Designing Effective Communication Programs for Increasing Uptake of HPV Vaccine

A summary of findings from studies across the global south targeted at parents' and providers' behaviours for increasing uptake of HPV vaccine amongst adolescents

American Cancer Society
Global HPV Cancer Free

INTRODUCTION

The American Cancer Society (ACS) commissioned studies in the global south (India, Kenya, and Colombia) to understand and address the issue of low uptake of HPV vaccination. The three selected countries are in different phases of HPV vaccine rollout, with different health systems framework and cultural context. These studies developed messages and interventions rooted in **behaviour science** to ease prioritized barriers among parents of adolescent girls and to support clinicians and healthcare workers as significant influencers of parental decision making. These study findings highlighted important 'Dos' and 'Don'ts' for designing communication messages and interventions for HPV vaccination.

Purpose of this document

This tool is intended to be used as a wisdom document across low and medium-resourced contexts for **designing communications programs and campaigns** to **achieve and sustain high uptake of HPV vaccination** by using effective behavioural messages delivered through effective messengers using the right messaging channels. This includes i) how to influence **parents' behaviour** for increasing the uptake of HPV vaccination among age-eligible adolescents, and ii) how to influence **doctors'/physicians' behaviour** for increased recommendation to parents for the uptake of HPV vaccination for their daughters.

What does this document cover?

The document compares and contrasts research and findings from the three countries to create a digestible synthesis, summarizing what is effective and what should be avoided when designing communication programs for HPV vaccination.

Potential users of this document

This document serves as a reference for those designing communication programs and resources in ministries of health and government health agencies, cancer and immunization organizations, as well as individuals communicating about HPV vaccination.

It is important to note that the recommendations listed are based on findings from a limited number of country contexts: parent messaging is based on research in Colombia and Kenya and doctor/physician messaging is based on research in India. It is essential to validate all communications in your specific cultural context to ensure appropriateness. To help you do so, this document includes a worksheet to be used as a template along with guidance to modify these findings to **your specific context and environment**.

The users of this document should adapt the content to suit their context/environment

Highlights of Recommendations

What to keep in mind while designing messages to address barriers for the uptake of HPV vaccines

Messaging directed to the parents of adolescent girls

- ✓ Make the link between HPV vaccination and cervical cancer prevention very clear (HPV vaccination reduces the risk of cervical cancer)
- ✓ Use recommendations by medical professionals/doctors, and health officials/ community health workers as they are trusted messengers
- ✓ Use visual aids like posters showing doctors recommending HPV vaccination
- ✓ Use positive or aspirational framing to align with parents' dreams for their children's future
- ✓ Consider leveraging the willingness of parents to align with social norms (informing them that others in their local community have vaccinated their daughters)*
- ✓ Interactive SMS campaigns with clear messaging and a clear call to action, including FAQs, may work in some contexts (effective in Colombia/not effective in Kenya)
- ✓ Use audio visual testimonials of parents who have had their daughters vaccinated
- ✓ Use testimonials by patients and survivors of cervical cancer

Messaging directed to medical professionals/doctors

- ✓ Refresh medical professionals'/doctors' knowledge of the risks of HPV infection and the benefits of HPV vaccination
- ✓ Endorse messages by a trusted medical champion
- ✓ Emphasize medical professionals'/doctors' responsibility in encouraging and counselling parents to choose HPV vaccination for their daughters and to becoming more active champions

What to avoid while designing messages directed to parents of adolescent girls

- Messaging that triggers fear of death from cancers
- Leading with messaging around transmission of HPV infections through sexual contact
- Unclear messages that leave parents wondering what is the purpose of the message
- Obscure web links in the message that make the message look like spam

Use context and environment of your target audience to:

- Design appropriate, behaviorally-informed messaging
- Choose effective channels to deliver the messages

Integrating behaviourally-informed messaging to 'nudge' physicians and parents for increasing uptake of HPV vaccine

The interventions created messaging to increase demand for the HPV vaccine amongst parents of adolescents in Kenya and Colombia and to reduce physician's hesitancy to routinely recommend HPV vaccine in India

