cervical cancer in the population of all ages will decline from X cases/year at baseline to Y cases/year 10-years later. 	<ul style="list-style-type: none"> Number of new HPV cases among women of all ages. Number of new cervical cancer cases among women of all ages. 	



4. Developing a monitoring plan

Monitoring is an ongoing activity that takes place at different levels (national, sub-national and district) and at different times to serve the three functions of formative research, pre-testing and process monitoring. At the beginning of the program, process monitoring should be undertaken on a more frequent basis with the national and subnational levels undertaking monitoring on a monthly basis and the district level should plan to undertake monitoring activities on a weekly basis. Frequent monitoring with appropriate reporting and recommendations allow for corrective actions to be taken if the monitoring indicates that program implementation is off course. As time goes on and activities become more routine, the monitoring schedule can be adjusted to a longer basis with the national level monitoring bimonthly or quarterly and the district level moving to a fortnightly schedule.

When developing a monitoring plan, it is essential to be clear about the resources, both human and financial, required to carry out monitoring effectively at all the levels as defined.

Monitoring plans include and describe the following:

1. Program objectives and the indicators to be used to measure them.
2. Monitoring activities to be undertaken for formative, pre-testing and process monitoring research.
3. Developing a monitoring schedule to be followed.
4. Monitoring methodologies and data collection tools to be used.
5. Defining the roles and responsibilities of relevant staff and stakeholders at

each level (national, sub-national and district) and an adequate budget to fund the monitoring activities.

6. Developing training protocols.
7. Reporting plans for the different levels.

A. Identify objectives for what will be monitored

Program inputs, processes, and outputs all need to be monitored to check if the implementation is moving in the right direction. At a minimum, aim to measure all program outputs, such as posters or radio spots, and be consistent in the processes and methods applied. Consult your Logframe to determine what activities to measure and determine how you will monitor each indicator. Appendix 2 provides a framework for what and how to monitor and Appendix 3 provides an examples of a district-level monitoring record sheet.

B. Develop a set of monitoring activities and schedule to follow

Using your program's overarching timeline as a reference for your monitoring timeline develop a monitoring schedule that aligns with the key reporting milestones for the program. Monitoring schedules need to specify the frequency at which monitoring will take place. Common intervals include weekly, bi-weekly, monthly, and bi-monthly monitoring. Your SMART objectives should specify targets for your indicators at each point that monitoring will occur to assess if progress is being made or not. An example of a M&E timeline is presented below (in evaluation section).

C. Identify research methods and develop data collection tools

Determine how data from each indicator will be collected keeping in mind that most

data will come from program records that document budget expenditures, activities implemented, trainings held, and so on. Common research methods are discussed below and elaborated on in Appendix 1 together with the tools needed to implement each method. Create a checklist of all reports and records that can be used in monitoring. Some indicators may require new or refined data collection tools to capture progress on those particular indicators. Data collection tools should be developed in conjunction with the staff that will be utilizing them to ensure they make sense and are user friendly.

You should design your data collection tools so that they can help in determining:

- The purpose of your monitoring activities.
- The end users of your monitoring report.
- The resources you have available that can be allocated to monitoring.
- The accessibility of key respondent groups or individuals.
- The relative advantages and disadvantages of available methods as it relates to your work specifically.

The number and nature of unique tools that you will need to develop will depend on the activities and materials you develop for your campaign. Examples of objectives and indicators you may want to track are given in Appendix 2. Some examples of data collection tools that may need to be custom designed for M&E are:

- Interview guides for focus groups or in-depth interviews.
- Sample frame, sampling strategy and questionnaire for KAB survey.
- Reporting form for school-based meetings/vaccination days (See Appendix 5)
- Reporting form for radio and TV broadcasts of HPV spots.

D. Identify required resources including staff and budget

Now that you have identified the monitoring activities to be carried out, how long your monitoring schedule will last, and the reporting that is required to populate them, it is time to identify the resources that will be necessary to effectively implement your monitoring plan. Consider the following:

Human Resources:

- Staff needed to design the monitoring and develop the

monitoring tools.

- Staff needed to collect data.
- Staff needed to manage data, conduct analyses, and report findings.
- Staff needed to supervise monitoring activities.

Financial Resources & Budget:

- Funding required to support staff.
- Funding required to support development and production of data collection tools.
- Funding required to support logistical needs of monitoring.

E. Develop training protocols

Based on the human and financial resources identified, determine how relevant staff will be trained to carry out those monitoring activities. Training of staff will vary for every data collection tool but creating a manual to guide the process is recommended. Training workshops should each take about one-half day, but if you need to hold training in multiple districts, you may need to allow 1-2 weeks to accomplish them all.

F. Develop a reporting framework

The results of your monitoring work will likely need to be shared as a report, so keeping the structure of your work aligned to the reporting format is very important. Summary statistics and their interpretation should make up the majority of the report. Reporting frameworks should identify:

- Who needs to be provided with the monitoring results.
- How results will be shared with relevant stakeholders (meetings, reports, PowerPoint, etc.)
- When and at what frequency the results will be shared with relevant stakeholders.
- How indicators will be reported (i.e. type of summary statistics, graphs, stratification, etc.)
- Process for how recommendations for programmatic changes made as a result of the monitoring will be implemented.

Table 2 illustrates the key parts of your monitoring plan for the process monitoring of inputs, processes and outputs.

Appendix 2 provides detailed examples of M&E objectives, indicators, and methods to use as a template for a complete M&E plan.

Table 2. Summary of monitoring plan (inputs, processes and outputs)

	Inputs	Processes	Outputs
Definition	Core human and financial resources required to develop and/or implement the programme	Activities and efforts implemented to achieve programme goals	Direct results of the effort/s, processes at the programme level
Common SMART Objectives	<p>3.5 full-time equivalent (FTE) communication staff at least 3 months prior to program launch hired</p> <p>Three unique posters for different target audiences and two 30-second radio spots by the time of launch created</p> <p>60% of allocated budget by mid-campaign spent</p>	<p>Creative workshop to create posters at least 2 months prior to campaign launch held</p> <p>Creative workshop to create radio spots at least 2 months prior to campaign launch held</p>	<p>Three unique posters prior to launch created</p> <p>Two unique radio spots prior to launch created and produced</p>
Common Indicators Measured	<p>Number of personnel hired and on staff</p> <p>Number of materials developed</p> <p>Funding spent on each input</p>	<p>Activities needed to produce the outputs</p> <p>Whether activities are carried out by target date</p>	<p>Number of posters produced</p> <p>Whether posters and radio spots are produced by target date</p>
Purpose	<p>Inform future program requirements</p> <p>Increase program efficiency</p>	<p>Ensure activity target dates and scale of efforts are being met</p> <p>Track progress</p>	<p>Track is the program materials are distributed as intended</p> <p>Increase program efficiency</p>
Timing	<p>Before implementation (during Step 1 of Planning Guide)</p> <p>During implementation as additional resources are added, often reported quarterly</p>	<p>As implementation is underway, often reported monthly or quarterly.</p>	<p>As implementation is underway, often reported quarterly.</p> <p>After implementation is complete</p>



5. Developing an evaluation plan

Note: Remember to tailor your communication evaluation plan to the specific communication practices at your national, sub-national, or district level.

As mentioned earlier, the point of evaluation is to objectively measure whether-or-not your demand promotion interventions are meeting their goals and objectives for outcomes and impacts at all levels of the socio-ecological framework that you adopted for your campaign. For example:

- At the individual level, evaluation measures whether the knowledge, attitude, and/or behaviors (KAB) that you sought to influence have been improved and how much the communication interventions contributed to the overall programmatic results.
- At the interpersonal level, evaluation may measure how many teachers have been trained and made presentations to their female students.
- At the community level, evaluation may measure the number of community volunteers recruited and trained to advocate for HPV vaccination locally.
- At the organizational level, evaluation may measure the number of functional communication working groups at the district level.
- At the policy level, evaluation may measure successful integration of HPV vaccination into the national immunization program and schedule.

Any program that requires funding and human resources should be evaluated because the findings of the evaluation will help the program to improve. Well-intentioned interventions can sometimes have unexpected negative effects, and it is important to know whether or not this is the case so that changes can be made. Evaluations can also help to secure more funding when they demonstrate that the approaches and methods applied have been effective.

Like monitoring plans, evaluation plans include and describe the following key elements:

1. SMART objectives for outcomes and impacts and the indicators to be used to

measure them.

2. Evaluation activities and a schedule to follow to implement them.
3. Evaluation methodologies and data collection tools.
4. Roles and responsibilities of relevant staff and partners/contractors at each level (national, sub-national, and district) and an adequate budget to fund the activities.
5. Training protocols for enumerators or those implementing the evaluation.
6. Reporting plans for the different levels.

Whenever possible, a baseline for indicators for outcomes and impacts should be measured prior to the SBC program implementation as part of the evaluation in order to measure change in the indicators over time. Evaluation measures then ideally take place at the midpoint of a campaign period and at the end of the campaign period since it focuses on outcome and impact measurements. Because (a) vaccination campaigns must be sustained indefinitely to capture new girls as they age into the target age range for vaccination and (b) some desired impacts, such as a decline in cervical cancer prevalence in the general female population, may take many years to manifest themselves as measurable changes, some evaluation designs may need to take these time-lags into account. There is also a need for planning of logistics and other needs which should start at least 2 months before the scheduled evaluation exercise. Subnational and district levels will need to prepare for the evaluation exercise, therefore having adequate time to prepare for the exercise will help to ensure successful implementation.

1. Identify SMART objectives that will be evaluated and their associated indicators

Ideally, your overall communications program will be evaluated to determine if it is meeting its objectives and to uncover its role in the achievement of broader programmatic outcomes. It is especially important to evaluate any unique aspects of your communication programs that may not have been tried before, as well as the cost-benefit aspects of such novel aspects.

