Improving Vaccine Uptake

finalmile.
a fractal company

Driving Segment Targeted Interventions for HPV Uptake

Consolidated Formative Research Insights

Kenya, Côte D'ivoire

August 2024

Objectives

1 | Collaboration Objectives & Project Overview
We have insights, HCD process and resources and are looking for partners to collaborate with who have ongoing programming

2 | Share Qualitative Learnings
Interconnected elements that contribute to HPV vaccine decision making and decision journey experiences

3 | Next Steps
Quantitative research phase resulting in Psycho-behavioral Segments and Segment Targeted Strategies

4 | Opportunities
Thinking about how these learnings and segmentation can be used for current and future HPV vaccination, other vaccine campaigns and other health system engagements

Key Insights Summary

The HPV vaccine is typically the introduction to HPV and cervical cancer - With low relevance and risk salience of cervical cancer, girls and caregivers are typically introduced to HPV and cervical cancer through the vaccine introduction. However, in a few cases where a caregiver has close association with loss due to cervical cancer, the HPV vaccine can be a welcome relief.

There is now a 'new vaccine' mental model - The COVID-19 vaccine has disrupted patterns of uptake and trust created by legacy child immunization, creating a 'new vaccine' mental model which has an emerging trust issue.

HPV vaccine seen as 'routine immunization' by health system yet 'new vaccine' by caregivers - Dissonance arises as the health system sees the HPV vaccine as a 'routine child immunization' where service delivery aims to defaulted action yet caregivers see the HPV vaccine as a 'new vaccine' therefore an active decision needs to be made.

Caregivers feel a lack of agency in the decision process - Caregivers view HPV vaccine uptake as a high stakes health decision and want to have control over making this decision given the perceived potential high risk and negative implications. Caregivers see the service delivery modality as keeping them away from the decision and giving more agency to their 9-14 year old girls within current school vaccination programs, which can lead to both girls and caregivers needing to cope.

Trust is critical - Institutional trust and trusted messengers serve as a means to drive uptake and a means to cope with the uncertainty of a new vaccine. But trust can be severely impacted by myths/misinformation and poor service delivery experience of the HPV vaccine which can negatively impact future vaccinations and health engagement.

Service delivery can be a demand lever - Service delivery needs to be looked upon as a demand generation lever, including building assurance for caregivers and involvement for 9-14 year old girls

Collaborating with Implementing Partners

Collaboration is key to support ongoing and future HPV vaccine uptake efforts. We bring insights, the HCD process and resources for prototyping solutions to potential collaborations. But collaborations with implementing partners within the health system and community are critical so that a sustainability plan can be developed with tested, contextualized interventions. Continued engagement with implementing partners at this stage can help us identify areas of potential collaborations.

INSIGHTS

HCD PROCESS

RESOURCES

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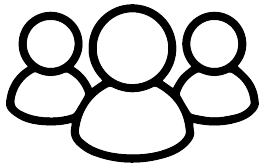

PARTNERS
with existing programs/footprints/ engagements

→

SUSTAINABILITY PLAN
with tested, contextualized interventions and strategy

Collaboration

As you read through this document, we invite you to consider what resonates with you, what may support your efforts and what you are curious about.

We are looking for collaborators

INSIGHTS

HCD PROCESS

RESOURCES

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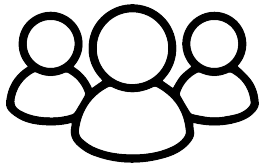

PARTNERS
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SUSTAINABILITY PLAN
with tested, contextualized interventions and strategy

Sections

Part 1: Project Objectives and Process

This section outlines the overall objectives of the project, the methodology used and highlights which phase of research we are in currently.

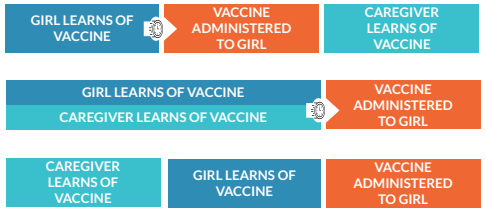
Part 2: Key Themes

Part 3: Decision Journey

These two sections discuss the key insights and highlight the framework

This section explores six key elements that influence decisions related to HPV vaccine uptake. We delve into the interplay between these elements, and explore the unique decision-making contexts that these interactions give rise to.

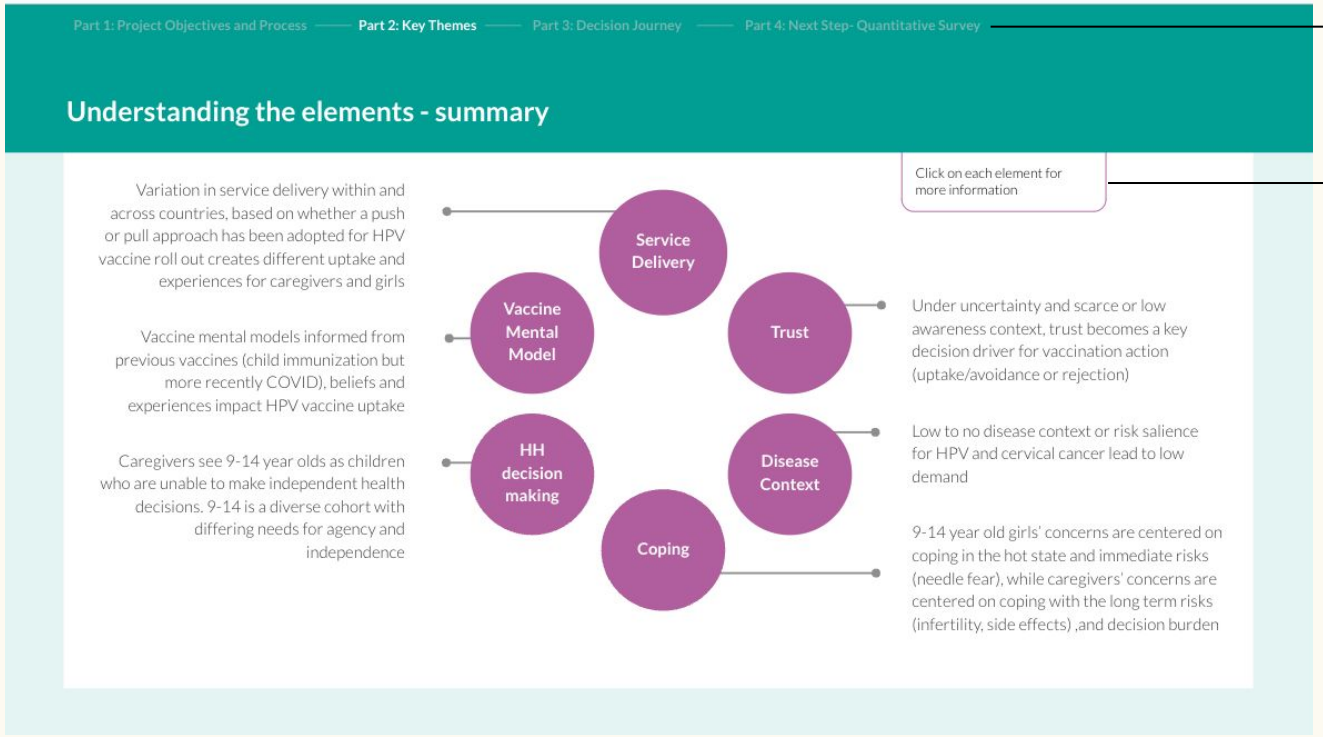
This section highlights how the nature of service delivery – a key element discussed in Part 2 – shapes caregivers' responses to the HPV vaccine. Additionally, we speculate on the implications that service delivery may have for trust in future vaccine rollouts.



Part 4: Next Step- Quantitative Survey

This section outlines how our current learnings informed the ongoing phase of segmentation research. We explain our approach for this next phase, while detailing the methods we'll employ along with the expected outputs.

Navigation



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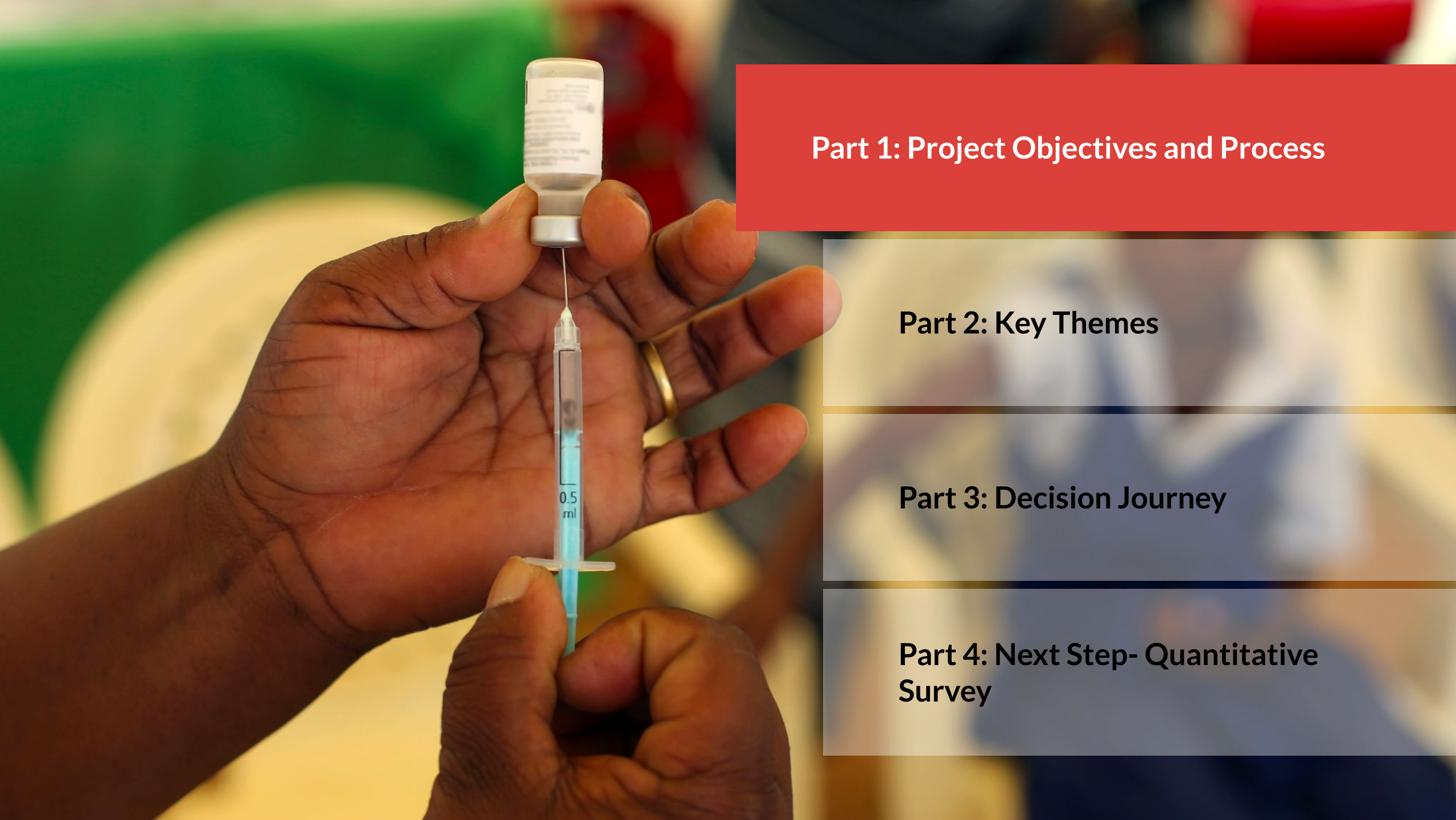


Part 1: Project Objectives and Process

Part 2: Key Themes

Part 3: Decision Journey

Part 4: Next Step- Quantitative Survey

Overall Project Objectives

Identify

Identify the conscious and non-conscious **drivers of and barriers to uptake of HPV vaccines among caregivers /guardians/ influencers and girls**.

Assess

Assess the **prevalence and clustering of the drivers and barriers** in different segments of the population, profiling those segments for effective and actionable solution-targeting.

Strategize

Identify **effective levers of behavior change** to boost confidence in and willingness to receive the HPV vaccine for each segment.

Co-develop

Co-develop segment-targeted solution concepts addressing the needs of caregivers, girls, the health system and school system with governments, implementing partners and local stakeholders to support vaccine demand and uptake.

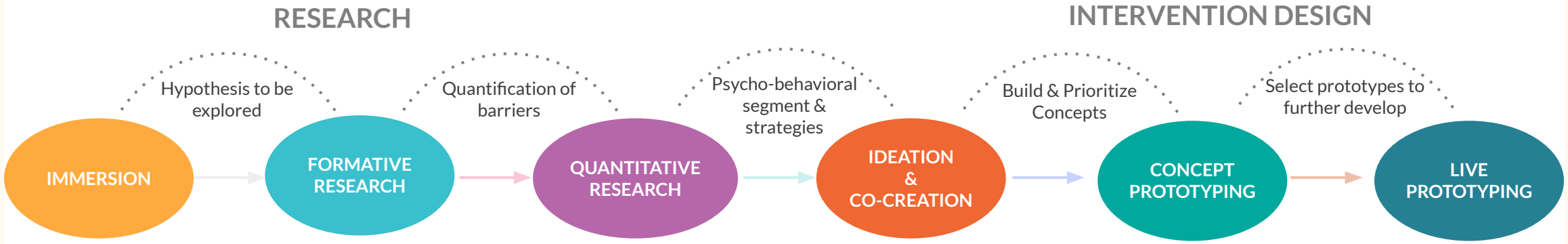
Prototype

Conduct iterative prototyping of targeted, tailored interventions (from low to high fidelity) with implementers to ensure feasibility, acceptance and usability.

Support

Build guidance materials and tools to support implementers and public health authorities across GAVI countries to understand and use the segment profiles, solutions strategies, and to help plan, adapt and deploy localized interventions to address the barriers to vaccine confidence and uptake in the dynamic HPV context.

Project Process



01
Understanding the problem context and hypothesis building through secondary data/research review, stakeholder immersion

Qualitative Research tools
IRB approval

02
Formative primary research with 150 participants including households, health system, school administrators and community leaders to uncover enablers and barriers for HPV vaccine uptake in each country

Qualitative analysis, synthesis and sense-making of findings. Concurrent AI-analysis.

Interim output - formative research insights (contained in this document

03
Quantification of the barriers to HPV vaccine uptake on population representative samples through a 12,000-sample quantitative survey

Through AI/ML data analysis, creation of psycho behavioral segments and segment targeted strategies

Country level
Psycho-behavioral segmentation strategy

04
Co-creation workshop with MOH, international agencies, community and implementing partners to ideate on interventions for segment targeted interventions for HPV vaccine uptake

Prioritization of interventions concepts

Prioritized intervention concepts

06
Building exploratory low-fidelity prototypes for the chosen concepts and testing with service providers, households with girls.

Refinement and creation of artefacts based on feedback Testing of higher-fidelity developmental prototypes and refinement

Refined segment targeted intervention prototypes

07
Testing of the revised high fidelity prototypes in context for a short duration, testing for acceptability, feasibility and potential for impact

A final round of iteration will occur with findings shared that include revised interventions, implementation opportunities and implementation briefs for piloting

Evidence Generation

Project Deliverables

Segment psycho-behavioral profiles containing details about each segment's descriptive characteristics, context, history, behavioral enablers & barriers, key statistics and solution strategy.