SUMMARY OF INTERVENTIONS ACROSS THREE COUNTRIES

Countries	Kenya	Colombia	India
Program Goal	**Designing and testing communication interventions rooted in behaviour science to increase the uptake of HPV vaccines amongst eligible adolescent girls.**		
Intervention Goal	Reduce hesitancy among parents of young girls and drive the uptake of HPV vaccination	Increase HPV vaccination among girls 9-17 years	Reduce hesitancy among physicians/doctors to actively recommend the HPV vaccine
Expected Outcomes	Improved intentions among parents to vaccinate young girls with HPV vaccines	Increase vaccination rates of HPV vaccine received by girls 9-17 years of age	Increase physician intention to recommend the HPV Vaccine
Target Group	Parents of adolescent girls (low income)	Parents of adolescent girls (middle income)	Medical practitioners (family physicians, gynecologists, pediatricians)
Behavioural Design Principles Used	• Positive and negative message framing • Social norms • Messenger effect	• Emotions • Framing • Trust • Social norms • Decision aids	• Salience • Champion-led interventions • Bundling messages • External nudges
Framework Used	**Increase HPV vaccination rates** among adolescents by **motivating parents** to take their daughters to vaccination centers. This was done by nudging parents with different behavioural science principles through a **communication campaign**.	I**ncrease HPV vaccination rates** among adolescents, by **motivating parents** to take their daughters to vaccination centers. This was done by nudging parents with different behavioural science principles through an **SMS campaign**.	**Reduce physician hesitancy** in actively recommending the HPV vaccine by providing information on the dangers of cervical cancer, and leverage medical champions for increasing the willingness to recommend the HPV vaccine. This was done by **nudging doctors with various behavioural science principles** through in-person and online interventions.
Testing Method	Randomized control trials (RCTs)	Randomized control trials (RCTs)	Randomized control trials (RCTs)

Key Enablers and Barriers to HPV Vaccine Uptake

PARENTS OF ADOLESCENT GIRLS		Kenya	Colombia	India*
ENABLERS	Clear behaviourally designed messages	✓	✓	NOT STUDIED
	Parents' sense of responsibility towards their children	✓	✓	NOT STUDIED
	High trust in healthcare workers/medical professionals	✓	✓	✓
	Fear of cancer (if not vaccinated): to increase importance Must be combined with empowering message instead of invoking fear of death, which reduced likelihood to vaccinate	✓		NOT STUDIED
	Endorsement by medical professionals/government health authorities	✓	✓	✓
	Parents perceive vaccines as effective in protecting from disease	✓	NOT STUDIED	✓
BARRIERS	Lack of complete and correct knowledge about HPV, HPV vaccine, link between HPV and cancer, Benefits of HPV vaccine	✓	✓	NOT STUDIED
	Lack of knowledge about when and where to get the vaccines	✓	✓	
	Misconceptions about the cost of HPV vaccination, side effects	✓	✓	
	Social stigma of HPV infection being an STI	✓		
	Lack of recommendations from healthcare providers/reference or messaging from government health authorities		✓	

DOCTORS / PHYSICIANS / MEDICAL PRACTITIONERS		India
BARRIERS	Physicians underestimate the prevalence and the threat of HPV	✓
	Hesitancy amongst providers to recommend HPV vaccine because of social norms	✓
	Lack of trust in the safety and efficacy of the HPV vaccine	✓

*The target audience for behavioral interventions in India was physicians/medical practitioners thus several attributes were not studied with parents.

✓ **Identified**

MESSAGING FOR PARENTS OF ADOLESCENT GIRLS

Communication messages for **PARENTS** of adolescent girls to encourage/motivate them to seek vaccination

KEY FINDINGS		Kenya	Colombia	Secondary Research
Framing of messages				
Framing of Vaccine as "Cancer Preventing" to Motivate Parents	Make the link between HPV and cancer very clear - HPV vaccine can protect your child from cervical cancer/ HPV Vaccine reduces the risk of cervical cancer: *"Did you know that in 2018, 974 women with HPV developed cancer in Bogotá? There is an HPV vaccine waiting for your daughter. Health Secretariat"*	✓	✓	✓
Positive/ Aspirational Frame	Appeal to a parent's aspirations for their daughter's future: *'Vaccinate your daughter today, protect her future from cervical cancer'*	✓	✓	✓
Fear of Death From Cancer Frame	Communicating to parents the threat of their daughter getting cancer or dying if not vaccinated: *'Cervical cancer kills 9 women every day in Kenya; Don't let it be your daughter'*	✗	Not tested	✗
Anticipated Regret Frame	A possibility of feeling sorry as a parent for not acting on time for getting their daughters vaccinated: *'Vaccinate your daughter against HPV and you will not regret cancer later'*	Not tested	✓	
Social Norms Frame	Appeal to people's desire and willingness to adopt socially-acceptable behaviours: ***Kenya example:*** *'Join millions of parents: Pledge to give your daughter 2 doses of HPV vaccine'* **Colombia example:** *'4 out of 10 parents in Bogotá have vaccinated their daughters against HPV, protecting them from cancer, an increase of 128% since 2016. MoH'*	Inconclusive	✓	✓