What exactly will be evaluated depends on your program's objectives, but generally program outputs, outcomes, and impacts will need to be evaluated to compare them to the program's plan.

Consult your Logframe to determine what activities and indicators need to be evaluated and determine how each indicator will be evaluated. Appendix 2 provides a list of common SMART objectives and indicators used in HPV communication M&E. The “Field Guide–HPV Message Framework” provides key messages on (1) Cervical cancer and burden of disease, (2) HPV vaccine and Cervical cancer prevention, and (3) HPV vaccine safety and efficacy for various target audiences that should provide you with a framework for your objectives. For example, one of the key messages is that “Cervical cancer is caused by a virus called HPV,” then you can form the SMART objective around improving this knowledge to be “The percentage of parents of adolescent girls that know that cervical cancer is caused by the HPV will increase from X% at baseline to Y% at end-line.”

2. Develop a set of evaluation activities and schedule to follow for them

Using your program’s overarching timeline

as a reference, develop an evaluation schedule that aligns with the key reporting milestones for the program. Evaluation schedules need to specify the frequency at which evaluation will take place. Common intervals for evaluation are baseline (before program launch), mid-campaign, end-campaign, and possibly ongoing at annual intervals for some impacts. Your SMART objectives should specify targets for your indicators at each point that evaluation will occur to assess if progress is being made or not.

An approximate timeline for implementing M&E activities is presented in Table 3. The main takeaway from this figure is that you must initiate and integrate the M&E activities with your communication planning and activities (refer to Field Guide – Planning for HPV Communication), and so they must start well before the anticipated program launch. Plan on activities taking longer than one might initially anticipate.

Table 3. Approximate timeline for implementing monitoring and evaluation activities

Field Guide Steps*	M&E Activities for HPV Communication	Approximate Timeline (weeks)																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Step 1	Develop HPV campaign logframe	■	■																						
	Identify and engage M&E partners	■	■	■																					
Step 2	Conduct communication research and analysis (Situation Analysis report)			■	■	■	■																		
Step 3	Develop monitoring plan; objectives and indicators; tools for data collection & train enumerators in monitoring activities						■	■	■	■															
	Develop evaluation plan; objectives and indicators; tools for data collection & train enumerators in evaluation activities						■	■	■	■															
Step 4	Pre-test HPV communication materials								■	■	■														
Step 6	Implement process monitoring										■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Implement baseline, mid-point and end-line evaluation measures											■	■	■			■	■	■				■	■	■
Step 7	Write Monitoring and Evaluation reports												■											■	■

Project Launch

* Steps refer to the 7 steps in “Field Guide – Planning for HPV Communication.”

3. Define research methods and tools

There are a variety of research methods that can be used to assess performance and results in M&E. The methods you will be using should be determined at the outset of the program in line with the results that will be measured. Determine how data for each indicator will be collected including the research method to be used and the indicators to be measured. Create a checklist of all reports and records that can be used in evaluation. Some indicators may require new or refined data collection tools to capture the essence of such indicators.

Data collection tools, such as monitoring record sheets, focus group guides or survey questionnaires should be developed in conjunction with the staff that will be utilizing them to ensure they are practical and user friendly. Examples of two monitoring tools are given in Appendices 3 and 5.

M&E for Communication uses similar research methodologies and tools to those that are used in other disciplines of social

development. These research methods can be divided into two broad categories, quantitative and qualitative, both of which are useful for M&E communication interventions/programs. Qualitative research is interpretive, and probes motives, attitudes and feelings and is especially useful in formative research and in pre-testing of various communication materials but can be used for other purposes as well. Quantitative research methods are descriptive and statistical, and are commonly expressed using numbers, measurements or percentages. It is mostly used to conduct process monitoring to summarize records and budgets, and evaluation research to measure outcomes and impacts. Appendix 6 gives examples of how the two types of research differ from each other, but also how they complement each other.

Common research methods that have been used in communication interventions are summarized in Table 4. More details on how to use these research methods in an HPV communication campaign are provided in Appendix 4.

Table 4. Summary of common research methods used in M&E

Method	Data Sources	Tools Required	Key Features
Literature, document and records review	Often referred to as “desk research,” this is a review of existing background and program documents including national surveys and policy documents that can inform your campaign planning.	<ul style="list-style-type: none"> List of objectives for the review Checklist of available documents 	This information can be quantitative or qualitative, and it allows you to understand what others have already found out about issues important to your campaign. A literature review is often the first research done during the 2nd step of the planning process (refer to Field Guide – Planning for HPV Communication)
Semi-structured interviews (also known as in-depth interviews or key-informant interviews)	These interviews take place with pre-selected informants and are often guided by open-ended questions that are also pre-determined. It can also include the use of: Free-listing, Top of the Mind Analysis, Paired Comparisons, etc.	<ul style="list-style-type: none"> Objectives for the interviews List of people to interview: <ul style="list-style-type: none"> » Technical experts » Community representatives » Partners » Religious leaders Interview guides 	Yields qualitative results like stories and quotes. Especially useful in formative research used to plan the communication campaign, and in monitoring campaign implementation with partners. Also used to interview people who have just been vaccinated (so-called exit interviews) or vaccination staff to learn about their experiences.

Table 4. Continued.

Method	Data Sources	Tools Required	Key Features
Unstructured observations	These are broad observations focused on understanding activities and behaviors by observing selected settings or at opportune moments	<ul style="list-style-type: none"> Objectives for the observations Checklist of: <ul style="list-style-type: none"> » What to observe » When to observe » Who to observe Notepad, camera, video or recording device 	Yields qualitative descriptions of events and processes. Especially useful to conduct formative research and to monitor vaccination clinics/campaigns.
Focus group discussions	Focus groups are moderated discussions that are guided by some pre-determined questions. They can also include the use of participatory tools like seasonal calendars and vignettes or materials/messages that are being pre-tested.	<ul style="list-style-type: none"> Objectives for the focus groups Checklist of group characteristics: <ul style="list-style-type: none"> » Age » Gender » Ethnicity/tribe » Location Interview guide(s) Props (draft posters or radio spots) Recording device 	Yields qualitative results like opinions and judgements when deploying participatory tools. Especially useful to pre-test communication messages and materials. Also used with members of target audiences during formative research to plan the communication campaign.
Structured interviews. Also called “personal interview” surveys or KAB surveys	These interviews are usually conducted with participants who are representative samples of respondents and are systematically guided by closed, pre-determined questions.	<ul style="list-style-type: none"> Objectives for the interviews Sampling frame and sampling strategy/protocol Questionnaire 	Typically administered multiple times (surveys) to measure change across time. Yields quantitative results like numbers, percentages, frequencies, etc. Especially useful in measuring change in campaign objectives for outcomes and impacts. Best conducted in person, but can be done electronically by phone surveys, Internet surveys, or SMS surveys.
Structured observations	These are narrowly focused observations or activities and behaviors that are gathered through the use of pre-defined checklists or through record keeping.	<ul style="list-style-type: none"> Objectives for observations Checklists or recording sheet 	Yields quantitative data. Especially useful for monitoring budget expenditures, program activity implementation, school health cards, HPV vaccination cards, etc.
Internet/ website and/ or social media analytics	Data gathered to assess communication efforts made on web platforms (e.g., Facebook) and social media (e.g., Twitter). Data is available from: <ul style="list-style-type: none"> Google Analytics, which is free. Hootsuite is a fee-based service that allows one to manage and monitor multiple social network accounts across 35 common platforms (e.g., Twitter, Facebook, Google, Instagram, etc.) 	<ul style="list-style-type: none"> Objectives for analytics Data recording sheets to log information 	Yields quantitative data on number of users/visitors, time spent on sight, number of “likes,” content of hashtags/memes, etc.

4. *Identify roles and responsibilities and the required resources for implementation*

Now that all of the elements for your evaluation plan are in place, the next step is identifying the resources that will be necessary for carrying out your evaluation plan. Consider:

Human Resources:

- Staff needed to design the evaluation and develop the research instruments.
- Staff needed to collect data.
- Staff needed to manage data, conduct analyses and report findings.
- Staff needed to supervise evaluation activities.

Financial Resources:

- Funding required to support staff.
- Funding required to support development and production of data collection tools.
- Funding required to support logistical needs of the evaluation.

5. *Develop an evaluation training protocol*

Based on the human and financial resources identified, determine how relevant staff will be trained to effectively carry out evaluation activities. Training of staff will vary for every data collection tool but developing a manual that will guide the process is recommended. Often, outside contractors will need to be hired to undertake some evaluation methods, such as national personal interview surveys, and they will be responsible for recruiting and training enumerators. Trainings should last about 1 day, but allow one to two weeks for trainings that may need to be done in multiple districts or languages.

6. *Develop a reporting framework*

The results of your evaluation work will likely need to be shared as a report, therefore it is important to keep the structure of your work aligned to that format to make it easy to produce reports.

Summary statistics and their interpretation should make up the majority of the report. Reporting frameworks should identify:

- Who needs to be provided evaluation results.
- How results will be distributed to relevant stakeholders.
- When and at what frequency the results will be distributed.
- How indicators will be reported (i.e., type of summary statistics, graphs, stratification, etc.)
- How the results will be used to inform future iterations of the vaccine communications campaign.

Common elements of an evaluation report include:

- Background information on your organization, the problem you're working on, and why you are carrying out an evaluation.
- The purpose of your evaluation work; what you expect the evaluation to achieve.
- The key evaluation questions that your evaluation was designed to answer.
- The SMART objectives that your evaluation work was designed to measure.
- Information on the methodology you chose and the techniques you used to carry it out.
- Information on the logistical issues of your evaluation work such as timing, cost, team member requirements, and the like.
- Conclusions and recommendations that derive from the findings focused on how to improve future efforts.
- An Executive Summary that can be useful to decision-makers.