Segment typing tool for quick identification of an individual's segment profile based on their responses to 3-4 questions which can enable tailored communications and service delivery.

Nationally representative data and guidelines to inform evidence-based policy decisions such as resource allocation, program portfolio management and strategies to address vulnerabilities.

Inclusive and differentiated public messaging and mass communication campaigns which are appropriately aligned to the unique needs and barriers of different segments.

Tailored service delivery and user experiences based on understandings of their environmental barriers and emotions segments experience at the point of service delivery.

Tailored interpersonal communication to address specific barriers at an individual/household level that can be used by HCW for mobilization or at point of service delivery for customized messaging.

Formative Research Objectives

Within the larger **HPV vaccine uptake behavioral segmentation study,** the first stage of qualitative formative research aims to:

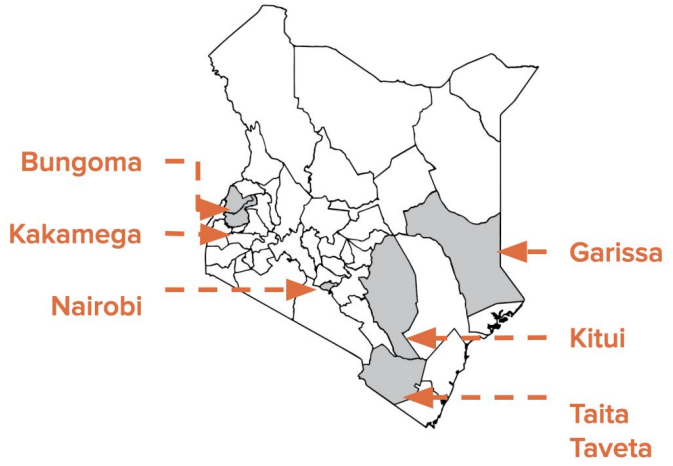
- Understand drivers of vaccine hesitancy and barriers to vaccine confidence and uptake
- Inform the quant survey tool with variables
- Identify initial strategic levers

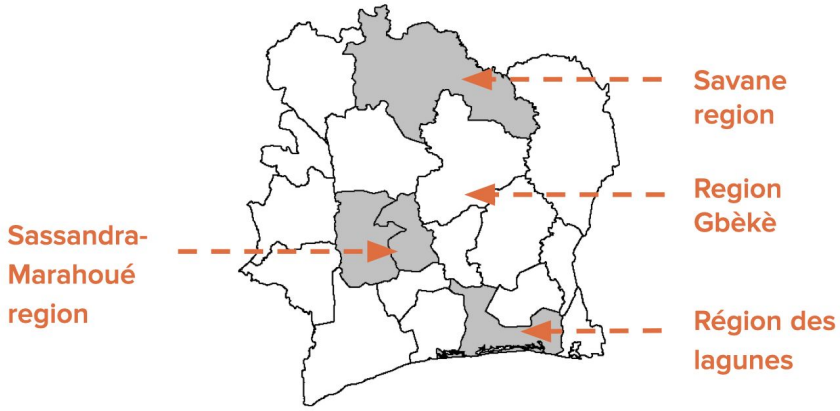
Qualitative Formative Research

This research was conducted in Côte d'Ivoire and Kenya
The research sample aimed to represent the diversity (geographic, demographics, HPV vaccine attitudes, vulnerability) in the population.

In each country, the sample population consisted of 150 participants recruited from the demand (girls and caregivers) and supply (health system, schools, community) sides, and split along the following diversity dimensions:

1. Demographic (age, region, income, geographic spread)
2. Vulnerabilities
    a. Socio-economic-environmental factors e.g. gender, resource constrained communities, structural vulnerabilities
    b. Information barriers (without internet, digitally excluded, remote)
    c. Girl agency, e.g. their freedom of decision making, movement, and expressing themselves.
    d. Out of school girls
3. HPV Vaccine Status, Awareness and Hesitancy
    a. Vaccinated or unvaccinated
    b. Aware or Unaware
    c. Vaccine confident or hesitant





Qualitative Research Sample

The aim of the formative qualitative research was to understand the HPV context, vaccine mental models and the joint decision making across the key stakeholders. The total sample size was **150 participants** across households, health system, school system and community leaders in each country.

HOUSEHOLD INTERVIEWS

We interviewed the household as a unit, where we interviewed the key parental decision-maker and the girl separately to unpack HPV context, decision making and actions

	HPV Vaccinated	HPV Unvaccinated	Total
Girls (9-14)	12	20	**32**
Primary caregiver of girls(9-14)	12	20	**32**
Girls Triad (9-14)	6	12	**18**
Boys Triad (9-14)	-	6	**6**
Secondary caregiver Triad	-	12	**12**
TOTAL SAMPLE			**100**

STAKEHOLDER INTERVIEWS

We conducted observations and engaging in-depth interviews with the key health system actors, school administrators and community and religious leaders

		Sample	Total
School	Teacher	5	**15**
	Administrator	10	
Community	Religious Leaders	5	**15**
	Community leaders	5	
	Traditional healers	5	
Healthcare Facility	Doctors	5	**10**
	Nurses	5	
Immunization Camp	Nurses	5	**10**
	Community Health Workers	5	
TOTAL SAMPLE			**50**

Qualitative Research

Thematic Areas

Households - Girls and Caregivers

- Household power-dynamics and joint decision making
- Health system engagement
- Routine immunisation experience and perceptions
- COVID-19 experience and perceptions
- HPV and cervical cancer context
- HPV vaccine decision making
- Information sources and channels

Stakeholders: - teachers, school admins, religious leaders, community leaders, doctors, nurses, community health workers

- Individual bias / views toward HPV vaccine
- Current situation in their domain
- Supply side barriers and enablers
- Demand side barriers and enablers

Qualitative Research Tools

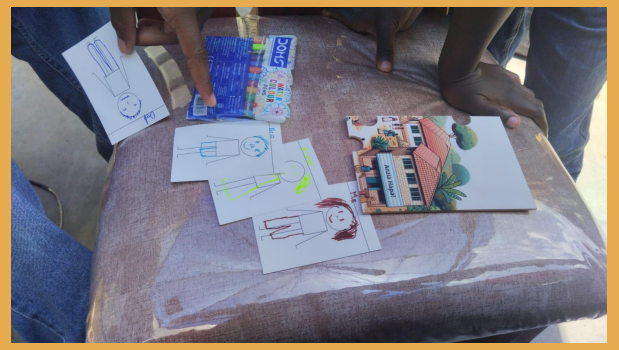
Household Interviews

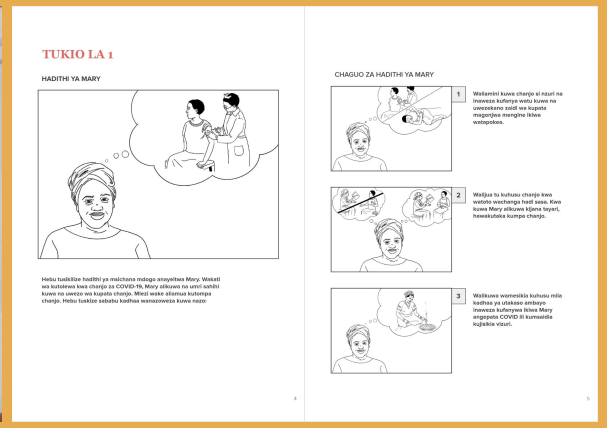
Girls:

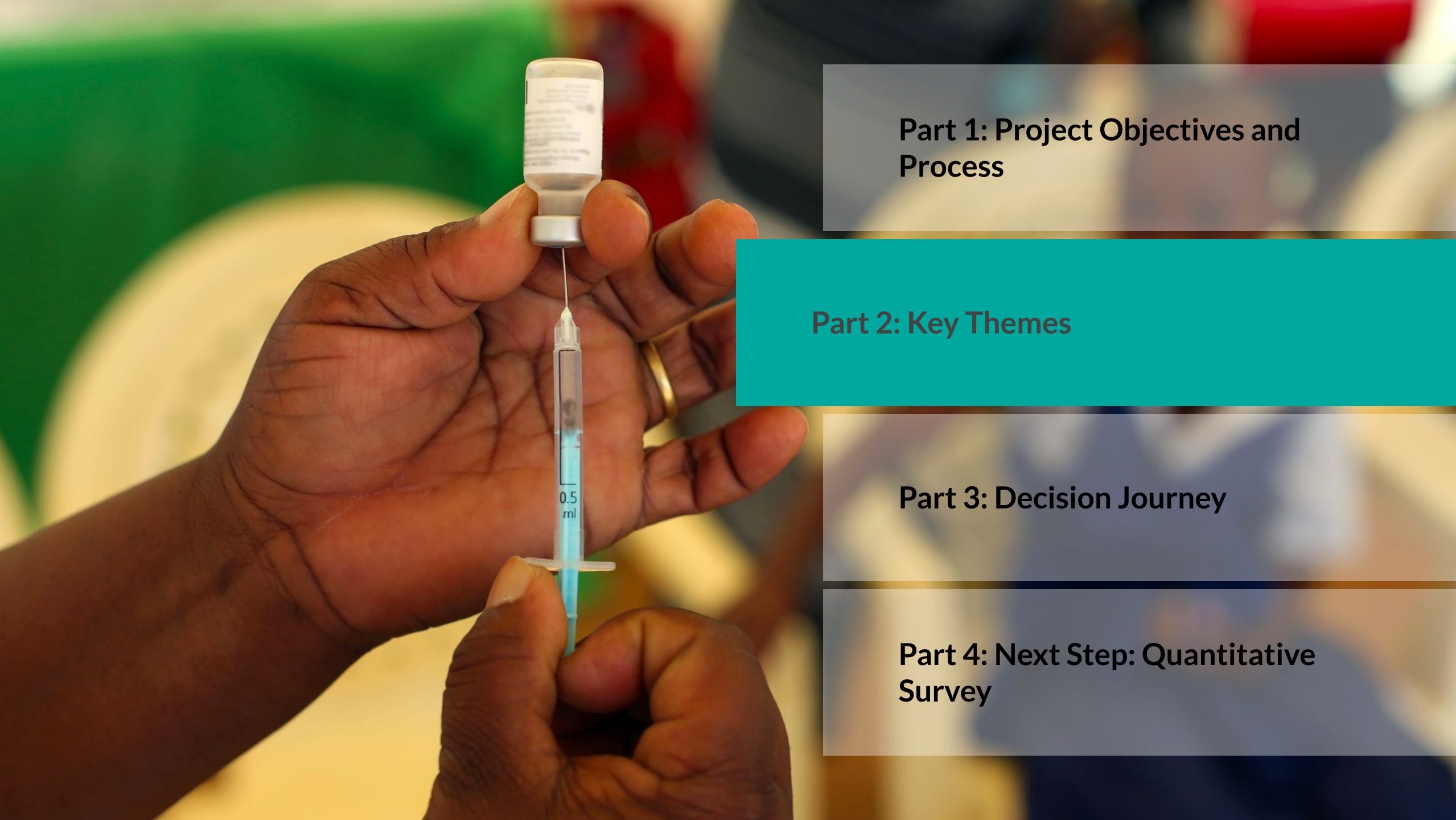
- A puzzle was used as a research tool to support engagement throughout the session
- Each puzzle piece corresponded to one of the five thematic research areas (home, peers, school, health center, immunization camp)
- Girls were able to choose what 'place' (puzzle piece) they wanted to go to and the moderator would ask the questions in that section.
- After the girl(s) completed the discussions and/or activities in that thematic area, they were asked to fit the puzzle piece together

Caregivers (primary and secondary):

- Scenarios were shared with caregivers setting up a situation and asking them to choose between three responses, followed by a discussion to understand several key hypotheses







Part 1: Project Objectives and Process

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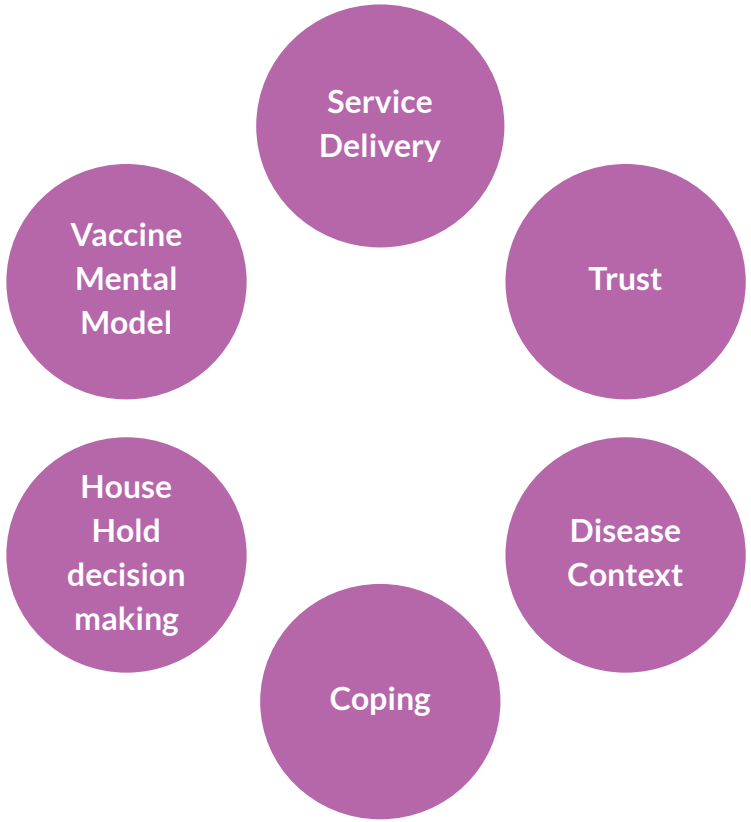
Country Context

	Kenya	CDI
Vaccine rate	28% first dose & 23% second dose for 2023	65%
Age priority	10-14 year old girls - Plans to shift to 10 year old girls only	Only 9 year old Girls - Catch up campaign for MAC planned in 2025
Dosage	2 dose vaccine / 3 doses for HIV positive - Plans to shift to 1 dose	1 dose vaccine / 3 doses for HIV positive
Service Delivery	- In school program - In-facility offering	- School based program - at facility - School based program - at school - Through SSUU-SAJ - at facility and at school - In-facility
Informed Consent	Informed consent is required from a 18+ guardian	No informed consent needed as it is routine immunization, only parents need to be informed
Country Context	- Current deworming campaign - Cost of living protests ongoing in Kenya	- HPV vaccine supply shortage - Rolling out R21 malaria vaccine as RI

HPV Decision Making and Uptake

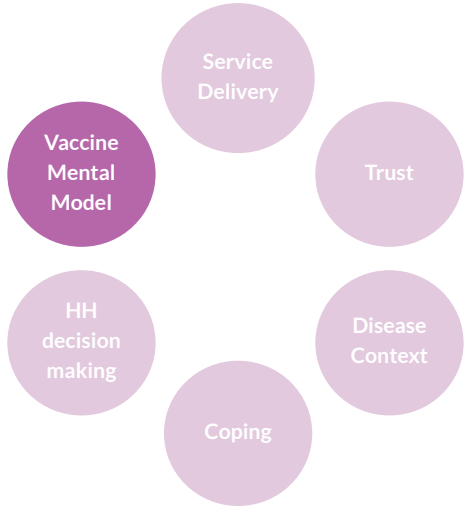


The decision and uptake of the HPV vaccine is **more complex than other child vaccines**, as it is a **new/novel vaccine** for **only young girls aged 9-14**, for **HPV** that is a **STI** that **can cause cervical cancer** in the future.