✓ **Worked** ✗ **Did not work**

KEY FINDINGS FOR PARENT MESSAGING (continued)		Kenya	Colombia	Secondary Research
Content of messages				
Clear 'Call to Action'	Remind parents of their responsibility to get their child vaccinated: *"Hi [Parent's name], your child does not have the HPV vaccine yet ☹. There is a vaccine waiting for your child at the nearest vaccination center"*	✓	✓	
Unclear Messaging	Unclear messages that leave parents wondering what the purpose of the message is: *"Vaccination is the best Christmas gift for your son or daughter. Check at http:// aldm.co/Eq2vT9s for the point closest to your home and go."*	Not tested	✗	
Obscure Web Links	Obscure web links in the message that make it look like spam: *Give your son or daughter all the protection. Look up http://aldm.co/Eq2vT9s for the closest vaccination point.*	Not tested	✗	
Messenger of the message				
Messenger Effect	Male Doctor	✓	Not tested	
	Female Doctor	✓		✓

MESSAGING FOR DOCTORS

To motivate **DOCTORS** to recommend HPV vaccines to the parents of age-eligible girls routinely and confidently

KEY FINDINGS		India	Secondary Research
Targeted behavioral barrier			
"Low Trust" in HPV Vaccines	Endorsement by a trusted medical champion	✓	✓
Under-Estimation of the Risk of HPV Infection in Population	Emphasize the burden of cervical cancer in India and the associated deaths (through recent statistics) to target bias in the risk assessment of HPV and cervical cancer	✓	✓
Concern of Breaking Social Norms and Creating Socially Awkward Conversations	Icebreakers for sensitive conversations; introducing environmental cues to initiate conversation; bundling HPV vaccine recommendation with other vaccines recommended at that age	No significant changes	

✓ **Worked** ✗ **Did not work**

WORKSHEET

1. DEFINE

Describe the current context of HPV vaccination in your country/region.

1.1	**Define the problem statement**	e.g. i) X number of women/girls die of cervical cancer every year in …. (geography) ii) HPV vaccine coverage is low at xx% in … (geography/name of the country/province/region) as compared to other vaccine coverage at yy%
1.2	**Current policy and program challenges**	e.g. i) HPV vaccine is provided free by the MoH under the national immunization program, however the uptake remains low – explore issues/challenges both from supply side and demand side
1.3	**Target population**	e.g. i) Parents of adolescent girls for low uptake ii) Doctors/Physicians/Health workers for low recommendations iii) Policy makers for any policy/program gaps/supply side issues
1.4	**Desired behaviour**	e.g. i) Parents of adolescent girls get their daughters vaccinated against HPV ii) Doctors/Health workers motivate parents to get their children vaccinated against HPV iii) govt/MoH takes action to address the supply side issues (access, affordability) and demand side issues (campaign run by MoH)

2. DIAGNOSE — Describe contexts and behavioural biases that are preventing the target population from engaging in the desired behaviour

2.1	Identify behavioural barriers	Decision barriers	e.g. Lack of complete and correct knowledge about HPV, HPV vaccine, link between HPV and cancer, benefits of HPV vaccine
		Action barriers	e.g. Social norms: parents do not take their daughters to get vaccinated against HPV because they believe other parents have not done so either
2.2	Check validity of the barriers in the field		Conduct interviews with the identified target population + other stakeholders to validate the identified barriers
2.3	Select behavioural barriers to be addressed		Select the behavioural barriers to be included in the program based on the most critical aspects to be addressed for increased uptake, feasibility, ease of administration, and suitability to the context/environment.

3. DESIGN

3.1. Identify potential solutions for the behavioural barriers identified in the diagnosis

Ask the following questions to come up with suitable designs:

- How might we change the context behind each specific barrier?
- How might we correct the bias causing each specific barrier?
- What solutions can be identified in the literature for each specific barrier?
- What channels do we use to reach the target population to change the context or bias causing this barrier?

Behavioural Barriers	Potential Design 1	Potential Design 2
e.g. Lack of knowledge amongst parents about HPV, link between HPV and cervical cancer, and HPV vaccine	e.g. Make the link between the vaccine and cancer very clear, framing the HPV vaccine as a cancer preventing tool	
e.g. **Physicians** display a **lack of trust** in the safety and efficacy of the vaccine	e.g. Interventions targeting "Low Trust": Endorsement by a trusted medical champion	

Things to keep in mind:

- ✓ Messaging should be designed using behavioural economics principles
- ✓ Channels for messaging should be selected based on relevance and scalability of the intervention
- ✓ Messaging to be designed as per the specific context and environment

3.2. Designing treatments: detailing the intervention

Choose the most feasible design and detail the intervention methodology by writing down step wise details on how the intervention will be implemented.