Table 5 illustrates the key parts of your evaluation plan for the measurement of outputs, outcomes, and impacts. Appendix 2 provides an example of worksheet that you can use as a template for a complete M&E plan.

Table 5. Summary of evaluation plan

	Outputs	Outcomes	Impacts
Definition	<ul style="list-style-type: none"> Core human and financial resources required to develop and/or implement the program 	<ul style="list-style-type: none"> Effects of the outputs measured at the population level 	<ul style="list-style-type: none"> Effects of outcome(s) on broader health and wellbeing of the population attributable to the program
Common SMART Objectives	<ul style="list-style-type: none"> By the end of 1-year post launch, 85% of vaccinators will have heard about the HPV vaccine from at least one of the communication sources. By the end of 1-year post launch, 65% of health educators in schools will have heard about the HPV vaccine from at least one of the communication sources. 	<ul style="list-style-type: none"> The percentage of vaccinators who know the correct vaccination schedules for girls will increase from X% at baseline to Y% at end-line. The percentage of girls aged 9 to 14 who have received two doses of HPV vaccine according to the proper schedule will increase from X% at baseline to Y% at end-line. 	<ul style="list-style-type: none"> By 5-years after launch, the prevalence of HPV in girls aged 9 to 14 will decrease from X% at baseline to Y%.
Common Indicators Measured	<ul style="list-style-type: none"> Direct results of the processes Number of members of the target audience(s) reached by the outputs produced 	<ul style="list-style-type: none"> Typically, change in vaccine demand, drop-out rate and/or Audience KAPs 	<ul style="list-style-type: none"> Change in HPV incidence Change in cervical cancer incidence
Purpose	<ul style="list-style-type: none"> Evaluate objectives that address programme reach Increase programme efficiency 	<ul style="list-style-type: none"> To understand what effect the program had on the population it is trying to reach 	<ul style="list-style-type: none"> To understand what broader effect the program had on the health and wellbeing of the population it is trying to reach
Timing	<ul style="list-style-type: none"> As implementation is underway After implementation is complete 	<ul style="list-style-type: none"> As implementation is underway After implementation is complete 	<ul style="list-style-type: none"> As implementation is underway After implementation is complete

A Note on Evaluation Findings: There are many confounding factors that influence a caregiver's decision to vaccinate and a patient's decision to get vaccinated or not, therefore it is difficult to make a direct link between communication and specific outcomes. It is important to recognize and note any changes you see within your communication program, but don't treat them as stand-alone causes.

When conducting M&E work, keep these tips in mind:



Start early: As soon as you decide to launch a program or intervention, you should be thinking about M&E and building it into your work planning. See the companion document, “Field Guide – Planning for HPV Communication” for an overall plan for your communication efforts.



Create a timeline: Predetermined milestones can help guide the creation of M&E protocols based on previous experience or lessons from other programs. See example timeline above.



Remember why: The goal is to use evidence to optimize and improve the work, therefore all elements of M&E should be linked to your intervention and the results you are looking for.



In surveys, include questions about “sources of information” that can help to understand whether communities are learning about HPV vaccine through the channels prioritized in the communication program; “reasons for accepting vaccination” that can show whether communication played a role and “reasons for non-vaccination” that may uncover the circulation of rumors or other problems.



Ideally, an independent external evaluation should be part of the plan and budget. If this is not possible, an honest internal evaluation with partners could also be scheduled.

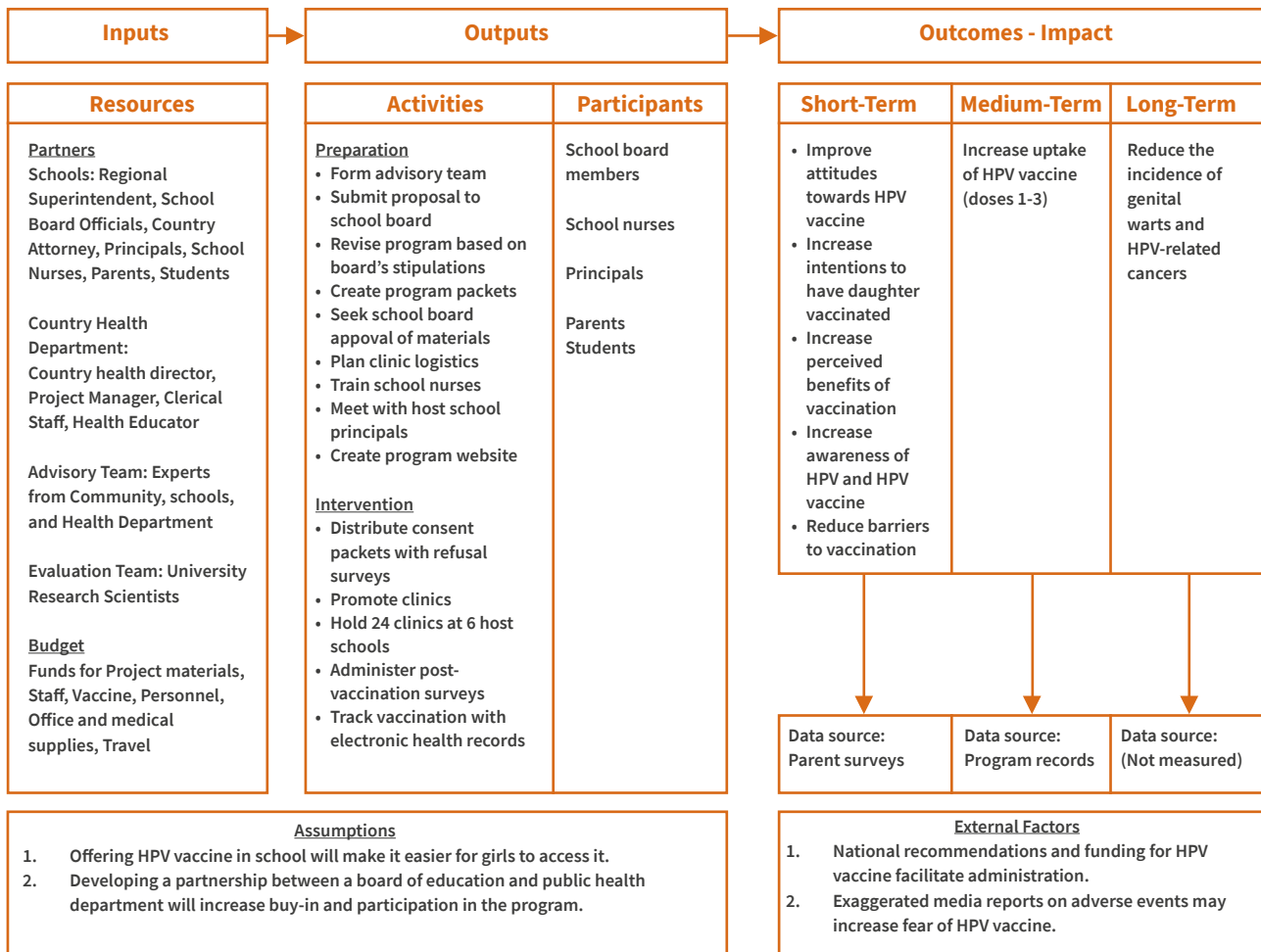


Vaccine coverage may be calculated in two ways using two different denominators. Using the population targeted through the delivery strategy in order to assess the program’s performance (for example, for vaccine delivered in schools, all girls enrolled in the fifth year of school); and second, using the total national population recommended to receive the vaccination to assess the proportion of the recommended population that has been vaccinated. To assess and interpret the impact of vaccination, it is necessary to calculate coverage data using the second approach, where the denominator is the total national population recommended for vaccination.



In order to calculate age-specific vaccine coverage, it will be necessary to use as denominators the total number of girls of each age in the target population, using information from a national statistical survey such as the Demographic and Health Surveys.

Appendix 1: Sample logframe for an HPV program (Including communication components)



Appendix 2: Worksheet & template to plan M&E objectives, indicators, and methods

A set of generic indicators are suggested here. It is important that the the SBC and program colleagues tailor the M&E indicators and tools to the specific communication context, needs and practices at national, sub-national, or district level. Recall that each indicator should be paired with an objective that it is designed to measure. You will need to identify the research method that will be used to measure each indicator and then develop the appropriate tools to implement each method.