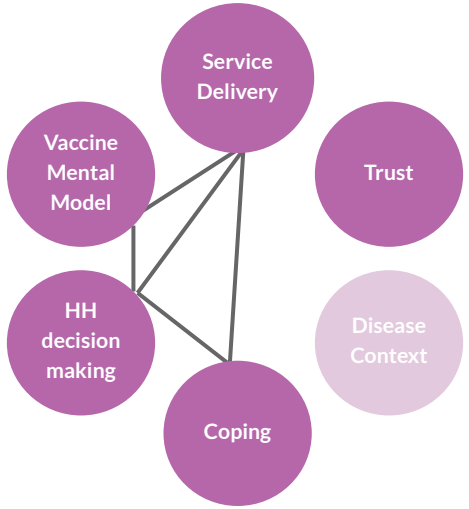
Given the decision complexity, which involves a 9-14 year old girl and her caregiver(s), there are several interrelated factors that affect HPV vaccine decision and uptake.

In a post COVID vaccine world, new vaccines are appraised differently which, along with the service delivery experience, can have an impact on future vaccine uptake and health engagement as well.

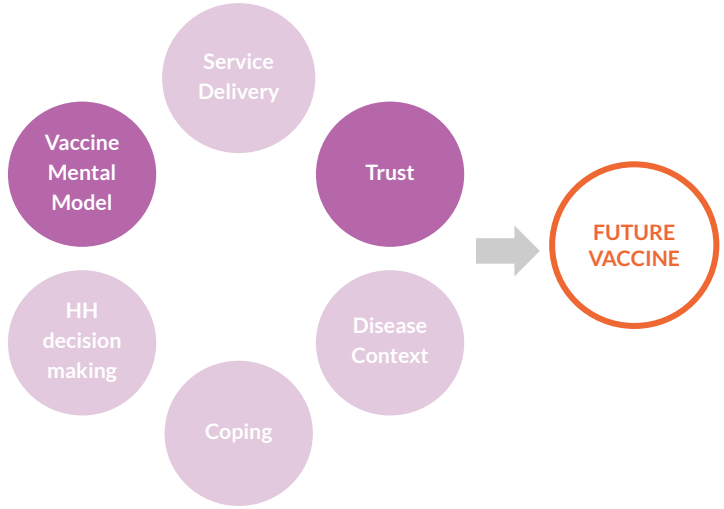
HPV Decision Making and Uptake Framework



Understand the interrelated elements that affect HPV vaccine decision and uptake for the caregiver and the 9-14 year old girl



Unpack the interaction between the elements that have an impact on the vaccine decision and uptake



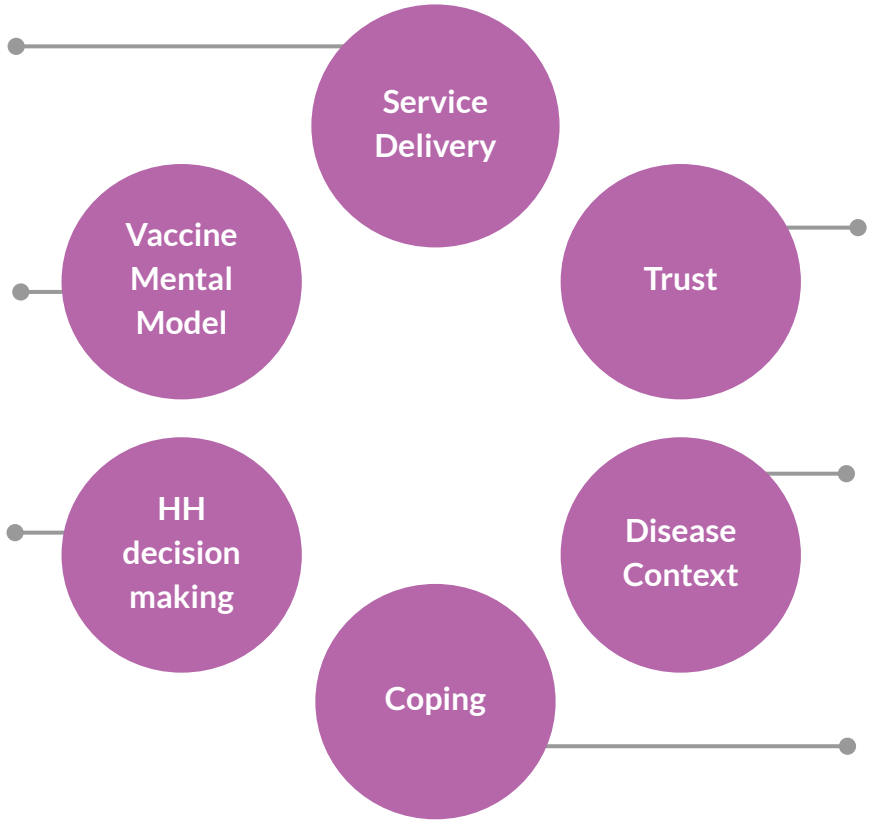
Speculate on how the HPV vaccine experience and uptake has implications on future vaccines and health interactions

Understanding The Elements | Summary

Variation in service delivery within and across countries, based on whether a push or pull approach has been adopted for HPV vaccine roll out, creates different uptake and experiences for caregivers and girls

Vaccine mental models informed from previous vaccines (child immunization but more recently COVID), beliefs and experiences impact HPV vaccine uptake

Caregivers see 9-14 year olds as children who are unable to make independent health decisions. 9-14 is a diverse cohort with differing needs for agency and independence



Click on each of these circles for more information on the elements

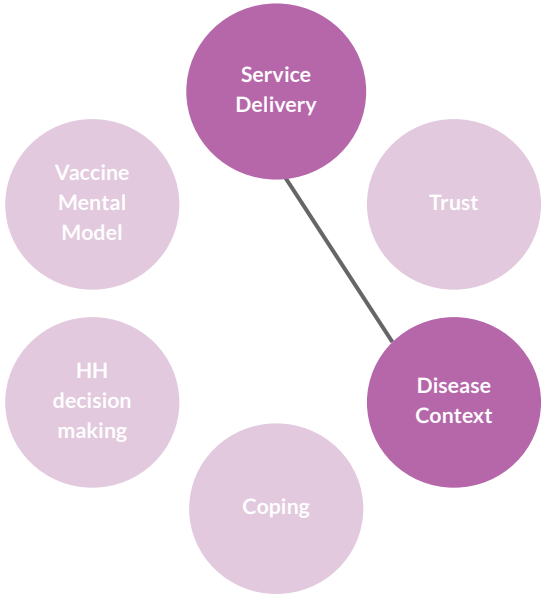
Under uncertainty and scarce or low awareness context, trust becomes a key decision driver for vaccination action (uptake/avoidance or rejection)

Low to no disease context or risk salience for HPV and cervical cancer leads to low demand

9-14 year old girls' concerns are centered on coping in the hot state and immediate risks (needle fear), while caregivers' concerns are centered on coping with the long term risks (infertility, side effects) ,and decision burden

Interactions

Service Delivery and Disease



Introduced to HPV and Cervical cancer through the vaccine introduction

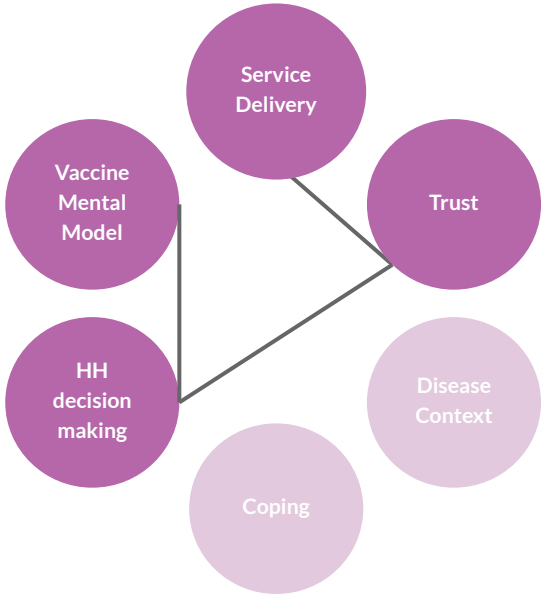
- As there is an extremely low relevance and risk perception of cervical cancer with girls, a large part of the population is introduced to HPV and Cervical cancer through the introduction of the vaccine, mainly in schools. Therefore, demand creation is not distinct from vaccine delivery in this context.
- Even when the disease is introduced through the vaccine it is through abstract/vague but emotional salient fear appeals like "HPV vaccine will prevent you from dying from cancer" "HPV vaccine will let you have babies in the future"
- The 'vague fear appeals' are aimed to drive urgency for action to vaccinate with insufficient information to drive confidence and relevance

> *I heard about HPV from schools and doctors who came on a door to door mission but we didn't take it seriously."*
> - SCG, Kenya

> *Routine vaccination means informing the parents about the disease, about the consequences, especially about the seriousness of the disease, because it is a really traumatic disease! When we tell a parent that he has cancer, the whole family is involved in the drama and, above all, we know that cancer treatment here is very expensive, so parents insist on vaccination." -Doctor, CDI*

Interactions

HH Decision Making, Vaccine Mental Model, Service Delivery and Trust



Dissonance arises as the health system sees the HPV vaccine as a 'routine child immunization' therefore a defaulted action but caregivers see the HPV vaccine as a 'new vaccine' therefore an active decision to be made

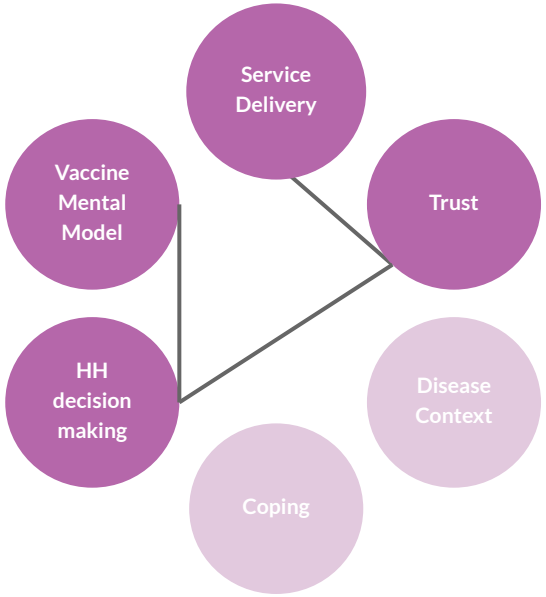
- The health system sees the HPV vaccine similar to any routine immunization (RI), and expects high trust and a default uptake action. Therefore service delivery design is modeled after RI campaigns to facilitate an "efficient" vaccination campaign through
  - School push (ie vaccination events at schools)
  - Information channeled through young girls
  - Limited time between information provision and uptake action
  - Information given through teachers (sources of trust)
  - Only informing parents after vaccination (versus consent seeking before) in CDI

> *The concerns I had is that apart from the vaccines she received as a child she has never had any other vaccine so I was wondering if it has any effects on her. I didn't know the vaccine well"*
> -PCG, Kenya

> *M: What support did you have to carry out this task?*
> *R: There is no support **because it is part of the routine vaccination**. It used to be campaigns, but now it is part of routine vaccination, so there is no special support."*
> *-Doctor, CDI*

Interactions

HH Decision Making, Vaccine Mental Model, Service Delivery and Trust



Dissonance arises as the health system sees the HPV vaccine as a 'routine child immunization' therefore a defaulted action but caregivers see the HPV vaccine as a 'new vaccine' therefore an active decision to be made (cont.)

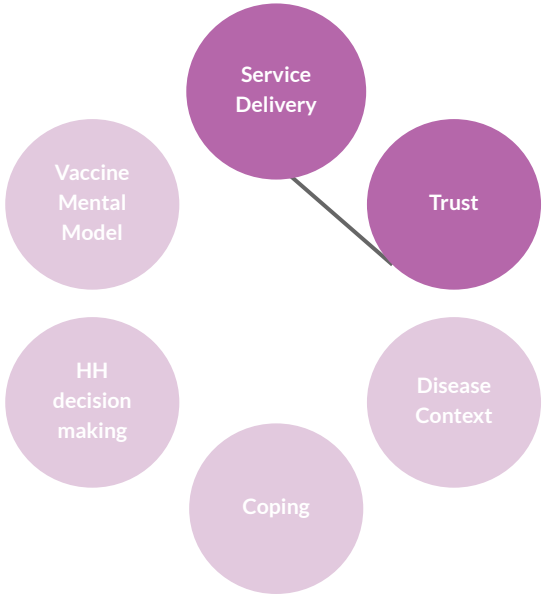
- Caregivers see HPV as a 'new vaccine', different and distinct from trusted, safe, routine immunization "child vaccine" mental model. This activates the New Vaccine = Bad/Risky Vaccine mental model which creates a need for active decision making
- Health decisions usually lie with the female caregiver, but due to the 'new vaccine' mental model, the decision becomes high stakes and the male caregiver has veto power over the decision as well, which can create more hurdles in the decision process.
- Given this dissonance between defaulted decision and active decision making, the caregivers seek trusted sources for information and action
- Thus, there is a difference in the way in which the push of HPV vaccinations are perceived by households and the healthcare system. This may have implications for overall trust in the healthcare system, which is important to address.