3.3. Design evaluation strategy, outcome indicators

Seek the assistance of a behaviour scientist to design the evaluation strategy.

ANNEX Stages in designing behavioural solutions across the three country studies

1 STAGE I DEFINE: IDENTIFYING AND DEFINING THE PROBLEM STATEMENT	
Problem Statement	Low uptake of HPV vaccines amongst adolescent girls in all three countries - low demand from parents for HPV vaccines, low recommendation from healthcare providers/government departments.

2 STAGE II DIAGNOSE: FORMATIVE RESEARCH – MAPPING BARRIERS AND ENABLERS			
Countries	**Kenya**	**Colombia**	**India**
Key Barriers	• Parents lack of knowledge about HPV, HPV vaccine, and the link between HPV vaccine and cancer prevention • Parents lack of knowledge about when and where to get the HPV vaccine • Parents' misconceptions on vaccine costs • Parents worry about potential side effects (infertility) • Social stigma around sex and sexual health	• Parents mistrust the vaccine due to perceived decrease in government support after an adverse event • Parents wait to receive a recommendation from a healthcare provider • Parents' lack of information on the benefits of HPV vaccine • Parents view HPV vaccine as 'non-essential' resulting in lack of urgency in taking the HPV vaccine	• Physicians underestimate the prevalence and the threat of HPV and cervical cancer • Physicians lack trust in the safety and efficacy of the HPV vaccine among physicians • Physician concern of breaking social norms and creating socially awkward conversations by recommending vaccine
Key Enablers	• Parents have high trust in healthcare workers and government • Parents' sense of responsibility towards their children	• Messages endorsed by medical doctor, central health authority, insurance company responsible for healthcare provision	• Parents place high trust in government doctors • Parents consider physicians to be trustworthy sources of health information • Parents perceive vaccines as effective in protecting from diseases • Existing platforms for Adolescent Health • Community member approach CHWs for information on vaccines
Methodology	• Primary research: qualitative and quantitative surveys with parents • Secondary research: comprehensive literature review	• Primary research: qualitative study with parents • Secondary review of international literature findings	• Primary research: qualitative study with doctors, parents, and community influencers, government stakeholders - in-depth interviews; focus group discussions (FGDs) • Secondary literature review
Link to Report	Kenya Research Report	Colombia Research Summaries	India Research Report

3 STAGE III DESIGNING AND TESTING SOLUTIONS

Countries	Kenya	Colombia	India
Designing Interventions	Guided by barriers/enablers and results of a co-design workshop with key stakeholders, a communication package was developed targeting parents to include three key elements: • **Endorsement:** Trusted sources of health-related information recommending the vaccine • **Testimonial:** Cervical cancer survivors sharing personal stories to motivate parents to get their girls HPV vaccination. • **Text nudges:** Regular nudges to remind parents to get their eligible girls HPV vaccine	Informed by qualitative study, interventions were designed with messaging (SMS) that: • Addresses **social norms, beliefs, emotions, and attitudes of parents,** and **nudges** the parents to vaccinate their children • **References a medical doctor/central health authority/insurance company** responsible for healthcare provision • **Reminds parents** of their responsibility to get their child vaccinated • **Provides clear direction and decision aids** for parents – where, when, and how to vaccinate	Informed by the diagnostic study, interventions were behaviorally designed to address: • **Low trust:** endorsement by a trusted medical champion • **Under-estimation of the risks of HPV:** dangers of cervical cancer and ease of its prevention • **Ways to make the HPV recommendation easy:** Icebreakers for sensitive conversations; environmental cues to initiate conversation; bundling the HPV recommendation with other recommendations
Testing Solutions	Randomized trials with 600+ parents to assess the effectiveness of different messages. Two key aspects were tested: • **Behavioural framing:** exposing parents to messages with ***positive framing*** (aspirations/gains); ***negative framing (***fear) • **Messenger or endorser of messages:** messages with recommendations from male and female medical practitioner.	Randomized trials with 174,000+ parents - separated into multiple experiments to measure the impact of 47 messages against no message and current message as controls. • **Implemented SMS campaigns with behaviorally informed messages**, targeting parents of unvaccinated daughters and those needing to complete the vaccination regimen.	Randomized trial with 600+ medical practitioners. Different treatment and control groups to assess the impact of 5 different interventions. • **Experiments with doctors, exposing them to different stimuli** (videos, posters) and measuring their intentions to recommend the vaccine.

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Read the full research reports that informed this synthesis document on *Prevent Global HPV Cancers*

Find tools and resources for HPV vaccination uptake on *Prevent Global HPV Cancers*

Contact us at globalcancerprevention@cancer.org to share how you have used this tool and provide feedback for improvement