Monitoring						
Objectives	Indicators	Methods	Level	Timing	Comments	
Coordination & Collaboration	Establish a government-endorsed, multi-agency communication working group to support HPV introduction/ routine immunization	• Working group agreement signed	• Record keeping	National	Step 1	Working group may expand/change over time
	Establish M&E partners to carry out required research as needed (e.g., survey research agencies, district level coordinators, etc.	• Working terms of reference signed	• Record keeping	National	Step 1	If your agency can conduct all research in house, you still need to coordinate at sub-national and district level to implement field work.
	Identify and engage relevant local and national stakeholders in HPV vaccination	• Stakeholder group identified & engaged	• Record keeping	National	Step 1	Stakeholder group may expand/ change over time
	Define roles and responsibilities and establish formal agreements with partners	• Roles & Responsibility agreements signed	• Record keeping	National	Step 1	
	Inclusion of communication and advocacy in the Expanded Program on Immunization (EPI) multi-year plan	• Plan adopted	• Record keeping	National	Step 1	May take time for objective to be attained
	Inclusion of communication and advocacy in the annual immunization work plan	• Work Plan adopted	• Record keeping	National	Step 1	
	Inclusion of budget in the communication and advocacy component of the annual immunization work plan	• Budget adopted	• Record keeping	National	Step 1	
	Inclusion of a communication and advocacy component in training, supervision, and monitoring activities outlined in the work plan	• Work Plan adopted	• Record keeping	National	Step 1	
	Definition of ways in which the national level should provide technical and financial support to provinces/regions and districts in communication/ advocacy plans	• Plan adopted	• Record keeping	National	Step 1	National support strategy may change as a result of monitoring feedback

Monitoring						
Objectives	Indicators	Methods	Level	Timing	Comments	
Communication Research Analysis (Formative Research)	Determine baseline levels of HPV vaccination among girls aged 9 to 14 and 15 and older	<ul style="list-style-type: none"> National HPV vaccine rate by age group 	<ul style="list-style-type: none"> Literature review IDI with experts 	National, but data broken out by region and district	Step 2	If data is not available in literature, then rates can be determined by baseline survey
	Review all existing policies, procedures and existing programs regarding vaccines and HPV	<ul style="list-style-type: none"> Review completed per checklist 	<ul style="list-style-type: none"> Literature review IDI with experts 	National	Steps 1 & 2	
	Define primary and secondary target audiences by geography, gender, age, profession, KAB regarding HPV vaccines, and other relevant characteristics	<ul style="list-style-type: none"> Target audiences defined 	<ul style="list-style-type: none"> Literature review IDI with experts Focus groups in communities Baseline survey 	National	Step 2	
	Determine what communication channels target audience uses	<ul style="list-style-type: none"> List of channels Best times to broadcast 	<ul style="list-style-type: none"> Literature review IDI with experts 	National	Step 2	Commercial radio and TV stations may have demographics and viewership/listenership for audiences
	Define any obstacles to vaccine adoption	<ul style="list-style-type: none"> False rumors about HPV vaccine Lack of knowledge about HPV & vaccine 	<ul style="list-style-type: none"> IDI with experts Focus groups with target audience Baseline survey 	National	Step 2	
	Define SMART objectives and determine indicators to measure them	<ul style="list-style-type: none"> List of SMART objectives and associated indicators 	<ul style="list-style-type: none"> Literature review IDI with experts Focus groups in communities Baseline survey 	National, data analyzed by district	Steps 2-3	Completion of this table for your program should satisfy this objective
Monitoring Inputs	Situation analysis written and approved	<ul style="list-style-type: none"> Plan signed off on by project leadership 	<ul style="list-style-type: none"> Record keeping 	National	Step 2	This is the output of the formative research
	Action plan written and approved	<ul style="list-style-type: none"> Plan signed off on by project leadership 	<ul style="list-style-type: none"> Record keeping 	National	Step 3	See Step 3 for components of this plan; is derived from situation analysis
	M&E plan written and integrated with Action plan	<ul style="list-style-type: none"> Plan signed off on by project leadership 	<ul style="list-style-type: none"> Record keeping 	National	Step 3	See earlier in this document and Step 3 for components of this plan. Parts of this plan need to be implemented well before campaign launch
	Risk & Crisis Communication plan written	<ul style="list-style-type: none"> Plan signed off on by project leadership 	<ul style="list-style-type: none"> Record keeping 	National	Step 5	See Step 5 for components of this plan; plan needs to be in place prior to campaign launch
	Definition of a focal person responsible for the EPI communication activities	<ul style="list-style-type: none"> Focal person identified & hired 	<ul style="list-style-type: none"> Record keeping 	National	Step 1	Focal person must be "on-board" prior to launch

Monitoring						
Objectives	Indicators	Methods	Level	Timing	Comments	
Monitoring Inputs	Hire one FTE district coordinator for HPV campaign in each of 5 districts	<ul style="list-style-type: none"> Number of FTE at end of each quarter in 5 districts 	<ul style="list-style-type: none"> Record keeping 	District, aggregated at national	Steps 1 to 7	Performance reviews at 3, 6 and 12 months to assure quality of work
	Spend 15% of total budget per quarter	<ul style="list-style-type: none"> Percent of total budget spent at the end of each quarter. 	<ul style="list-style-type: none"> Record keeping 	National	Quarterly	Annual external audit recommended
	2 artists recruited to create posters and other artwork	<ul style="list-style-type: none"> Number of artists 	<ul style="list-style-type: none"> Record keeping 	National	Step 4	
	5 district coordinators attend HPV training session in capital	<ul style="list-style-type: none"> Number of trainings attended 	<ul style="list-style-type: none"> Record keeping 	National	Steps 3 & 7	
	Train 25 district-level school health professionals in interpersonal communication with girls about HPV and vaccination	<ul style="list-style-type: none"> Number of trainings held and trainees that attend 	<ul style="list-style-type: none"> Record keeping 	National	Steps 6 & 7	
	Creative brief created	<ul style="list-style-type: none"> Brief signed off on by project leadership 	<ul style="list-style-type: none"> Record keeping 	National	Step 4	See Step 4 for contents of creative brief
	Draft materials created	<ul style="list-style-type: none"> Documentation of materials 	<ul style="list-style-type: none"> Record keeping 	National	Step 4	Materials may be diverse, from posters and billboards to radio and TV spots to social media postings.
Pre-Testing	Draft materials pre-tested	<ul style="list-style-type: none"> FGD report 	<ul style="list-style-type: none"> Focus group discussions with target audiences IDI with experts 	District, results summarized at national	Step 4	Materials may be diverse, from posters and billboards to radio and TV spots to social media postings.
	Materials revised based on pre-test results	<ul style="list-style-type: none"> Revised materials 	<ul style="list-style-type: none"> Record keeping 	National	Step 4	
	Final materials created (posters, radio & TV spots, billboards, etc.)	<ul style="list-style-type: none"> Documentation of final materials 	<ul style="list-style-type: none"> Record keeping Photographs Recordings 	National	Step 4	Be sure to maintain a database of visual and audio documentation of your materials; funders and partners will want to see these for themselves.
Monitoring Outputs	Determine the capacity to implement campaign at district level each quarter	<ul style="list-style-type: none"> Number of districts with communication and social mobilization committees 	<ul style="list-style-type: none"> Record keeping 	District, results summarized at national	Steps 1 & 6	
	Determine the number of materials produced, activities conducted and frequency of distribution per channel e.g.: <ul style="list-style-type: none"> Erect 5 HPV billboards along key roads by 3-months post launch Distribute 2,500 posters to schools in each district per quarter Hold 10 village HPV vaccination festivals to reach out-of-school girls per quarter Broadcast 2 radio spots 5-times per day 7-days per week Number of advocacy presentations delivered per quarter Number of stakeholder meetings held per quarter Number of HPV volunteers recruited and trained per quarter 	<ul style="list-style-type: none"> Number of materials/activities/meetings Number and frequency of distributions/broadcasts 	<ul style="list-style-type: none"> Record keeping Photographs Videos 	National	Steps 6 & 7	There are a wide range of communication materials and activities that you may design and implement for your campaign at all five levels of the socio-ecological model. Only a few examples are listed here

Monitoring						
Objectives	Indicators	Methods	Level	Timing	Comments	
Monitoring Outputs	Estimate the number of people reached per channel per month	<ul style="list-style-type: none"> Number of individuals exposed per channel Average number of exposures per individual, all channels combined Number of people who volunteer or attend meetings/presentations (e.g., stakeholders, advocates, partners, community members, volunteers) HPV vaccine campaign brand recall HPV vaccine campaign message recall 	<ul style="list-style-type: none"> KAB pre-post surveys Radio & TV audience data Record keeping Social media followers & website visits Number of schools and/or health facilities with posters visible 	National, disaggregated by district	Step 7	
	Determine the proportion of budget expended on each channel per quarter	<ul style="list-style-type: none"> Expenditures vs budget numbers for each channel 	<ul style="list-style-type: none"> Budget record keeping 	National	Step 7	
Evaluation						
SMART Objectives	Indicators	Methods	Level	Timing	Comments	
Outcomes	<p>SMART objectives for Knowledge/ awareness, e.g.:</p> <ul style="list-style-type: none"> Awareness of HPV will increase Awareness of HPV's causal link to cervical cancer will increase Can correctly define the symptoms of cervical cancer will increase Awareness of the HPV vaccine will increase Awareness of where and how to get the vaccine will increase Know the correct HPV vaccination schedule will increase Can give two correct reasons why HPV vaccination is important will increase Know that the HPV vaccine is in accordance with religious law (e.g. halal) will increase Know where & when to get vaccinated 	<ul style="list-style-type: none"> Percentage of target audience that is aware of HPV Percentage of target audience that is aware of HPV's causal link to cervical cancer Percentage of target audience that can correctly define the symptoms of cervical cancer Percentage of target audience that is aware of HPV vaccine Percentage of target audience that is aware where and how to get the vaccine Percentage of target audience that knows the correct HPV vaccination schedule Percentage of target audience that can give two correct reasons why HPV vaccination is important Percentage of target audience that know that the HPV vaccine is in accordance with religious law Percentage of target audience that know where and when to get vaccinated 	<ul style="list-style-type: none"> KAB pre-post surveys 	National	Steps 1 & 7	<p>Refer to "Field Guide – HPV Message Framework" for key messages that can be used to form SMART objectives.</p> <p>All SMART objectives for knowledge outcomes should be written in a format like "The percentage of [Target Audience] that is aware of the HPV virus will increase from X% at baseline to Y% at end-line."</p>