> *When a child is immediately born, they are taken to the hospital the first time and she gets injected… it's normal.* ***I have doubts with these [vaccines] that are made out of nowhere..."***
> *- PCG, Kenya*

> *…because most of them are hearing it [vaccine] for the first time so* ***they don't want their daughter to be used as a test subject."***
> *-PCG, Kenya*

Interactions

Service Delivery and Trust



Service delivery model borrows trust to drive vaccine uptake, rather than creating trust in the HPV vaccine

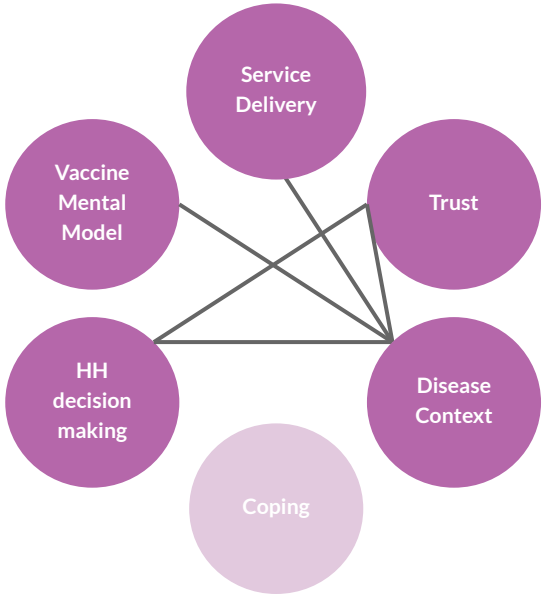
- As the vaccine is unfamiliar, the service delivery model is borrowing trust from schools to support the vaccine promise
  - The service delivery uses trusted messenger like the teacher, community leaders, sometimes health care professionals for HPV information
  - It also uses trusted locations like schools, where other routine immunization and trusted health services are delivered

> *"It was last year when we gave her a paper saying that at the age of 9 she must be vaccinated against cancer of the body of the uterus so I said if it is at school she can do it." - PCG, CDI*

> *"Health workers would be in the best position. They have received specific training and have more information about the disease than we do." -PCG, CDI*

Interactions

HH Decision Making, Vaccine Mental Model, Service Delivery, Trust and Disease Context



The HPV vaccine delivery experience creates a need for caregivers and girls to cope

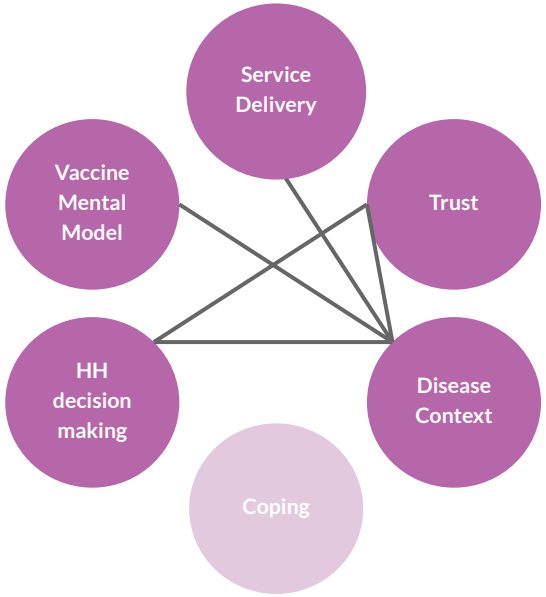
- Given the active decision making mode for caregivers coupled with the high levels of uncertainty from low disease risk perception to unclear efficacy, coping is required to make a decision to vaccination or not
- Caregivers experience decision anxiety and the coping action tendency is to seek more information and emotional reassurance from trusted sources
- For girls, coping leads to defaulting to mental models of parents and trusted messengers like teachers or peers

> *Often when this kind of vaccine comes along, it's us teachers who raise awareness. So sometimes there are parents who are a bit reluctant... It's contraception for their children or you can have more serious consequences for their health. So it's up to us to make them aware."*
> *-School Administrator, CDI*

> *If the mother is not reassured, she cannot tell her child to do it. She also needs other information to be reassured, the mother needs to be reassured before she tells her child to take the vaccine.*
>
> *- PCG, CDI*

Interactions

HH Decision Making, Vaccine Mental Model, Service Delivery, Trust and Disease Context



The HPV vaccine delivery experience creates a need for caregivers and girls to cope (cont.)

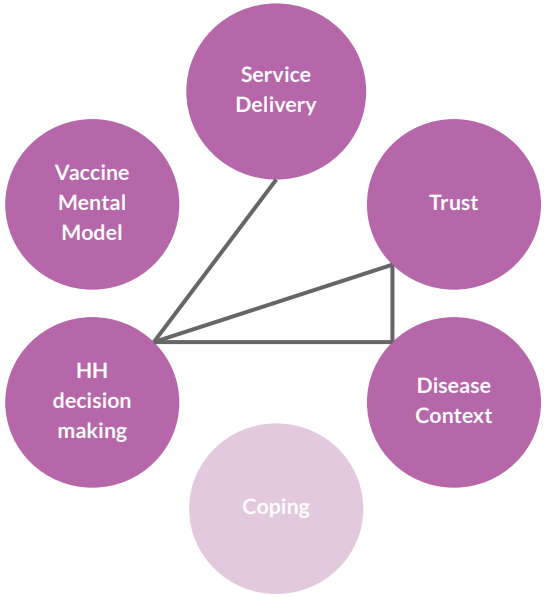
- Furthermore, the time between learning about the vaccine and the HPV vaccination event is limited, creating a sense of urgency that leaves caregivers unconfident in their decision. When there is urgency for decision making, there is a need to cope with the lack of time for information seeking
- When the vaccine is administered before a caregiver is informed, coping is required which may result in passive acceptance and other behaviors related to feelings of helplessness and anger. This can likely negatively impact trust

> *…you tell me that tomorrow you will be coming to give my kid a vaccine for reproductive health… You now see, when you abruptly receive such news without being informed prior it's not a good thing." - PCG, Kenya*

> *That's what I said before, my niece took a vaccine without consulting me, I got angry" -PCG, CDI*

Interactions

HH Decision Making, Vaccine Mental Model, Service Delivery, Trust and Disease Context



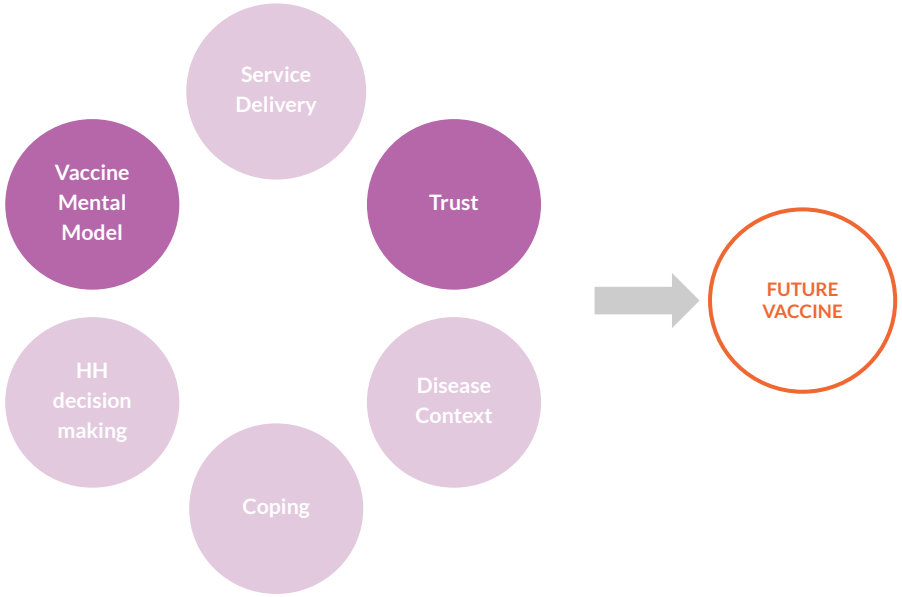
Caregivers see the service delivery modality as taking agency away from the decision and giving more agency to their girl

- Caregivers feel that girls are not the right channel of information to them, and perceive the service delivery modality as keeping them away from the decision, giving more agency to their girl. This creates or amplifies trust issues.
- Often caregivers take actions to cope with their lack of agency and unreliable information. But inability to cope can create a trust issue for the caregiver

> *It is they [girls] who go with the information and bring it to us, and **I don't know if they really understand everything**."*
> *-PCG, CDI*

> *They could have passed through me and allowed me to ask them some questions. I would ask them where they have reached with their research, what they have seen with the child so that they would use them for their experiments and why they are using children in their research. So **I cannot allow [the HPV vaccination] at all because they have passed through the child first and not through me.**"*
> *-PCG, Kenya*

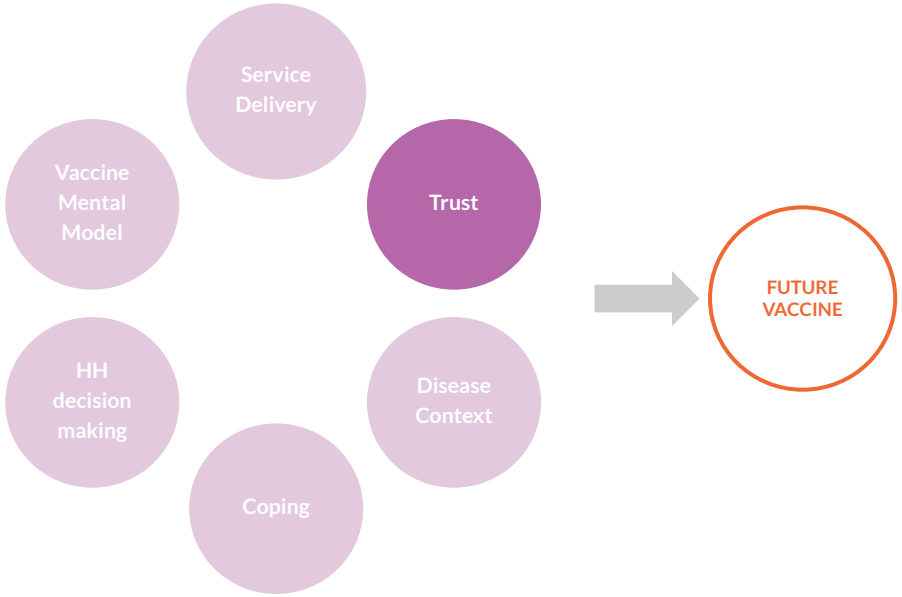
Speculative | Future Vaccines



The HPV vaccine experience can have an impact on future vaccination actions and health system engagement

- While the HPV vaccine service delivery results in uptake, there may be a potential cost.
- Trust may have been negatively impacted with regards to beliefs about the vaccine (the product / promise) and the service delivery (the process)
- There is a potential spillover effect on future vaccines.
- When the “New vaccine = Bad vaccine” mental model from COVID vaccination is activated for the HPV vaccine, it can be strengthened through this experience impacting future vaccinations

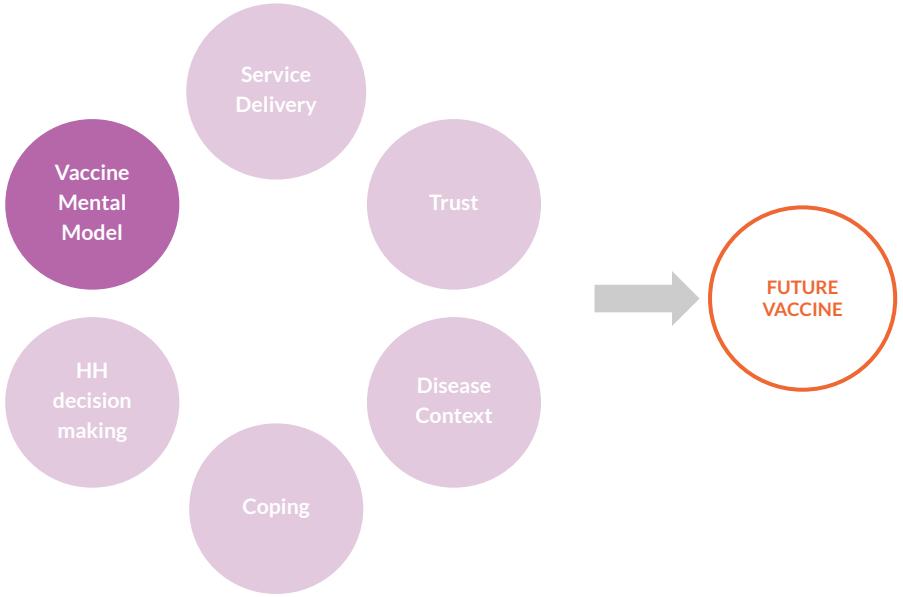
Speculative | Future Vaccines



The HPV vaccine experience can have an impact on future vaccination actions and health system engagement

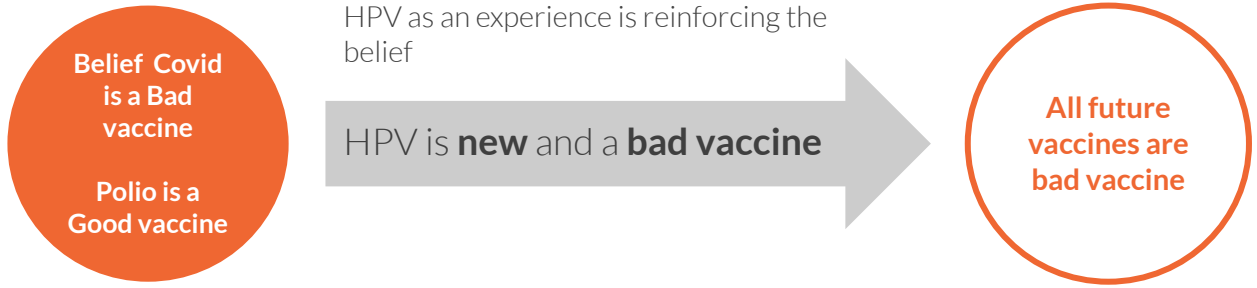
- Positive implications
  - Leveraging trusted sources, assisting with coping for caregivers with providing accurate information and coping for girls with hot state concerns can all continue to strengthen trust which will need to be leveraged with future 'new vaccines'
- Negative implications
  - Caregivers who are angry or upset about HPV vaccine experience could be more skeptical about future vaccinations ast their trust in the systems and sources of information may be negatively impacted
  - For 9-14 year old girls, the HPV vaccine would be the first vaccine that they would remember being involved in and taking. Along with absorbing / borrowing the vaccine mental models of their trusted sources, any negative experience during and post vaccination may impact how they think about future vaccines

Speculative | Future Vaccines



"New Vaccine" mental model could be strengthened, impacting future vaccination

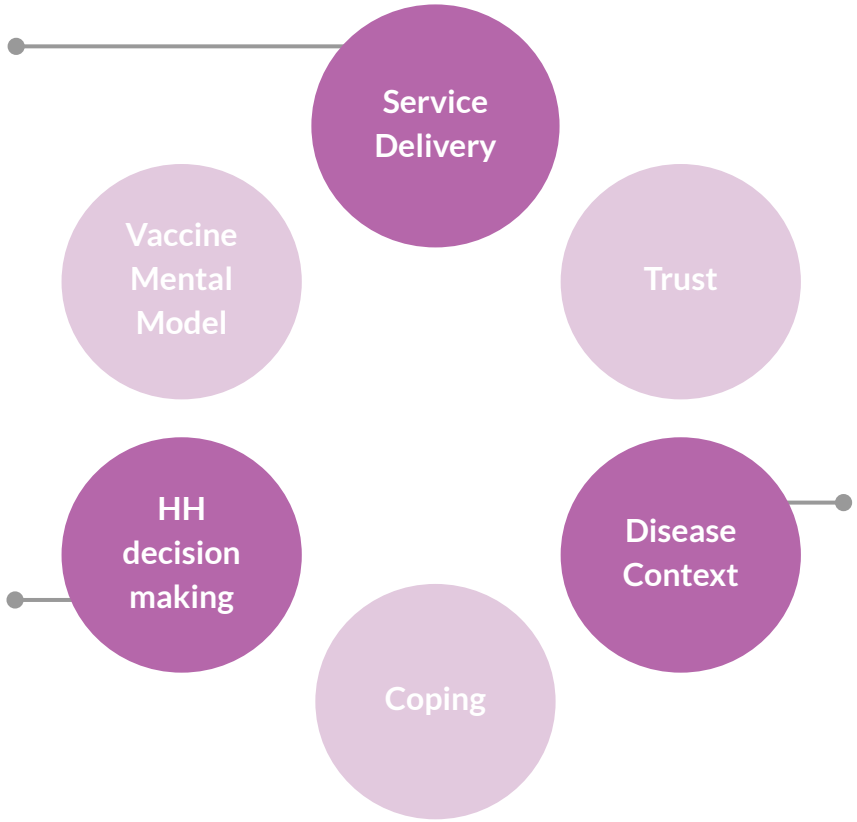
- For the caregiver, the HPV vaccine could reinforce the "bad vaccine" mental model from COVID, strengthening this mental model, which would impact any new vaccine in the future (**All "New Vaccine" = "Bad vaccine")**
- The girl's vaccine mental models are borrowed from their parents, and there is a potential for the "bad vaccine" mental model to get strengthened for these girls