Evaluation						
SMART Objectives	Indicators	Methods	Level	Timing	Comments	
Outcomes	<p>SMART objectives for Attitudes, such as:</p> <ul style="list-style-type: none"> Perceive HPV as widely prevalent and serious will increase Perceive the HPV vaccine as safe and effective will increase Agree that girls aged 9 and older should be vaccinated with HPV vaccine will increase Intend to vaccinate against HPV (themselves or daughters) will increase Perceive health worker as part of the community will increase Perceive health worker as honest and moral will increase Perceive health worker as competent and reliable will increase Caregivers who believe most people in their community vaccinate their 9 to 14-year-old girl(s) against HPV will increase 	<ul style="list-style-type: none"> Percentage of target audience that agrees that HPV is widely prevalent and serious Percentage of target audience that agrees that HPV vaccine as safe and effective Percentage of target audience that agrees that girls aged 9 and older should be vaccinated with HPV vaccine Percentage of target audience that intend to vaccinate against HPV (themselves or daughters) Percentage of target audience that agrees that health workers are part of the community Percentage of target audience that agrees that health workers are honest and moral Percentage of target audience that agrees that health workers are competent and reliable Percentage of caregivers that agree that most people in their community vaccinate their 9 to 14-year-old girl(s) against HPV 	<ul style="list-style-type: none"> KAB pre-post surveys 	National	Steps 1 to 7	<p>Refer to “Field Guide – HPV Message Framework” for key messages that can be used to form SMART objectives.</p> <p>All SMART objectives for attitude outcomes should be written in a format like “The percentage of [Target Audience] that agrees that HPV is widely prevalent and serious will increase from X% at baseline to Y% at end-line.”</p>
	<p>SMART objectives for interpersonal communication, e.g.:</p> <ul style="list-style-type: none"> Discussion of HPV & vaccine with others will increase: <ul style="list-style-type: none"> Teachers Parents Health workers Religious leaders Advocate for HPV vaccine with others: <ul style="list-style-type: none"> Peers Family Public 	<ul style="list-style-type: none"> Percentage of target audience that has discussed the HPV vaccine with <ul style="list-style-type: none"> Teachers Parents Health workers Religious leaders 	<ul style="list-style-type: none"> KAB pre-post surveys 	National	Steps 1 & 7	<p>Refer to “Field Guide – HPV Message Framework” for key messages that can be used to form SMART objectives.</p> <p>All SMART objectives for interpersonal communication outcomes should be written in a format like: “The percentage of [Target Audience] that has discussed the HPV vaccine with a teacher in the previous 6-months will increase from X% at baseline to Y% at end-line.”</p>
	<p>SMART objectives for Behaviors, e.g.:</p> <ul style="list-style-type: none"> Girls aged 9 to 14 are vaccinated with 2 doses of HPV vaccine will increase Girls aged 15 and older are vaccinated with 3 doses of HPV vaccine will increase Immunizers give caretakers key immunization messages at immunization points will increase Partners and organizations participate actively in vaccination campaign's activities (e.g. by attending at least 80 per cent of committee meetings in between vaccination campaigns or volunteering time to carry out EPI duties) will increase Caregivers who have opted-out of vaccinating eligible girls will decrease 	<ul style="list-style-type: none"> Percentage Girls aged 9 to 14 that are vaccinated with 2 doses of HPV vaccine Percentage Girls aged 15 and older that has been vaccinated with 3 doses of HPV vaccine Percentage of immunizers that give caretakers key immunization messages at immunization points Percentage of partners and organizations that participate actively in vaccination campaign's activities Percentage of caregivers who have opted-out of vaccinating eligible girls 	<ul style="list-style-type: none"> KAB pre-post surveys Health clinic records Record keeping of partner meetings 	National	Steps 1 & 7	<p>Refer to “Field Guide – HPV Message Framework” for key messages that can be used to form SMART objectives.</p> <p>All SMART objectives for behavior outcomes should be written in a format like “The percentage of [Target Audience] that has been vaccinated with 2 doses of HPV vaccine will increase from X% at baseline to Y% at end-line.”</p>

Evaluation					
SMART Objectives	Indicators	Methods	Level	Timing	Comments
SMART objectives for Impacts on vaccination rates: <ul style="list-style-type: none"> The percent of girls and women aged 9 and older that are fully vaccinated with the appropriate schedule will increase 	<ul style="list-style-type: none"> Percentage of girls and women aged 9 and older that are fully vaccinated with the appropriate schedule 	<ul style="list-style-type: none"> National health statistics 	National	Step 7	
SMART objectives for Impacts on disease prevalence: <ul style="list-style-type: none"> Prevalence of HPV cases reported will decrease Prevalence of Cervical cancer cases reported will decrease Prevalence of genital warts cases reported will decrease 	<ul style="list-style-type: none"> Prevalence of HPV cases Prevalence of Cervical cancer cases Prevalence of genital warts cases 	<ul style="list-style-type: none"> Clinic records National health statistics 	National	Steps 1 & 7	Impacts on disease prevalence may only be observed after a time-lag. All SMART objectives for disease prevalence impacts should be written in a format like “The prevalence of HPV among [Target Audience] will decrease from X% at baseline to Y% at end-line.”
Impact SMART objectives for Impacts on campaign sustainability, e.g.: <ul style="list-style-type: none"> The number of health facilities at the central, district and village level that integrate the HPV vaccine with routine immunization programs will increase The number of government officials who publicly endorse the HPV vaccine through public statements will increase The level of funding by government and other sources for HPV vaccination will increase The number of key institutions that have adopted policies and practices to create a conducive environment for HPV vaccination (e.g., integrating HPV education into school health curricula, making HPV part of national vaccination schedule, integrating communication campaigns nationally) will increase The number of institutional structures established to support communication at the national, district and community levels will increase The percentage of schools at the national level that include the HPV vaccine delivery strategy will increase The number of health facilities at the national level that participate in trainings for health workers on HPV, cervical cancer, the HPV vaccine and/or interpersonal communication with parents and adolescents will increase The level of community involvement in planning, funding, implementation, monitoring and evaluation of communication activities will increase 	<ul style="list-style-type: none"> Number of health facilities that integrate the HPV vaccine with routine immunization programs Number of government officials who publicly endorse the HPV vaccine through public statements Level of budget/ funding by government and other sources for HPV vaccination Number of key institutions that have adopted policies and practices to create a conducive environment for HPV vaccination Number of institutional structures established to support communication at the national, district and community levels Percentage of schools at the national level that include the HPV vaccine delivery strategy Number of health facilities at the national level that participate in trainings for health workers on HPV, cervical cancer, the HPV vaccine and/or interpersonal communication with parents and adolescents Number of communities involved in planning, funding, implementation, monitoring and evaluation 	<ul style="list-style-type: none"> Record keeping Signed letters of support Public statements made 	National Sub-national District Community	Steps 1 & 7	All SMART objectives for campaign sustainability impacts should be written in a format like “The number of health facilities at the central, district and village levels that integrate the HPV vaccine with routine immunization programs will increase from X at baseline to Y at end-line.”

Appendix 4: Information on research methods

Four qualitative and four quantitative research methods (see table below) are discussed in greater detail here.

Research Methods

Qualitative Research Methods

1. Focus group discussions (FGD)
2. In-depth interviews (IDI)
3. Intercept & exit interviews
4. Observation

Quantitative Research Methods

1. Literature, document, and records review
2. Knowledge, Attitude and Behavior (KAB) sample surveys that can be conducted:
 - i. In person
 - ii. By mail
 - iii. By phone interview
 - iv. By short message (text) service (SMS)
 - v. Online
3. Record keeping and documentation of activities
4. Internet/Web site analytics

Focus Group Discussions (FGD): A focus group is a group normally comprised of six to 12 individuals who are representative of the target group under study. Participants should not know each other prior to the group being constituted, but they agree to come together to participate in a discussion about a particular topic that is guided by a moderator. Normally, focus groups are comprised of people of similar age, education, socio-economic status, gender, and other characteristics because such homogeneous groups are often more likely to be willing to engage in open discussions more freely, however this varies across cultures, and the mix of the group should be appropriate for the local culture and circumstances. For example, in some cultures men and women should be in separate groups due to traditional gender roles. In other cultures, married and unmarried women should be in different groups due to the differing social status that marriage confers. However, in other cultures these gender/marital groups do not matter and everyone can be mixed in the same group. Because HPV vaccine is targeted to adolescent and pre-adolescent girls, it is probably best in most circumstances to hold separate groups for girls and parents as the girls may not feel free to speak openly in front of their parents in many cultures. Some examples of focus groups you might comprise for HPV communication campaigns' formative and pre-testing research include:

- Unvaccinated girls aged 9 to 14 (rural/urban and in school/not in school groups),
- Unvaccinated girls aged 15 and older (rural/urban and in school/not in school groups),
- Parents of unmarried and unvaccinated girls aged 9 and older (rural/urban groups),
- Parents of unmarried but vaccinated girls aged 9 and older (rural/urban groups),
- Health education teachers in schools (rural and urban groups),
- Vaccinators who have not administered the HPV vaccine previously.

The FGD moderator uses a discussion guide (rather than a questionnaire) to ask questions around a topic of particular interest. The moderator is flexible and will probe and ask questions not in the guide as the discussion evolves. This flexibility allows deeper probing of opinions, motives, attitudes and feelings. FGD are recorded (audio only or video and audio) and are normally transcribed fully for analysis.

Although FGD only last between 1-2 hours, they can take a considerable amount of time and effort to convene and then to analyze and write up the results. FGDs are especially useful in the following types of research:

- Formative research done during Step 2 (Research and Analysis) of the planning process in which the FGD with rural villages might be used to understand why parents are reluctant to vaccinate their daughters or whether there are false and negative rumors about HPV vaccine circulating in the population.
- Pre-testing research with a group of the communication program's target audience to make sure they understand the messaging, that there are no cultural misunderstandings in the materials, and that people trust the message and the messenger.
- Evaluation research with members of the target audience who have adopted the HPV vaccination to understand why they chose to become vaccinated (or have their daughters vaccinated) and whether they were influenced by the C4D program.

The tools needed to implement a focus group include:

- A set of objectives for what you want to achieve from each focus group.
- A list of target audience characteristics you want to include in each group (age, gender, marital status, occupation, regional location, etc.),
- Discussion moderator and an assistant to take notes and help facilitate.
- Discussion guide (See table below for examples of questions that might be included in the discussion guide for a pre-test focus group)
- Audio or video recorder.
- Required props (e.g., messages and materials if it is a pre-test focus group).
- Beverages and snacks for participants.

The table below gives some examples of questions that might be used either in an FGD or IDI research to pre-test different types of communication materials. Note that the concept that you want to understand as a result of the research is identified in Column 3 because the focus group moderator must understand this so that she/he will know to keep probing respondents until the concept has been addressed. Often, respondents will simply provide a “like” or “don't like” response and are unable to fully articulate why they feel that way. Probing questions, such as “what does the illustration remind you of?” or “Can you tell me a little more about why you feel that way?” will help uncover if the materials are communicating the message effectively and why or why not, which is the primary goal of this research.

Examples of Questions to Pre-test C4D Materials (both FGD and IDI)

Material or Activity being pre-tested	How presented for pre-testing	Concept you are trying to understand	Example questions
Printed materials with text or written sections like posters or fact sheets	<ul style="list-style-type: none"> ▶ Have respondents read the text aloud (noting any words they may find difficult to read) ▶ If you are testing two or more versions of a material, show them one first and ask the questions, then show the other, and ask the questions. Then ask about which they prefer and why. 	Whether the message is understood cognitively	<ol style="list-style-type: none"> 1. Can you state in your own words what you have just read? 2. What is the text telling you, or what does it mean to you? 3. Is there any word that you do not understand? If yes, please explain. What substitute word(s) do you recommend? 4. Is this new information, or had you heard this before? 5. Do you believe this information to be true? Why or why not?
		Emotional content/ impact of material	<ol style="list-style-type: none"> 1. When you read this, how does it make you feel? 2. What are those feelings?

Material or Activity being pre-tested	How presented for pre-testing	Concept you are trying to understand	Example questions
			<ol style="list-style-type: none"> 3. How strong are those feelings? 4. Do you think other people might feel differently? Why?
		Cultural/social acceptability of material	<ol style="list-style-type: none"> 1. What do you think about the message? 2. When you read this, does it cause any conflict for you? What kind of conflict? 3. Do you think people you know might find this material offensive? Why? 4. Do you think this message can be implemented or adopted by people around here? Why?
		Shareability of material or information in material	<ol style="list-style-type: none"> 1. If you were given a copy of this material, would you show it to anyone else? Who? 2. Is there anyone you would like to talk to about this material? Who? What would you like to talk about?
		Suggestions for improvement	<ol style="list-style-type: none"> 1. What did you like most about this material? 2. What did you like least? 3. How could we make this material better or more convincing for you?
Visual materials, may also include billboard mock-ups or stickers	Show the materials altogether, unless you are comparing two versions of a material, in which case you can do them one at a time	Questions specific for visual materials	<ol style="list-style-type: none"> 1. What do you see here? 2. What message is the illustration trying to give? 3. What do you think about the illustration(s)? 4. The illustration is trying to communicate... (tell the respondent the intended message). Do you think most people would understand it that way? How would others understand this material? 5. Do the images or symbols used in this material have any cultural significance for you? What does it mean in your culture?
Materials with visual and text	Show the materials altogether, unless you are comparing two versions of a material, in which case you can do them one at a time	<p>Questions specific for visual & text materials</p> <p>Many of the questions suggested for printed materials can be adapted for these materials.</p>	<ol style="list-style-type: none"> 1. Do the text and illustration/ visuals complement each other well? 2. What changes can be made to improve the message?

Material or Activity being pre-tested	How presented for pre-testing	Concept you are trying to understand	Example questions
Audio (radio spot or program)	Play all of the spot. If you are comparing two versions of a spot, you should do them one at a time	Questions specific for audio materials Many of the questions suggested for printed materials can be adapted for audio materials.	<ol style="list-style-type: none"> 1. When you hear the voices, do they sound like people from around here? 2. Do they sound like people you know? 3. Would you trust what you have just heard? Why or why not? 4. Can you understand what they are saying? 5. Do you like the music? 6. How does the music make you feel? 7. What kind of music would you prefer?
Video with audio (TV spot or program, video, etc.)	Play all of the video. If you are comparing two versions of a video, you should do them one at a time. If the video is long, play one or two key segments (5-10 minutes)	Questions specific for video materials Many of the questions suggested for printed & audio materials can be adapted for video materials	<ol style="list-style-type: none"> 1. Do the people in the video seem like people you know? 2. Do they look like people you would trust? Why or why not? 3. Did you think the video was of high quality? Why or why not? 4. Would you trust what you have just seen? Why or why not?

In-Depth Interviews (IDI): In-depth interviews are similar to FGD, with the major difference being that only one interviewee is interviewed at a time. IDI respondents are often called “Key Informants” and they are selected to be interviewed because it is thought they might have important relevant information for the program. As with FGD, the interviewer uses a written guide to ask questions around a topic of particular interest, but he/she can be flexible, and will probe and ask questions not in the guide as the discussion evolves to allow deeper probing of opinions, motives, attitudes and feelings. IDI are recorded (audio only or video and audio) and are normally transcribed fully for analysis.

Because IDI only involve a single respondent, they are easier to arrange and easier to analyze than FGDs. They can also be conducted by phone/Skype rather than in person.

IDI are especially useful in the following types of research:

- Formative research in which a health expert is interviewed to learn what sorts of obstacles/barriers the C4D campaign may encounter during implementation.
- Formative research with a school health aid to understand what people in their school are saying about HPV vaccination.
- Evaluation research to learn how someone who has adopted a promoted behavior, such as becoming vaccinated, interacted with the communication program and may have been influenced by it.
- Both focus groups and IDI can be used in a particularly useful type of research called doer/non-doer research to understand what the barriers are to HPV vaccination adoption. For example, on FGD might be held with a group of mothers who have vaccinated their daughters to learn what persuaded them to allow the vaccination and a group of mothers who have not yet vaccinated their daughters to learn what their perceived and real barriers to vaccination might be. Doer/non-doer analyses usually assess eight determinants of behavior that are derived for relevant behavior change theories that can be adapted to HPV vaccination:
 1. Perceived susceptibility of girls getting cervical cancer in the future.
 2. Perceived severity of cervical cancer.
 3. Perceived efficacy of the HPV vaccine.
 4. Perceived social acceptability of the HPV vaccine.
 5. Perceived self-efficacy, or ease, of getting the vaccine given the logistical realities of people’s lives.

6. Cues for action, or “how will the person remember to get the second dose of vaccine?”
7. Perceptions of divine will or whether cervical cancer is out of their agency or ability to control and it is up to divine power or fate.
8. Perception of relative advantage or disadvantage of getting the vaccine, what is the balance?

The tools needed to implement an in-depth interview include:

- A set of objectives for what you want to achieve from each interview.
- A list of characteristics you want to include in your interview respondents (occupation, regional location, type of expertise, community leadership, etc.).
- Interview moderator.
- Interview guide.
- Audio or video recorder.

Intercept & Exit Interviews: These interviews are also one-on-one interviews, only respondents are located differently. For example, an intercept interview might be carried out with a member of the target audience to gain immediate insight into the interviewee’s decision about or feelings towards a particular service, product, program or event. To carry out the interviews, the interviewer positions themselves in a location frequented by members of the target audience and “intercepts” people to be interviewed. Exit interviews are similar, only respondents are approached immediately after attending an event, such as a program activity. Normally such respondents will only be willing to answer a few short questions, so only a few close-ended questions are asked. These methods often can be combined with observation research. Some examples of how they might be useful in HPV C4D M&E are:

- During formative research, exit interviews might be conducted with a girl who is just leaving a school health nurse, and interviewed about her experience during the visit to see if she might trust that source for a future vaccination.
- Process monitoring research in which exit interviews are conducted with people who have just attended a program activity like a festival or community fair that promoted vaccinations to understand their perceptions of the event and how it might have influenced them.
- Exit interviews are often used in health communication programs’ impact evaluation research to interview people who have just adopted a new health behavior (such as a vaccination) to determine whether the communication program played a role in their adoption or what their so-called source of referral was to become vaccinated. Such data collection can be a very powerful technique because it captures people at the time and place of adoption, which provides a strong means of attribution of the program’s effect.

The tools needed to implement an intercept or exit interview include:

- A set of objectives for what you want to achieve from each interview.
- A list of characteristics you want to include in your interview respondents (occupation, regional location, what they are exiting or doing that makes them relevant to your study, etc.).
- Interview moderator.
- Interview guide.
- Audio or video recorder.

Observation: Observation is a relatively easy and inexpensive research method to conduct. Normally, a checklist is used of what is to be observed, and the observer spends a certain amount of time just watching and making notes about what people they are observing are doing. Observations can also be made using a personal recording device and/or camera. An observer may be a participant (for example participating in the event he/she is observing) or hidden (concealed where the people being observed are unaware of his/her presence). However, ethical considerations usually mean that the observed must be aware of the research being done. Observation research is most useful in the following types of research:

- Formative research in which an observer might watch the interactions of girls and their parents, or girls and health aides or girls and vaccinators.
- Process monitoring research of public communication activities, such as fairs or community meetings, to better understand how members of the target audience are interacting with and reacting to the activity.

The tools needed to implement observation research include:

- A set of objectives for what you want to achieve from each observation.
- A list of activities that you want to observe (vaccination clinic, school health lecture on vaccination, etc.).
- Impartial observer.
- Observation checklist and note pad.
- Camera, audio or video recorder.