Strategic Direction | Enablers, Barriers and Tension Points

- **How might we look at service delivery as a lever for demand generation?**
- **How might we design uptake for out of school girls and use missed opportunities in health facility?**
- **How might we look at service delivery for NEW vaccines differently than legacy child immunization services?**
  - Rather than assuming intent, design for relevance creation and FAQ's

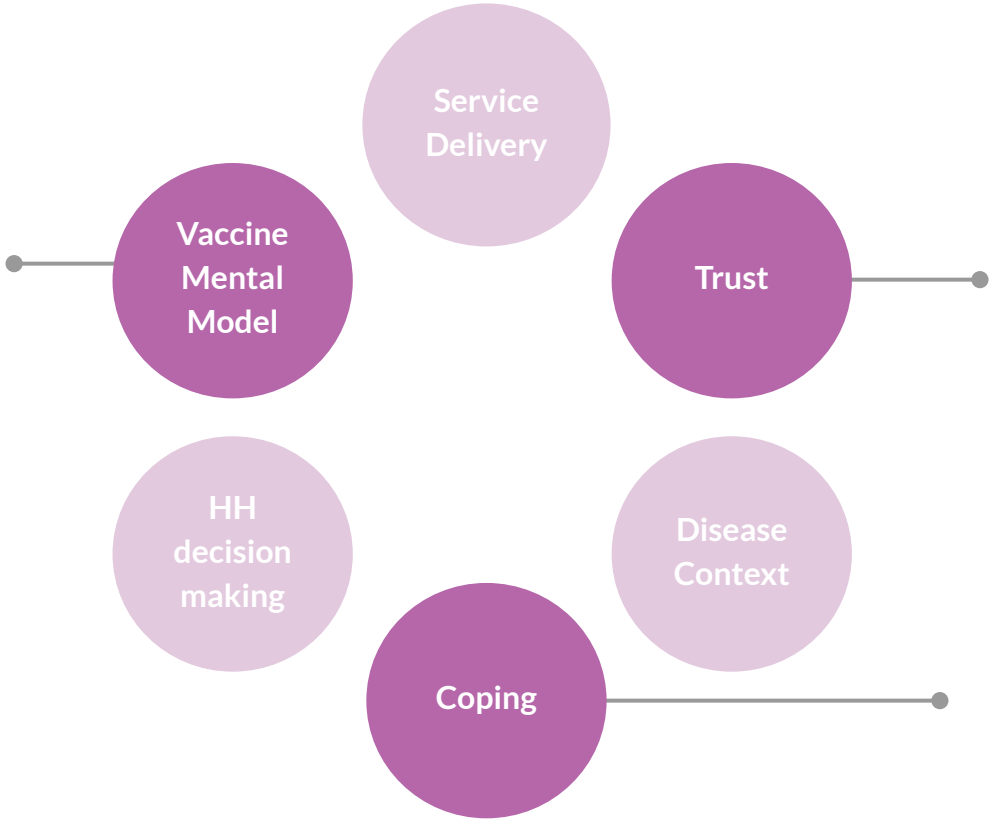
- **How might we reinforce agency of caregivers, but also keep girls involved in the decision process?**
- **How might we support developmental differences with targeted younger cohorts (9-10 year olds) and early adolescents (11-14 year olds)?**



- **How might we build relevance for HPV and Cervical Cancer for the community?**
  - Eg. Cervical cancer screening for caregivers, in terms drives relevance of the disease and the need for the vaccine for their girls

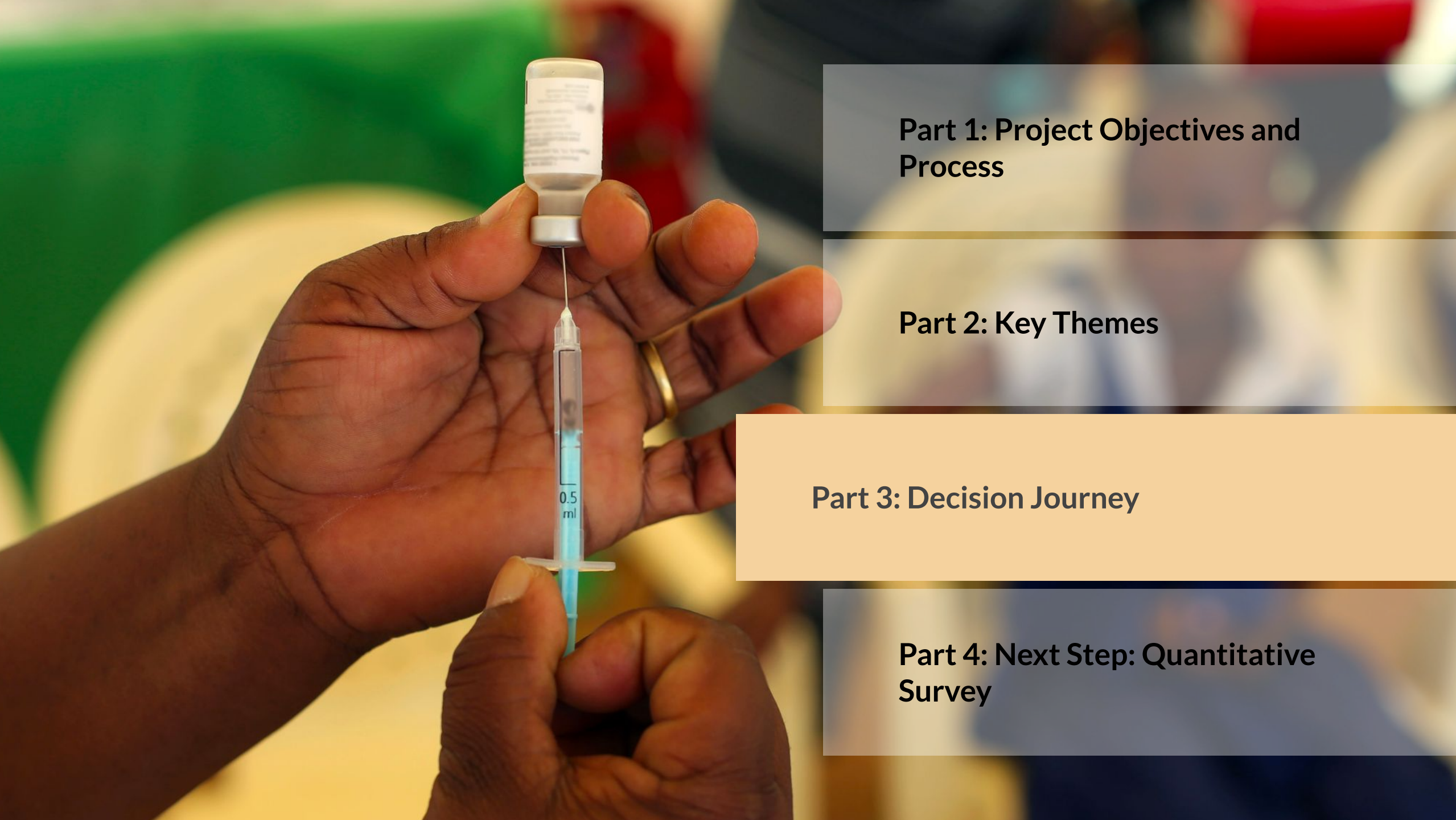
Strategic Direction | Enablers, Barriers and Tension Points

- How might we reshape the mental model of 'new vaccines' to leverage for the HPV vaccine and when new vaccines are rolled out?



- How might we design for uptake and trust versus only uptake?

- How might we build coping for 9-14 year old girls with hot state needle fear and peer pressure?
- How might we support coping for caregivers with their uncertainty about long term risks and lack of relevance of the HPV vaccine?



Part 1: Project Objectives and Process

Part 2: Key Themes

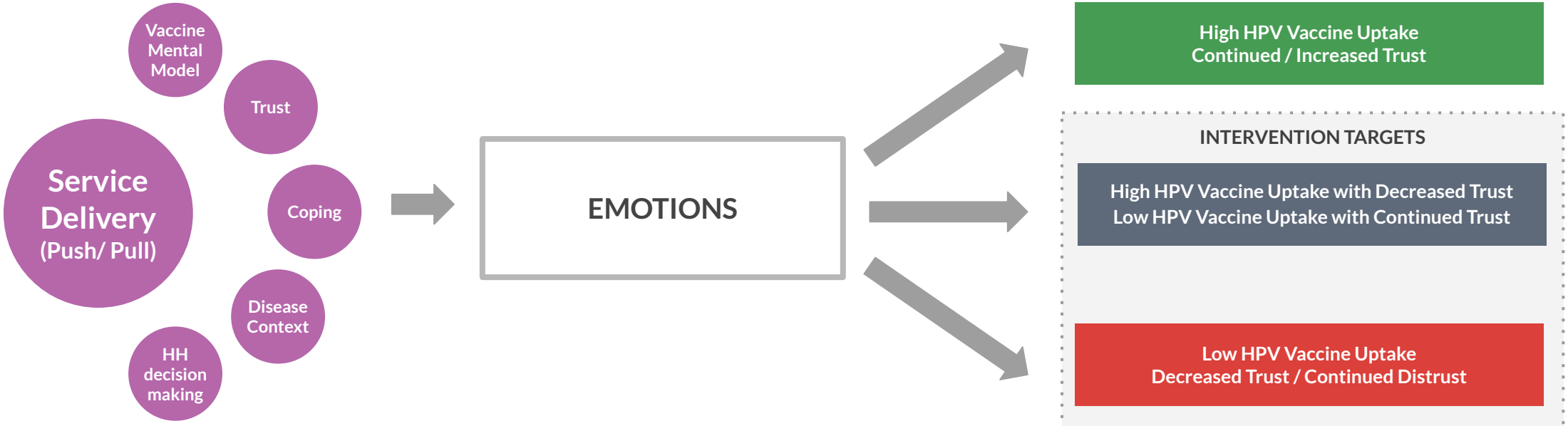
Part 3: Decision Journey

Part 4: Next Step: Quantitative Survey

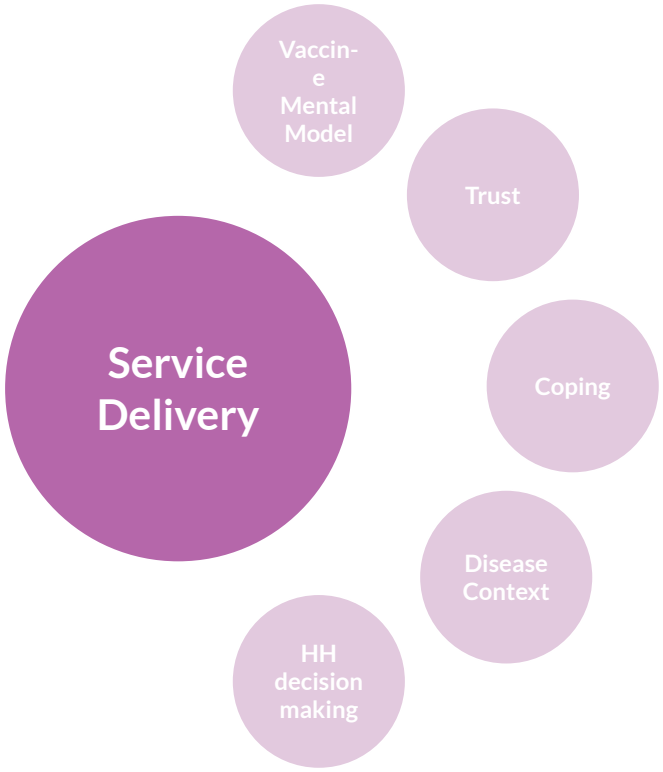
Key Takeaways

SERVICE DELIVERY INTERACTION

The interactions of the different elements of the **HPV decision making and uptake framework** including the **service delivery experience,** gives rise to unique **emotions** related to how caregivers experience each journey. These emotions have implications for **uptake of the HPV vaccine** and **trust in future vaccines**, resulting in three distinct outcomes as illustrated below:



Service Delivery Experience



SERVICE DELIVERY EXPERIENCE

There are two primary ways in which the HPV vaccine is being rolled out across Kenya and Côte d'Ivoire:

1. **Push approach:** This approach assumes that intent to vaccinate is already present, and aims to solve for the intent-action gap. This is achieved by building a sense of urgency in decision making through the introduction of time constraints for vaccine uptake, While this approach reduces the chance of drop-offs, caregivers may feel uninvolved or rushed in the decision making process.
2. **Pull approach:** This approach aims to 'pull' people intrinsically to vaccination sites by building relevance for the vaccine and creating motivation to get vaccinated. It is the less common approach of the two across both geographies. The pull approach makes caregivers feel more involved and less rushed, but may lead to higher drop-offs.

This variation in caregivers' and girls' interaction with different service delivery experiences results in **differential implications** for HPV vaccine uptake and trust in the healthcare system.

Service Delivery Experience

Service Delivery

The service delivery experience encompasses, not only the administration of the vaccine, but also the dissemination of information about the vaccine to caregivers and girls. Consequently, there are three stages in the households journey to HPV vaccine uptake:

GIRL LEARNS OF VACCINE
CAREGIVER LEARNS OF VACCINE

Information provision on the HPV vaccine is generally the *first* point of introduction to HPV, cervical cancer and the vaccine, for the girl and her caregiver. There is little awareness, risk, and relevance, associated with the disease prior to this point of introduction.

Most commonly, girls receive HPV vaccine information from their teachers or healthcare providers, at school. They are then tasked with informing their caregivers about the vaccine – either *before or after* the vaccine has been administered. Less commonly, caregivers may be informed directly, either through the school, healthcare providers or their social network.

VACCINE ADMINISTERED TO GIRL

Vaccines can be administered either at schools, facilities, or vaccine camps. Girls come to the point of vaccination in the following ways:

1. In most cases, it is the responsibility of the school and teachers to ensure that girls are taken for the vaccine – whether at schools, facilities or vaccine camps.
2. In other cases, it could be the responsibility of the caregiver to take the girl to the facility to get vaccinated. This was observed predominantly in Côte d'Ivoire.

Service Delivery Experience

Service Delivery

Based on how the various stages of the service delivery experience play out, there are three distinct decision journeys that beneficiaries can experience across Kenya and Côte d'Ivoire. The key differentiating factor between the journeys illustrated below is the point at which the caregiver learns of the vaccine and is involved in the decision:

Strong

PUSH

Moderate

JOURNEY 1 | The caregiver is informed about the vaccine through the girl, *after* the vaccine has already been administered.

GIRL LEARNS OF VACCINE → VACCINE ADMINISTERED TO GIRL → CAREGIVER LEARNS OF VACCINE

JOURNEY 2 | The caregiver is informed about the vaccine *prior to* vaccine administration, but is pushed to make a rushed decision around getting the girl vaccinated.

GIRL LEARNS OF VACCINE
CAREGIVER LEARNS OF VACCINE → VACCINE ADMINISTERED TO GIRL

JOURNEY 3 | The caregiver is informed about the vaccine directly and has adequate time to make the decision around getting the girl vaccinated.