Literature Review: A literature review, sometimes referred to as “Desk Research” is often the first piece of research done in the C4D campaign process. The literature review is often the primary basis for writing the situation analysis report. The researcher who conducts the literature review should compile a library of useful references that can be used by the communication team, and because often the original literature can be technical, a summary should be written in laypersons’ language so that non-researchers can easily access the information. The review does not need to be exhaustive, but it should focus on the four areas needed for the communication research and analysis steps:

1. HPV vaccination situation analysis.
2. Knowledge, attitudes and behaviors related to the HPV vaccination analysis.
3. Barriers to adoption of HPV vaccination.
4. Communication channel analysis.

Examples of documents that could be useful to review in a literature review include, but are not limited to:

Censuses and Demographic and Health Surveys (DHS): Nearly every country conducts a national census at 10-year intervals, and many developing countries participate in the DHS, which conducts national surveys at 7 to 10-year intervals. These documents can provide great detail on the socioeconomic characteristics of national or geographic sub-populations. Most importantly for communication programs, they often include data on mass media access and use (radio, TV, newspapers) that can help in the planning of what communication channels to use to reach different groups of people. DHS country reports are available to be downloaded for free at <http://dhsprogram.com/publications/index.cfm>.

1. Internet: There is a growing literature on HPV vaccination that is readily accessible using simple Internet searches using appropriate key words such as HPV, HPV vaccine, Cervical cancer, etc.
2. Government agency reports: Government agencies, such as Ministries of Health may have documents that will help to understand the HPV vaccination situation in a given country. Many health agencies conduct communication programs and may have research reports on communication channel access and use that could be of value.
3. Non-governmental agencies (NGOs): There may be non-governmental agencies that have published reports on various aspects of the HPV vaccination that may be of use.

Knowledge, Attitude & Behavior (KAB) Population-Based Sample Surveys: Sample surveys are a quantitative method in which researchers interview a relatively large number of people who are selected (sampled) in such a way so that collectively, they are statistically representative of the study population. Researchers use statistical data analytical methods to draw inferences about the entire population of study, not just the respondents themselves. Sample surveys use questionnaires with mostly close-ended questions that can be coded for computer-based analysis and that allow a large number of people to be interviewed in a relatively short period of time.

There are four main purposes for which KAB sample surveys are most useful:

1. Measuring exposure to the communication program's activities and materials and obtaining a quantitative measure of target audience perceptions of them. Surveys can also measure exposure to other HPV vaccination information sources that are unrelated to the program of study to understand how much other campaigns are reaching the audiences.
2. Determining the relative prevalence of knowledge, attitudes, interpersonal communication, or behaviors relevant to HPV vaccination among a target population of people. Such data can both serve (1) as a baseline for measuring change (see below), and (2) to inform the program on what their priority messages and objectives should be.
3. Testing hypotheses about relationships among the variables (questions asked). For example, are there correlations between the so-called independent variables (age, gender, socio-economic level, locality, or exposure to a communication message) and so-called dependent variables (level of knowledge, attitudes, interpersonal communication, or behaviors), which can help to understand the characteristics of people who are at risk of not being vaccinated?
4. Measuring program impact in evaluation to measure change in KAB over the time the communication program is implemented. This is done by conducting two surveys, (1) a baseline survey prior to the program, and (2) a post-program survey using identical sampling techniques and questionnaires. This evaluation method is usually referred to as a "pre-post" design and is often the best method to use to measure impact of the program on KAB variables in the behavior change component of the program.

Countries are large, diverse and dynamic, with lots of different political, social, cultural and development events happening at the same time as the communication program. Even if pre-post survey measures change during the program intervention it is often difficult to know for sure that it was the program that caused the change, rather than something else that occurred contemporaneously. This is called the problem of "attribution" or attributing any measured impact to a particular program. While there are complex research designs that can definitively attribute effects, they are expensive, complex, hard to implement in field settings, and require large amounts of resources. However, there are simpler ways to attribute causation with some, if not complete confidence. These include:

1. Using multivariate statistics to evaluate survey results to control for measured variables that might provide an alternative explanation for the results, such as other health programs that are implemented contemporaneously.
2. Looking closely at time sequence data to see if changes occur exactly when the communication program is being broadcast, and whether or not they stop when it is not being broadcast.
3. Using multiple independent research methods. For example, use (1) a pre-post sample survey, (2) record keeping of vaccinations administered, and (3) exit interviews with girls who have just been vaccinated to learn their source of referral in order to "triangulate" results. If multiple methods suggest the same results, that provides more confidence in the results and that they were caused by the program.
4. Asking respondents for self-reported behavior changes that they attribute to the program.

Quantitative surveys are complex and require a lot of attention to detail and planning and are always expensive. Experts are required to implement a sample survey and to do the field work, data input, analysis, and reporting. Most often, in-person interviews are used in which an enumerator sits with a respondent, reads them the questions and then records their responses either on a paper questionnaire or in a computer or tablet application. In some cases, rather than conducting in-person interviews, researchers use alternative methods to find respondents, but all alternatives have serious drawbacks such as:

1. Mailed questionnaires, but there may only be a limited number of addresses available and many people may be illiterate; these often have very low response rates.
2. Internet based surveys, but many people have limited or no access to the Internet, and their email addresses are needed to invite them to participate; they also suffer from low response rates and non-representative samples. These are most useful for communication programs that include websites to which the survey can be linked.

3. Phone or text message (SMS) surveys, but again the sample is limited to those that have phones, and SMS surveys are usually extremely limited in the number of questions that can be asked (10-15).
4. Like all quantitative methods, sample surveys are limited in their ability to understand respondents' emotions and motivations that underlie their behaviors. Qualitative methods, such as focus groups, should be used to gain that sort information about opinions, motives, feelings and social norms that may be needed for communication programs to understand what they need to change in their next iteration in order to better effect behavior change.

The tools needed to implement a personal interview survey include:

- A set of objectives for what you want to achieve from the survey.
- Precise description of the population of study (age, gender, regional distribution, etc.).
- Sampling frame, sampling strategy and protocol.
- Questionnaire.
- Logistical plan for field work.
- Team of enumerators and supervisors.
- Interview guidelines for enumerators.
- Data recording devices help expedite data entry by entering data directly in the field.

Digital media analytics: Many communication programs employ various forms of Internet or phone-based media, including creating their own websites, utilizing general-purpose websites like Facebook and Sina Weibo, or using social media such as Twitter, Snapchat and others, or providing information directly to audience members' phones via text-messaging. Undoubtedly, these forms of media will continue to evolve over time, who uses them varies by country and target audience, and they will play differing roles for the various strategies of your C4D program. However, the digital nature of these media allows some research questions to be answered relatively easily, cheaply and rapidly. For example:

1. Google web analytics is free and allows one to track over time unique visits to your website, "likes" of web pages, amount of time visitors spend on each web page, and numbers of people who take some action while on the website (such as sign a pledge, complete a brief survey, engage in some interactive activity like taking a quiz, sign up for updates from the program, leave a comment, download an information brochure, etc.). Researchers can track such data so that you can detect whether these indicators spike in relation to your communication program activities or not.
2. Hootsuite is a fee-based service that allows one to manage and monitor multiple social network accounts across 35 common platforms (e.g., Twitter, Facebook, Google, Instagram, etc.)
3. Twitter allows a researcher to track which social media users are most influential in spreading information about HPV vaccination by tracking tweets and re-tweets, the geographic location of social media users, and conduct content analysis of tweets by analyzing the positive and negative sentiments expressed in the tweets or by producing simple word clouds to show which words are most often used.

Record Keeping & Documentation of Activities: Communication programs need to be able to document exactly what they did in order to satisfy funders, partners and other interested parties. Process monitoring research is largely conducted by systematic record keeping for each activity, typically using an Excel spreadsheet, and documenting the activity in some manner, such as in a photograph, which can be used to show what the program did. Because programs may deploy a variety of activities with different goals (e.g., advocacy, social mobilization and individual behavior change), a separate monitoring plan or method may need to be developed for each activity. Methods used include:

- a. Maintaining detailed records and progress reports of activities, materials produced and distributed, the purpose of the materials and messages they contain:
 1. Are planned program activities being implemented according to set schedules? If not, why not?
 2. Were materials pre-tested? If so, what was found out and what, if any changes were

made.

3. Are materials distributed and used as planned? If not, why not?
 4. Whether the materials are of high quality or not can be assessed by observation.
- b. By periodic review of program documents, such as work plans, monthly/quarterly reports, etc.
- c. Monitoring can provide preliminary assessment (usually qualitative) of program reach and impact by:
1. Conducting spot checks (often mini-surveys) at public places and places where members of the target audiences are found to see if people remember hearing or seeing messages in the media, on notice boards, and other places program materials have been placed.
 2. Central point location intercept interviews to ask about target audiences' perceptions of program slogans, messages, or tag lines.
 3. Observation at points of vaccination.
- d. Mass media, such as newspapers, TV or radio spots or programs, can be monitored by hiring a media monitoring firm or recruiting volunteers to monitor and report on key radio or TV stations that broadcast the program's messages. They can also make press clippings from newspapers. It is possible in many countries to hire a media monitoring company to monitor, collect and analyze materials. This is very reliable and provides an objective research perspective done by experts that can analyze the data by audience segments and characteristics, but this can be very expensive.
- e. Monitoring social mobilization efforts can be done by measuring:
1. The number of groups that are involved in disseminating information about HPV vaccination,
 2. What types of groups are they and who do they serve?
 3. How are they perceived in the communities?
- f. Monitoring of advocacy efforts can be done by measuring:
1. Number of signatures on petitions delivered to lawmakers
 2. Pieces of draft legislation developed.
 3. Number and nature of meetings held with donors.

Record keeping can also be very useful in documenting outcomes of the intervention, such as changes in number of vaccinations. Time series of these important metrics can show whether the program is having an impact at the level of outcomes, which is the ultimate goal.