PULL

CAREGIVER LEARNS OF VACCINE → GIRL LEARNS OF VACCINE → VACCINE ADMINISTERED TO GIRL

For more information about Journeys

Service Delivery Experience | Côte d'Ivoire

Strong

PUSH

Moderate

JOURNEY 1

GIRL LEARNS OF VACCINE — This typically happens at schools, with information being disseminated by teachers or healthcare providers. There are no expectations around obtaining caregivers consent.

VACCINE ADMINISTERED TO GIRL — Vaccines are administered at schools by visiting healthcare providers, or girls may be taken to the facility by their teachers to get vaccinated. This happens in the presence of their peers.

CAREGIVER LEARNS OF VACCINE — The caregiver is informed of the girl receiving the vaccine post-hoc. This information is delivered by the girl, without the aid of any IEC materials.

JOURNEY 2

GIRL LEARNS OF VACCINE — In most cases, girls are informed of the HPV vaccine first, and are expected to inform their caregivers about it. Information is typically disseminated by teachers or healthcare providers at schools. While there is some expectation for girls to inform their caregivers and obtain written or verbal consent, these processes are are not mandated.

CAREGIVER LEARNS OF VACCINE — In private schools, caregivers may be informed of the vaccine directly by the school. Here, caregivers have the opportunity to seek clarity/ additional information while being introduced to the vaccine. The caregivers are required to make this decision within a time constraint based on the proposed vaccination date.

VACCINE ADMINISTERED TO GIRL — The vaccines may be administered to girls at schools, or at facilities. Girls are either taken to the facility along with their peers by their teachers, or individually by their caregivers.

JOURNEY 3

PULL

CAREGIVER LEARNS OF VACCINE — Caregivers learn about the vaccine directly through healthcare providers or others in their trusted social network. In this journey, they do not face a time constraint to make this decision.

GIRL LEARNS OF VACCINE — Girls may or may not be involved in the decision-making, with the decision to be vaccinated typically made by caregivers.

VACCINE ADMINISTERED TO GIRL — In this journey, girls are most commonly administered the vaccine at facilities, in the presence of caregivers.

Service Delivery Experience | Kenya

Strong

PUSH

Moderate

JOURNEY 1

GIRL LEARNS OF VACCINE	VACCINE ADMINISTERED TO GIRL	CAREGIVER LEARNS OF VACCINE
This typically happens at schools, with information being disseminated by teachers or healthcare providers.	Vaccines are administered at schools by visiting healthcare providers, or girls may be taken to the facility by their teachers to get vaccinated. This happens in the presence of their peers.	The caregiver is informed of the girl receiving the vaccine post-hoc. This information is delivered by the girl, without the aid of any IEC materials.

JOURNEY 2

GIRL LEARNS OF VACCINE	VACCINE ADMINISTERED TO GIRL
In most cases, girls are informed of the HPV vaccine first, and are expected to inform their caregivers about it. Information is typically disseminated by teachers or healthcare providers at schools. Girls are expected to inform their caregivers and obtain verbal or written consent.	The vaccines are administered to girls at schools along with their peers by visiting healthcare providers, or at health camps set-up near their schools.
CAREGIVER LEARNS OF VACCINE	
In other cases, caregivers may be informed of the vaccine directly by the school. Here, caregivers have the opportunity to seek clarity/ additional information on this while being introduced to the vaccine. The caregivers are required to make this decision within a time constraint based on the proposed vaccination date.	

JOURNEY 3

PULL

CAREGIVER LEARNS OF VACCINE	GIRL LEARNS OF VACCINE	VACCINE ADMINISTERED TO GIRL
Caregivers learn about the vaccine directly through healthcare providers or others in their trusted social network. In this journey, they do not face a time constraint to make this decision.	Girls may or may not be involved in the decision-making, with the decision to be vaccinated typically made by caregivers.	In this journey, girls are most commonly administered the vaccine at facilities with caregivers present.

Service Delivery Interaction

Service Delivery

The key implications of the service delivery channels leveraged across the two geographies are detailed below. Furthermore, we hypothesise that the manner in which the 3 stages of the HPV vaccine journey playout and how people experience these, will lead to implications for the rollout of future vaccinations

GIRL LEARNS OF VACCINE
CAREGIVER LEARNS OF VACCINE

With information being disseminated from school to girl to caregiver, complications can arise with **caregivers** feeling less informed who are left having to cope with this uncertainty and lack of agency.

Girls tend to rely on trusted adults such as teachers, healthcare providers and caregivers to evaluate the vaccine and associated decisions.

VACCINE ADMINISTERED TO GIRL

In cases where the teachers are responsible for taking her students to the point of vaccine administration, we see fewer **intent-to-action related drop-offs**, than when caregivers are required to take the girls to the facility.

In the former mode of delivery, **peer support** is available to girls, while in the latter they receive this **reassurance directly from their caregivers**.

FUTURE VACCINE ROLLOUT

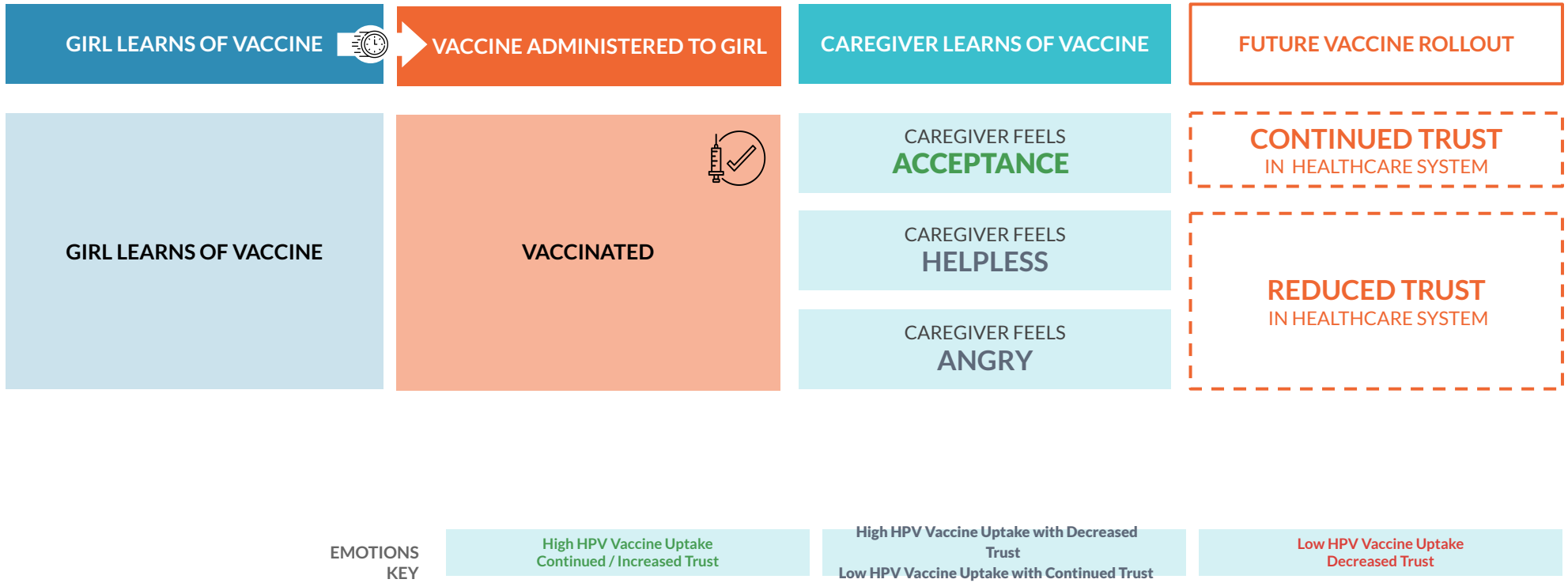
When the service delivery experience leads to ambivalent or negative emotions, it can lead to **negative implications for trust in the system** providing vaccinations, as well as previously trusted information sources. Together, these may have negative impacts on future vaccine uptake and health system engagement.

Hence, the different ways in which the HPV vaccine is rolled out and experienced may have **differential impacts on vaccine uptake, long-term trust in the healthcare system and thereby future vaccine uptake**.

Service Delivery Interaction | Journey 1

Service Delivery

Depending on how different elements of the HPV decision making and uptake framework interact with the service delivery experience, independent pathways are experienced within each of the journeys. Each pathway is characterised by a unique emotion experienced by caregivers, and differential HPV vaccine uptake and future vaccine trust implications:

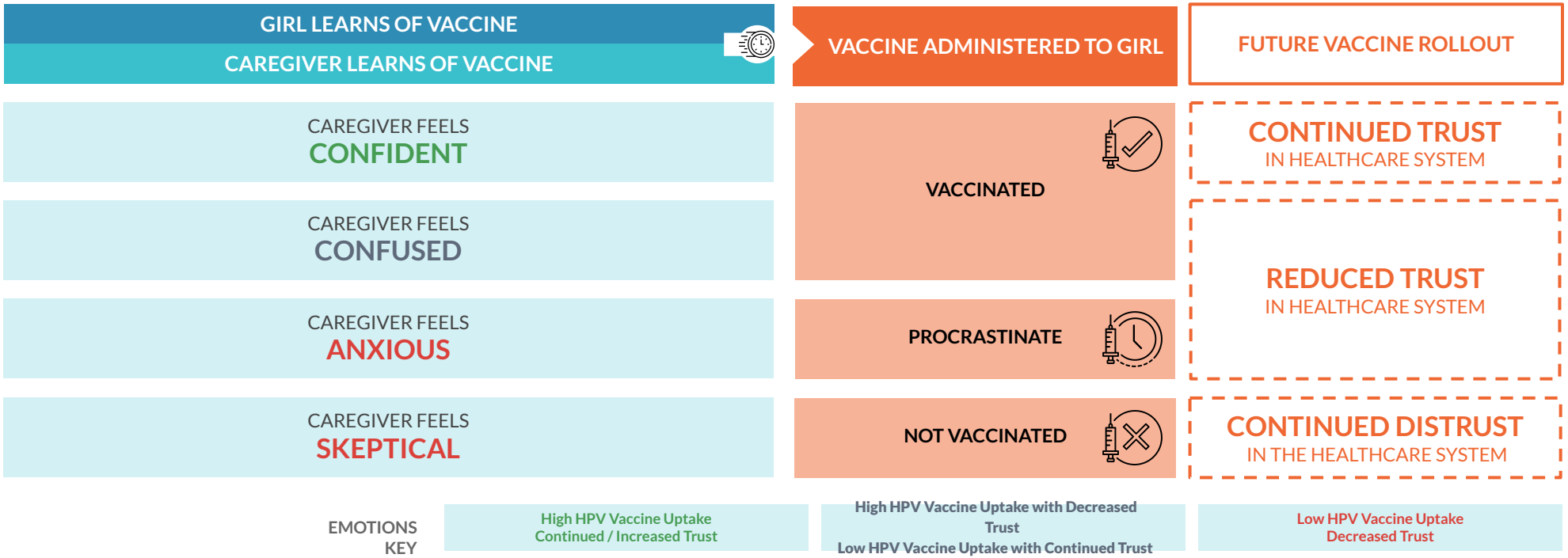


Click *here* for more information about Journey 1

Service Delivery Interaction | Journey 2

Service Delivery

Depending on how different elements of the HPV decision making and uptake framework interact with the service delivery experience, independent pathways are experienced within each of the journeys. Each pathway is characterised by a unique emotion experienced by caregivers, and differential HPV vaccine uptake and future vaccine trust implications:



Click *here* for more information about Journey 2

Service Delivery Interaction | Journey 3

Service Delivery

Depending on how different elements of the HPV decision making and uptake framework interact with the service delivery experience, independent pathways are experienced within each of the journeys. Each pathway is characterised by a unique emotion experienced by caregivers, and differential HPV vaccine uptake and future vaccine trust implications:

CAREGIVER LEARNS OF VACCINE	GIRL LEARNS OF VACCINE	VACCINE ADMINISTERED TO GIRL	FUTURE VACCINE ROLLOUT
CAREGIVER FEELS **CONFIDENT**	GIRL LEARNS OF VACCINE	VACCINATED	CONTINUED TRUST IN HEALTHCARE SYSTEM
CAREGIVER FEELS **ANXIOUS**	GIRL DOES NOT LEARN OF VACCINE	PROCRASTINATE	*CONTINUED LOW TRUST IN THE HEALTHCARE SYSTEM

*While trust in the healthcare system is generally present, caregivers may be wary of 'new vaccines'. With this uncertainty, their information seeking efforts may lead to further doubts about the 'new vaccine'. This could lead to erosion of trust in the healthcare system in the long term.

EMOTIONS KEY

- High HPV Vaccine Uptake Continued / Increased Trust
- High HPV Vaccine Uptake with Decreased Trust
  Low HPV Vaccine Uptake with Continued Trust
- Low HPV Vaccine Uptake Decreased Trust

Click *here* for more information about Journey 3

Service Delivery Interaction | Journey 3 - Out Of School Girls

Out of school girls are an easy-to-miss cohort in a service delivery landscape that focuses heavily on disseminating information on HPV vaccines through schools. Given the absence of a school-based touchpoint in these households, they are most likely to interact with the service delivery experience laid out in journey 3. Presently, however, households with out of school girls are unlikely to find an entryway into journey 3 due to an information deficit context in which they operate:

Lack Of Active Information Seeking

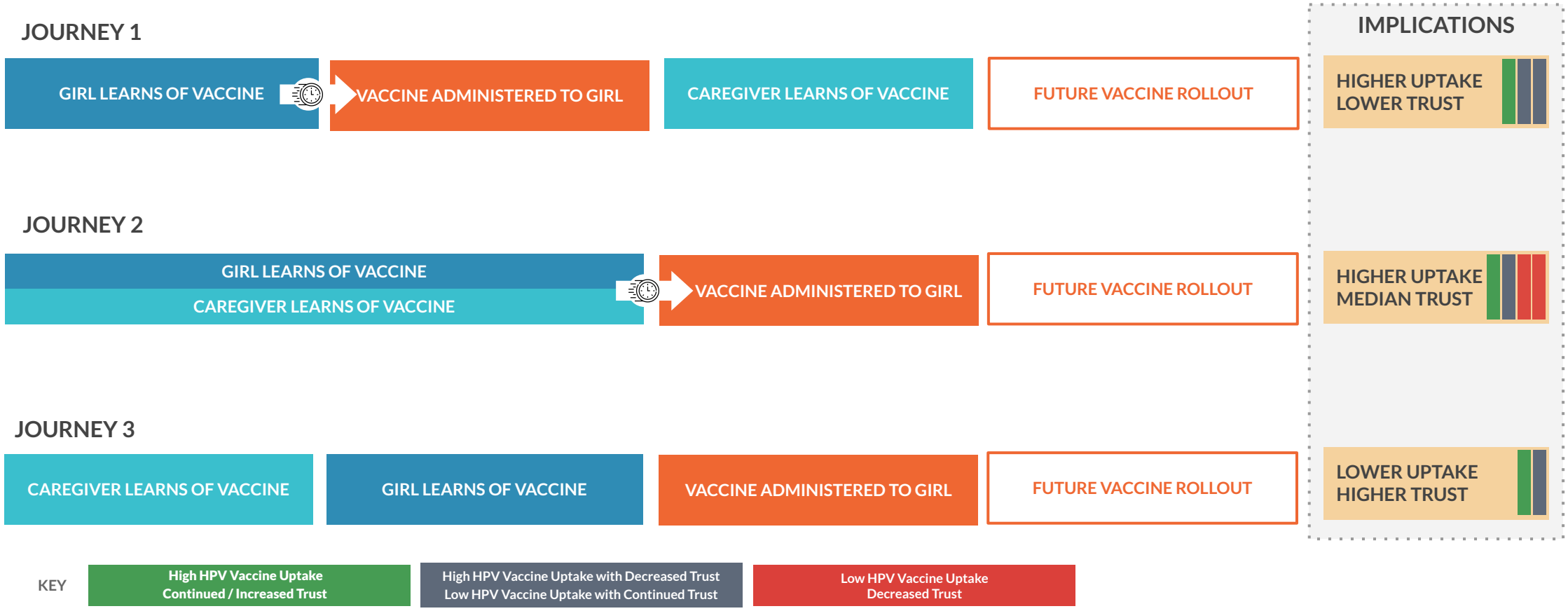
These girls often drop out of school due to extreme financial hardship or single/absent parents, making them particularly vulnerable. In their situation, vaccine information is often overlooked in favor of addressing immediate financial needs.