The following table gives a few examples of different activities and how record keeping and supplemental documentation that might be useful in research for monitoring and evaluation. The records comprise the record keeping tools, and special data sheets and/or spreadsheets can be created to monitor each over the course of the campaign.

Examples of record keeping for monitoring and evaluation collected for different activities

Activity	Records maintained in spreadsheet database	Supplemental documentation
Monitoring of vaccinations by village	<ul style="list-style-type: none"> • Time sequence of number of vaccinations 	<ul style="list-style-type: none"> • Photos of vaccination clinic in action
Advocacy meeting with policy makers	<ul style="list-style-type: none"> • Date & length of meeting • Names/titles of policy makers that attend • Materials/petitions distributed to policy makers • Main messages given to policy makers • Any promises or agreements reached at meeting 	<ul style="list-style-type: none"> • Photo of the meeting • Copy of materials/letters distributed at meeting • Resolutions resulting from meeting
Social mobilization event in communities to promote awareness of HPV vaccinations	<ul style="list-style-type: none"> • Date of event • Location of event • Estimate of the number of attendees • Activities conducted • Materials distributed • Main educational messages promoted • Partners that participated in event and their role 	<ul style="list-style-type: none"> • Photos of event • Copies of materials distributed • Results of exit interviews
Weekly radio program to increase information about and motivation to become vaccinated	<ul style="list-style-type: none"> • Date(s) of broadcast • Length of broadcast • Main educational message • Radio station(s) of broadcast and estimate of their listenership 	<ul style="list-style-type: none"> • Photo of host and guest expert, if any • Recording of the show • Transcript of the show • Number of callers to show (if call-in) and what their questions/statements were
Poster to inform villagers of benefits of HPV vaccination	<ul style="list-style-type: none"> • Number of posters produced & distributed • Main message of poster • Geographic region where posters distributed 	<ul style="list-style-type: none"> • Photo of poster

Appendix 5: Template for monitoring school vaccination day effort

Region: _____

District: _____

Town/Village: _____

School name: _____

School level (circle) Primary Secondary Combined

Date(s) of visit: _____

Has school been visited before for vaccination day? Yes No Not sure

If yes, how many times? _____

Have one or more teachers been trained in HPV vaccination at this school? Yes No Not sure

If yes, date the teacher(s) was trained: _____

If yes, approximate number of girls the teacher(s) has educated prior to today: _____

Partners participating in visit: _____

List of HPV communication activities conducted at school today:

1. _____
2. _____
3. _____

List of HPV communication materials presented to or left at school today:

1. _____
2. _____
3. _____

Number of girls aged 9 to 14 in school: _____

Number vaccinated with 1st dose today: _____

Number vaccinated with 2nd dose today: _____

Number of girls who refused vaccination: _____

Number of girls already fully vaccinated: _____

Number of girls 15 and older in school: _____

Number vaccinated with 1st dose today: _____

Number vaccinated with 2nd dose today: _____

Number vaccinated with 3rd dose today: _____

Number of girls who refused vaccination: _____

Number of girls already fully vaccinated: _____

Supplemental data obtained (such as photos, video, exit interviews with girls):

1. _____
2. _____
3. _____

Comments and observations on how things went and what could be improved:

Appendix 6: Classification of research types

Qualitative Research

- Provides depth of understanding
- Asks “Why” questions
- Tries to understand motivation for certain behaviors
- Is subjective
- Enables discovery; researchers can ask open-ended questions so that respondents can give answers the researcher couldn’t anticipate
- Is explanatory and interpretive
- Relies on small, purposeful samples of people the researcher has reason to study, such as members of the target audience or technical experts
- Results cannot be “generalized” to a population; they only reflect the responses of those interviewed
- Focuses on processes
- Allows for interactions between the facilitator/researcher and the participants/ respondents

Quantitative Research Methods

- Measures level of occurrence, or of actions, or trends
- Asks “How many?” and “How often?”
- Studies action
- Follows scientific objectivity
- Provide evidence of a program’s effects on outcomes, purpose and goals
- Is definitive
- Is descriptive
- Relies on large, representative samples to allow statistical data analysis of results
- Allows for broad generalizations of any findings to larger populations from which the sample was drawn
- Uses statistics to aggregate, summarize, and describe the data and to compare sub-populations to each other (or over time)

Facts About Cervical Cancer and HPV

- Cervical cancer is one of the most common cancers affecting women. 350,000 women died of cervical cancer in 2022.¹
- Cervical cancer is one of many diseases that afflict the poor disproportionately. 94% of worldwide deaths from cervical cancer occurred among women living in low and middle-income countries, mainly due to lack of access to screening and treatment facilities.²
- Cervical cancer affects the cervix, part of a woman's uterus (womb).
- Human papillomavirus (HPV) is the primary cause of cervical cancer
- HPV is highly transmissible. The majority of the population who are sexually active, will become infected with HPV during their lives. Most HPV infection clears naturally, but in some cases, these infections will persist over years and go on to cause cervical cancer.
- Cervical cancer can impact child bearing as surgical removal of the womb may be required.³
- There are different types of HPV. HPV 16 and 18 are responsible for the majority of cervical cancer cases. Vaccines protect against these specific types of HPV.



Facts About HPV Vaccination and Cervical Cancer Prevention

- Cervical cancer can be prevented through HPV vaccination of girls, and cervical cancer screening and treatment of women.
- HPV vaccine is highly effective at preventing HPV infections, precancerous lesions, and most forms of cervical cancer.
- By 2022, over 130 countries had introduced HPV vaccines into national immunization programs.⁴ Governments in many countries offer HPV vaccine free of charge through immunization programs.
- The vaccine is most effective if administered to girls before exposure to HPV that occurs with sexual debut. WHO recommends girls aged 9 to 14 years old as the primary cohort for vaccination with a one or two dose schedule.⁵
- For girls aged 15 or older, or those with a compromised immune system, three doses within 12 to 15 months are recommended (typically given at 0, 2, and 6 months; but the second dose can be given at up to 6 months after the first dose).
- HPV vaccines are safe, effective and reliable. WHO Advisory Committee for Vaccine Safety has closely monitored the safety of HPV vaccines reviewing data and studies from all over the world. A WHO 2017 review of over 270 million doses of HPV vaccine concluded the vaccine has an excellent safety profile and no major adverse events.
- HPV vaccine is delivered with an auto-disposable (AD) syringe that is used only once and then must be safely disposed.
- HPV vaccine does not impact fertility or promote promiscuity. It is a vaccine that protects against cervical cancer.
- Evidence shows that countries with national HPV vaccination programs with high coverage have a significant reduction in new infections and cervical cancer cases over time.
- Like all other vaccines, the HPV vaccination can produce mild side effects, such as redness, swelling or soreness in the arm where the injection is given. Some people also experience headache, mild fever, aches in joints or muscles or temporary nausea. These side effects usually last a day or two and are not dangerous. If symptoms persist, the person should consult their local clinic or hospital immediately.

References and additional resources

This guide offers general guidance around the core elements of M&E for C4D HPV vaccination program interventions; however, the information included in this document is in no way exhaustive. The following are excellent supplemental resources for monitoring and evaluation research:

1. Andreasen, A.R., 1995. *Marketing Social Change: Changing behavior to promote health, social development, and the environment*. Jossey-Bass, Wiley Imprint. 348 pp. Andreasen's Chapter 3 provides an excellent overview of market research methods that enable communication programs to focus their research on their audiences and when each of the common research methods is most useful in the communication planning process but does not provide a hands-on guide in how to conduct the research.
2. Mytton, G., 1999. *Handbook on Radio and Television Audience Research*. BBC World Service Training Trust and UNICEF. London. 191 pp. Mytton provides a comprehensive overview of conducting communication research for traditional radio and television audience research including concise descriptions and guides for implementing the research.
3. Nightingale, V., 2011. *The Handbook of Media Audiences: Global handbooks in media and communications research*. Wiley-Blackwell, United Kingdom. Nightingale extends audience research to electronic forms of communication, including Internet, mobile and social media platforms.
4. Tools4Dev, 2018. *Practical tools for international development: How to create a Monitoring and Evaluation (M&E) system step-by-step guide*. <http://www.tools4dev.org/resources/how-to-create-an-monitoring-and-evaluation-system/>
5. Sallis, J. F., Owen, N., & Fisher, E. B. (2008). Ecological models of health behavior. In K. Glanz, B. K. Rimer, & F. M. Lewis (Eds.), *Health behavior and health education: Theory, research, and practice* (pp. 465-486). San Francisco: Jossey-Bass.
6. UNICEF, 2018. *MNCHN C4D Guide: Communication strategy guide for maternal, new-born, child health and nutrition*. https://www.unicef.org/cbsc/index_65738.html
7. UNICEF and Gavi (the Vaccine Alliance), 2016. *Improving Vaccination Coverage and Reducing Inequities: Use of GIS in Immunization Programs*. Meeting Technical Report available at https://www.unicef.org/health/files/3._Final_Report_February_2017.pdf
8. World Health Organization (WHO), 2016. *HPV Vaccine Communication: Special considerations for a unique vaccine*. Available at http://www.who.int/immunization/documents/WHO_IVB_16.02/en/

Endnotes

- 1 IARC 2022 <https://www.iarc.who.int/cancer-type/cervical-cancer/>
- 2 <https://www.iarc.who.int/cancer-type/cervical-cancer/>
- 3 Cancer Research UK, Available at <https://www.cancerresearchuk.org/about-cancer/cervical-cancer/living-with/fertility>
- 4 <https://www.who.int/news-room/fact-sheets/detail/immunization-coverage>
- 5 WHO HPV Vaccines Position Paper: Dec 2022