Low Passive Information Receipt

The presence of strong negative mental models about new vaccines in their trusted social networks – which they subscribe to as well – means that they are unlikely to receive information that encourages them to take the vaccine through these sources.

Many caregivers reported low trust in the healthcare system due to negative experiences in public facilities. Moreover, given these girls' out of school status, there is no borrowed trust from schools to compensate for this trust deficit. As a result of this low engagement with the system, they are unlikely to get information from healthcare providers.

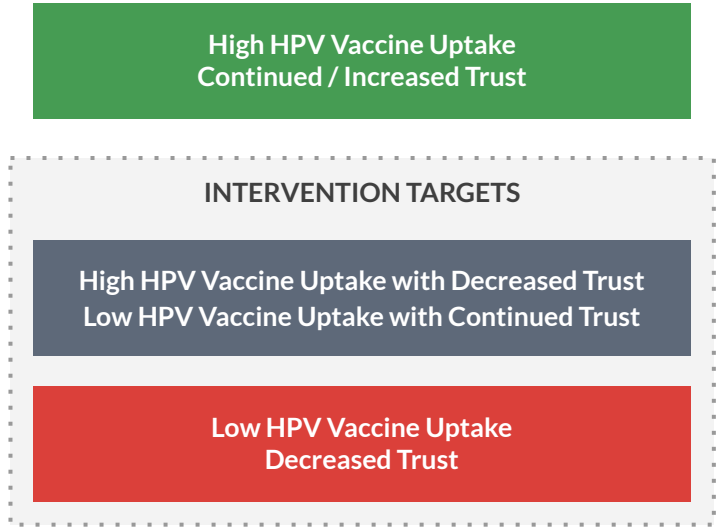
Decision Journey | Implications



Strategic Directions

By understanding the current service delivery experiences and their impact on HPV vaccination uptake, emotions, and future vaccination and health engagements, efforts can be focused on strengthening interventions that support HPV vaccine uptake, and building trust.

We find that resources are often directed either toward **strengthening systems that lead to largely positive outcomes** – i.e. improved uptake and trust in system – or **addressing challenges that lead to dominantly negative outcomes** – i.e. reduced uptake and trust in the system. However, in this case, we find that the more common outcomes are those that are **ambivalent in nature – i.e. showing improved uptake with reduced trust and low uptake with continued trust in the system.** Hence, we need to focus on **strengthening the elements that lead to high uptake and trust and addressing challenges that lead to low uptake and continued / decreased trust.**



Strategic Directions

Hence, it is imperative that we expand the scope of intervention to target the following outcomes across all three journeys:

JOURNEY 1 | While this journey results in high uptake, it leads to ambivalent or negative emotions with the experience. It is recommended that this type of push approach move towards Journey 2 which involves and **informs the caregivers before the vaccination event.**

JOURNEY 2 | Here, it is recommended that efforts focus on **assisting caregivers with coping with uncertainty** and **girls' coping at the point of vaccination.** Additionally, efforts should be focused on clear communication with caregivers and girls throughout the service delivery.

JOURNEY 3 | While this is the least occurring journey, efforts can be made to encourage more people to enter this journey and support their progression through it **addressing current drop off points and procrastination loops.** This can be addressed through **building relevance of the vaccine** and supporting intent to action.

Strategic Directions | Journey 1

While this journey results in high uptake, it has led to ambivalent or negative emotions with the experience. It is recommended that this type of push approach move towards Journey 2 which involves and informs the caregivers before the vaccination event.

Strategic levers:

- **Involved/informed caregivers pre-vaccination:** designing for caregivers to have a clear understanding of the HPV vaccine, the need for it and addressing questions and concerns before the vaccination
- Coping with short term risk for girls to drive uptake by addressing needle fear and peer pressure
- Assurance for caregivers regarding long term risks to drive uptake by addressing concerns, misinformation and building relevance of the HPV vaccine
- Leveraging trusted sources (teachers, HCW) equipped to handle questions and concerns of girls and their caregivers while providing these trusted sources with resources to do this
- Design interventions that address short term uptake of the HPV vaccine and long term trust in the health system and future vaccines

Strategic Directions | Journey 2

Here, it is recommended that efforts focus on assisting caregivers with coping with uncertainty and girls' coping at the point of vaccination. Additionally, efforts should be focused on clear communication with caregivers and girls throughout the service delivery.

GIRL LEARNS OF VACCINE
CAREGIVER LEARNS OF VACCINE

VACCINE ADMINISTERED TO GIRL

FUTURE VACCINE ROLLOUT

Strategic levers:

- **Assurance for caregivers regarding long term risks to drive uptake**
- **Drive relevance and provide reassurance regarding the HPV vaccine for girls**
- Coping with short term risk for girls to drive uptake by addressing needle fear and peer pressure / influence
- Leverage trusted sources (teachers, HCW) equipped to handle questions and concerns of girls and their caregivers while providing these trusted sources with resources to do this
- Reinforcing decision confidence post vaccination for Caregivers
- Design interventions that address short term uptake of the HPV vaccine and long term trust in the health system and future vaccines

Strategic Directions | Journey 3

While this is the least occurring journey, efforts can be made to encourage more people to enter this journey and support their progression through it addressing current drop off points and procrastination loops. This can be addressed through building relevance of the vaccine and supporting intent to action.

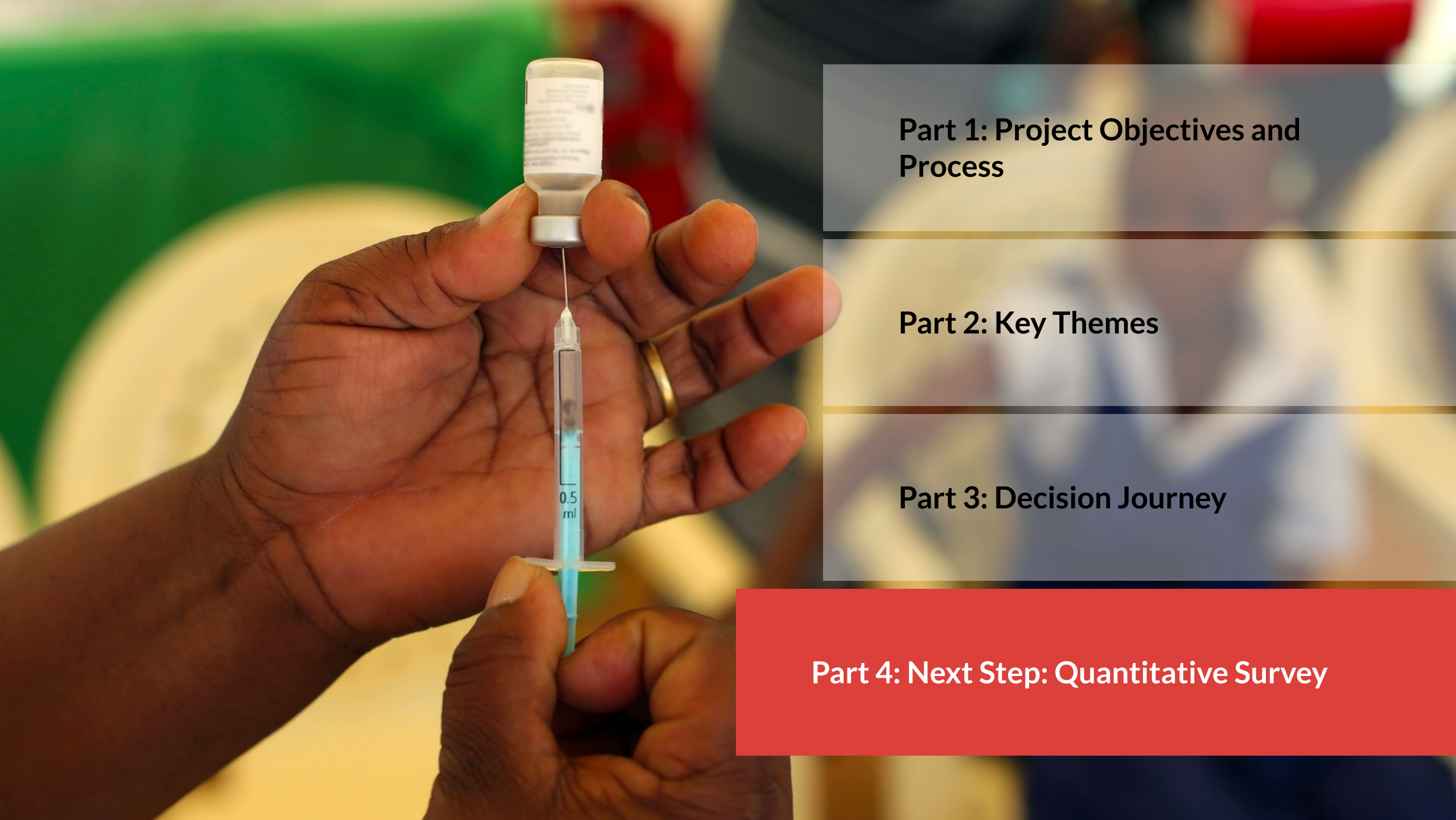
CAREGIVER LEARNS OF VACCINE | GIRL LEARNS OF VACCINE | VACCINE ADMINISTERED TO GIRL | FUTURE VACCINE ROLLOUT

Strategic levers:

- **Driving higher relevance of the HPV vaccine**
- **Reducing intent-action gaps and procrastination loops**
- Assurance for caregivers regarding long term risks to drive uptake
- Coping with short term risk for girls to drive uptake by addressing needle fear and peer pressure / influence
- Trusted sources (teachers, HCW) equipped to handle questions
- Design interventions that address short term uptake of the HPV vaccine and long term trust in the health system and future vaccines

Over 30% of girls in Côte d'Ivoire and 7% in Kenya dropout of school before completing primary education. Their multi-dimensional vulnerability makes it important to address the barriers they face to entering this journey by:

- Identifying trusted nodes in community networks to disseminate information on HPV, cervical cancer and the vaccine
- Identifying and leveraging missed opportunities where they engage with the healthcare system for other healthcare needs
- Providing coping strategies to address the risk perceptions associated with new, unfamiliar vaccines
- Designing to build trust in the healthcare system in the long-term to address their emotional distance from the system



Part 1: Project Objectives and Process

Part 2: Key Themes

Part 3: Decision Journey

Part 4: Next Step: Quantitative Survey

Quantitative Survey Overview

Description of the stage:

Informed by the qualitative insights, the quantitative research will include psychometric surveys of probability-based samples that permit valid population projections which will help identify segments with unique dynamics of vaccine preference formation, understanding their identifiers and assessing the size of these segments in key geographies.

Segmentation profiles will tell us how individuals cluster across various components of hesitancy. Cluster modeling on a stratified random sample of the population will produce robust segments grounded in various factors such as health beliefs, psychographic attributes, health-seeking behaviors, social norms and other key dimensions. This will enable us to identify the most vulnerable individuals and how they vary across key dimensions in order to better address their needs and mitigate risks, allowing for more actionable and relevant interventions and solutions.

Process and Target Sample:

The quantitative survey for this research will collect data through tablet-assisted interviewing whereby trained enumerators will interview respondents face-to-face using a standardized survey tool. These sessions will take place at the respondent's household or at a location of mutual agreement.

The target sample size for the quantitative research is **12,000 respondents across 6000 households.** This will include 3000 girls (ages 9-14) and 3000 primary caregivers per country (Kenya and CDI). For the quantitative survey, the main sample will be drawn from a probability-based stratified random cluster design.

The sampling frame will be constructed using a probability-based stratified random cluster sampling design, with a listing of micro-areas that provide comprehensive coverage of the entire country. Micro-areas will be defined using gridded population sampling, in which the total population is divided into small grid cells of 1 x 1 kilometres. These small grid cells are derived with a geostatistical model using census or other publicly available spatial datasets.

Quantitative Survey Design Overview | Girl Survey

Screener

- Girls 9–14 years old in HH
- Respondent age
- Guardian & girl consent

Family Unit

- Household roster
- Vaccine decision-maker(s)
- Parental involvement (if not in household)

Peer Influences

- Aspirations
- Friendships
- Peer pressure
- Age at first relationship
- Social support (general & health)
- Self-esteem
- School attendance

Health Mental Models

- Nutrition
- Health attitudes
- Needle fear
- HPV awareness & knowledge
- HPV vaccine status
- HPV info sharing scenarios
- Vaccine experiences
- Cancer attitudes & impact

Monadic Profile Exposure

- Exposure to 4 profiles
- Change in trust

Household Support

- Feelings at home

Media channels

- Use of channels
- Age at first use of internet
- Internet activities

Sample design is probability-based multi-stage stratified random cluster sample, where the Primary Sampling Units (PSU) are drawn with probability proportional to population size from a geo-spatial sampling frame with coverage of the entire country. Within each PSU, a random sample of 10 households is drawn from all households with 1+ member who is a young girl aged 9-14. In households with more than 1 girl in the eligible age range, the younger girl is selected as the target respondent. Correspondingly, the adult who has most influence / most involved in the vaccine decision for this target respondent is also selected for a separate interview. Hence, 2 interviews are conducted within each household.

Quantitative Survey Design Overview | Guardian Survey

Screener

- Vaccine decision maker for girl
- Respondent age

HPV Knowledge

- HPV awareness
- Vaccine awareness
- HPV knowledge quiz
- Cancer attitudes & impact

Vaccine Experiences

- Number of vaccines for girl
- Girl's HPV vaccine status
- Where vaccines given
- Decision power
- Decision influencers
- Vaccine experiences
- Preferred info format
- Likelihood to recommend / get HPV vaccine for girl
- Trust in vaccine locations

Perceived Risks & Benefits

- HPV infection risks
- HPV vaccine benefits
- Vaccine myths & beliefs
- Old vs. new vaccine myths & beliefs
- Vaccine decision-making scenario
- Trust in vaccine delivery systems

Monadic Profile Exposure

- Exposure to 4 profiles
- Change in trust
- Likelihood to get /recommend vaccine
- Likelihood to get boy vaccinated

Care Seeking & Trust

- Care seeking
- Adult vaccines received
- Girl's vaccine status
- Health attitudes
- Trust in health system & influencers
- Sources of information
- Influence over girl

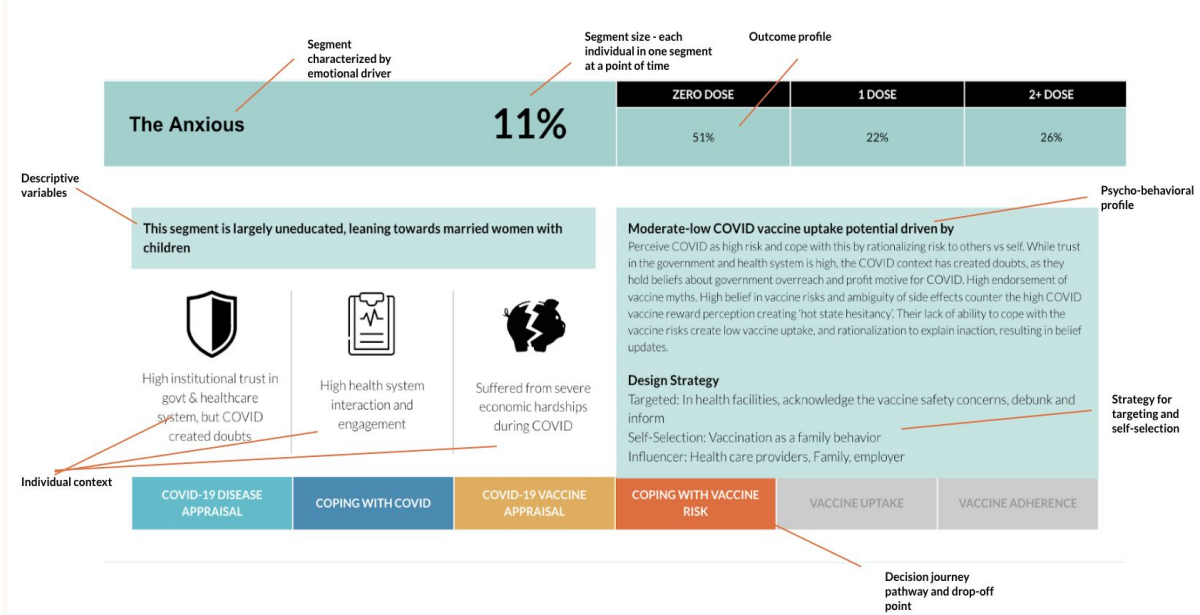
Socio-demographics

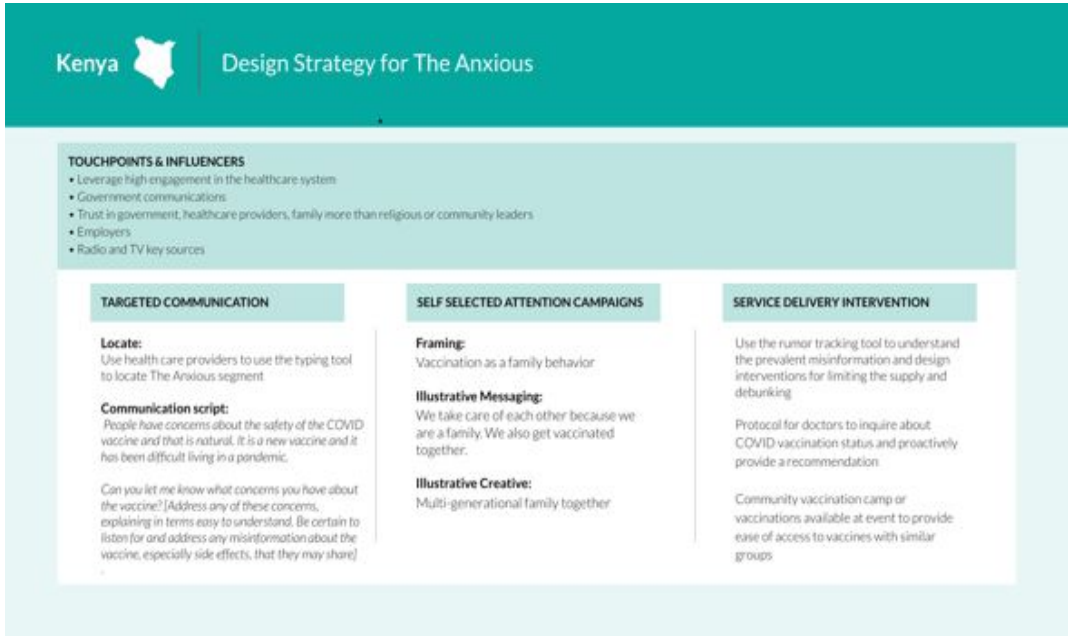
- Education & occupation
- Financial stressors
- Household structure
- Religion

Quantitative Timeline

How to use segmentation

The quant phase will result in psychobehavioral segment descriptions and corresponding design strategies. The strategies may identify touchpoints and influencers for the segment along with recommendations for communication and service delivery that will resonate and speak to the differing needs of the caregiver and girl.



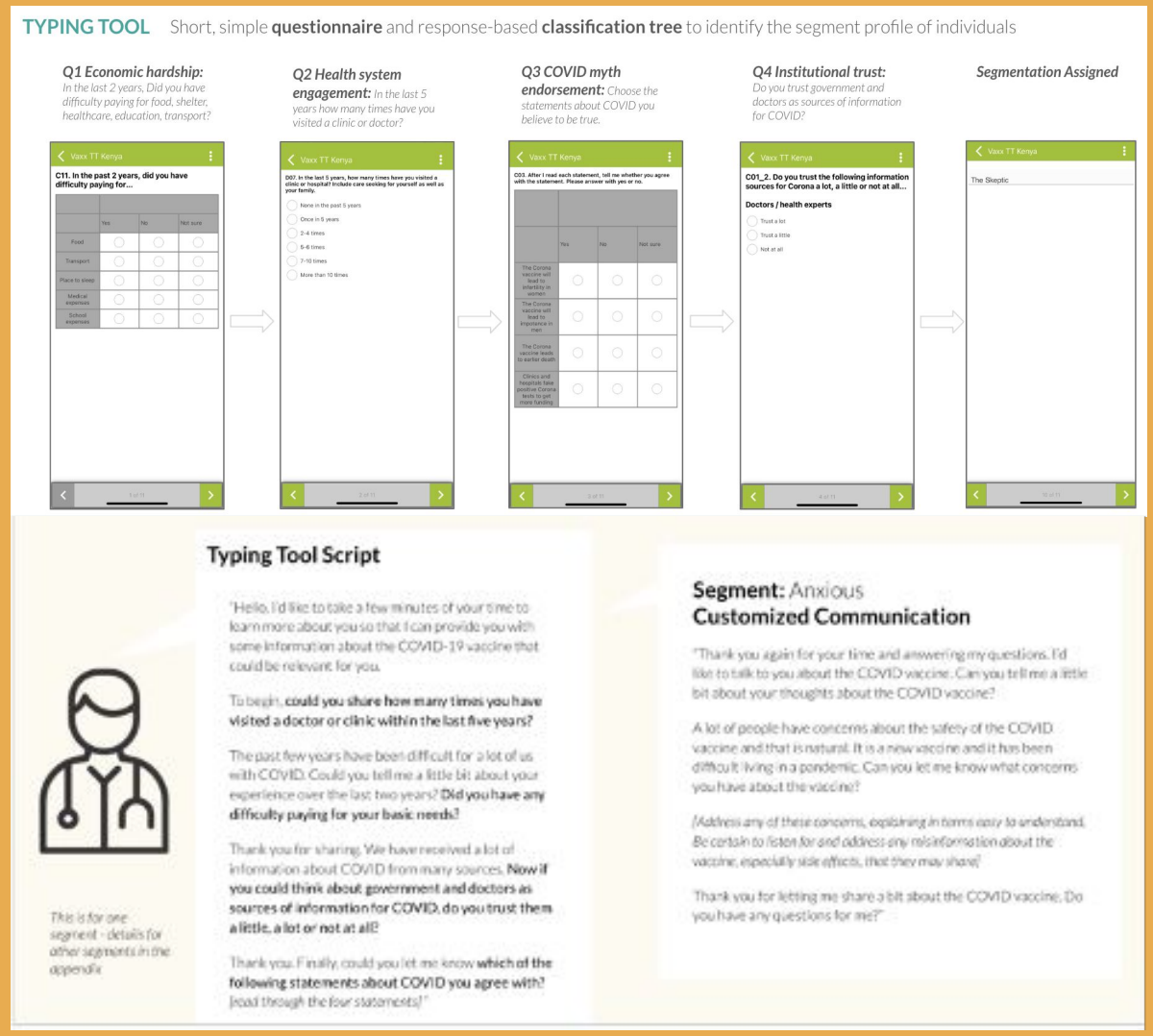


Project Output

Below are examples of interventions and implementation tools that may be developed in this work:

1. **Segment typing tool** for quick identification of an individual's segment profile based on their responses to 3-4 questions which can enable tailored communications and service delivery.

2. **Tailored interpersonal communication** to address specific barriers at an individual/household level that can be used by HCW for mobilization or at point of service delivery for customized messaging.



Project Output

Below are examples of interventions and implementation tools that may be developed in this work (cont):

3. **Inclusive and differentiated public messaging and mass communication campaigns** which are appropriately aligned to the unique needs and barriers of different segments.

4. **Tailored service delivery and user experiences** based on understanding their environmental barriers and emotions segments experience at the point of service delivery.

5. **Nationally representative data and guidelines** to inform evidence-based policy decisions such as resource allocation, program portfolio management, strategies to address vulnerabilities, and such.

SEGMENT NAME	SEGMENT SIZE	ZERO DOSE	1 DOSE	2+ DOSE
The Hopeful	**24%**	49%	30%	18%
The Relieved	**16%**	50%	27%	23%
The Doubtful	**18%**	47%	28%	24%
The Indifferent	**24%**	54%	26%	20%
The Skeptical	**18%**	72%	18%	10%

Design Phase

IDEATION

An ideation workshop will be held with stakeholders that aims to strengthen capacity through dissemination of findings and co-creating segment targeted solutions leveraging local expertise.
This approach helps bridge the insights to action gap that is seen with a lot of research in the development sector, transfer segmentation capacity, help in micro targeting interventions embedded in the context with existing resources and build ownership over the interventions.
A prioritization session will then occur to decide which ideas to take into prototyping.

CONCEPT PROTOTYPING

Prioritized ideas will be built into prototypes to be able to share with potential users (both implementers of the intervention and the end user).
Initial prototype testing will be low-fidelity to receive feedback on the idea regarding acceptance and usability. This feedback would be used to iterate and build out a higher fidelity of the interventions for the next round of testing.
The second round of testing will involve testing the revised higher fidelity prototype to collect feedback on the design, acceptance, relative efficacy and feasibility. We would collect feedback and revise the prototype for the final iteration of four to five interventions.

LIVE PROTOTYPING

In the final state of prototyping, testing of the revised high fidelity prototype is put in context for a short duration for testing of acceptability, feasibility and potential for impact.
Live prototyping will involve:
- a high fidelity prototype that can be tested within its environment
- feedback capturing - from end users and 'providers' of the prototype
- tracking metrics to determine if the intervention is effective

This is done to further refine the intervention for piloting. A final round of iteration will occur before handing over an implementation brief for piloting and other implementation opportunities.

Collaborating with Local Implementing Partners

In these early stages, engagements with collaborators could include:

- Understanding where support is needed
- Mapping the level participants are involved at (ie policy, implementation, etc)
- Understanding what has been working, what is challenging, and what has not gone as expected or as hoped
- Understanding short term uptake vs long term costs
- Spending time thinking of trust building interventions / policies and thinking about what might affect new vaccine uptakes

Formative Research Share Outs

Objectives:

- Share out learnings from the formative research and how these feed into ongoing quant work
- Share upcoming phases and outputs demonstrating how segmentation profiles and strategies will be used to ideate and prototype co-developed interventions
- Communicate our insights, resources and HCD process while also seeking partners with an ongoing program to co-design and create contextualized solutions
- Understand interest in collaboration in remaining project phases and, if so, identify an entrypoint
- Understand where there are challenges / struggles, how this project could support efforts

Initial Organizations for Share Outs:

- Kenya NVIP
- CDI MOH
- CDI demand generation joint call
- Kenya demand generation joint call
- HAPPI consortia
- CHAI
- JHPIEGO
- JSI
- PATH Living Labs Kenya
- Global: GAVI, WHO

Scaling to Other Countries

Outputs from psycho-behavioral segmentation for HPV vaccine uptake can be used not only for ongoing HPV vaccine campaigns but also for future launches of HPV vaccines, new and combination vaccinations and other engagements with the health system.

Scaling to additional countries may include:

- Collaborating with in-country stakeholders
- Conducting qualitative research to understand contextualized differences
- Co-creation of interventions

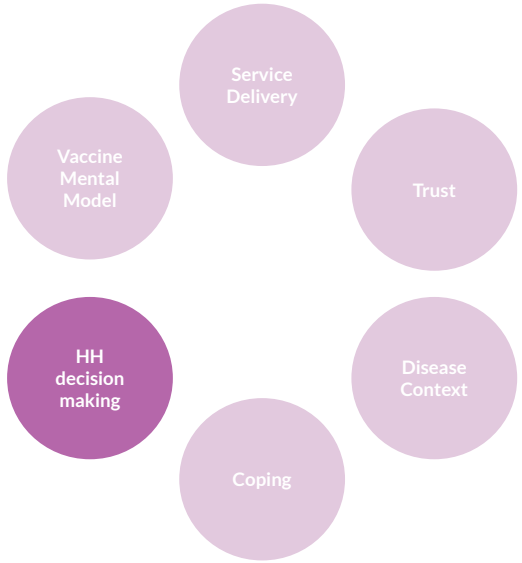
Countries for consideration:

- India
- Nigeria
- Ethiopia
- Malawi
- Zambia

Appendix

UNDERSTANDING THE ELEMENTS

Household decision-making Context



While caregivers see girls as children, 9-14 year olds are a diverse cohort, and cannot be looked upon as a homogeneous group as they have differing needs for agency and independence

- Caregivers see their role as protectors and 9-14 year olds as children who are unable to make most decisions for themselves, especially health decisions. Caregivers want to be in charge of health decision as they view their girls (9-14 years) as not having the capacity to understand the implications and future consequences of health decisions.
- 9-14 is a diverse cohort, from age 12 there are significant changes in the brain that are associated with high risk taking, greater pleasure seeking, lesser impulse control and high influence from peers.
- 9-11 year olds are highly influenced by their parents and authority figures (like teachers) and may listen more to them. 12-14 year olds are finding more moments of agency in their life in areas like play, school, friendship and mobility, trying to push their existing boundaries with caregivers as they build their own beliefs and opinions.

> *When she'll be a bit of an adult [she can make decisions regarding her health]. Because for me, it is from the age of 15, 16 and 17 that the child begins to understand better. But right now, I can't allow it. She is not yet fully conscious..”*
> *- PCG, CDI*

> *As **she is still small**, I have **not yet given her any responsibility**; she does not make any decisions on her own.”*
> *-PCG, CDI*

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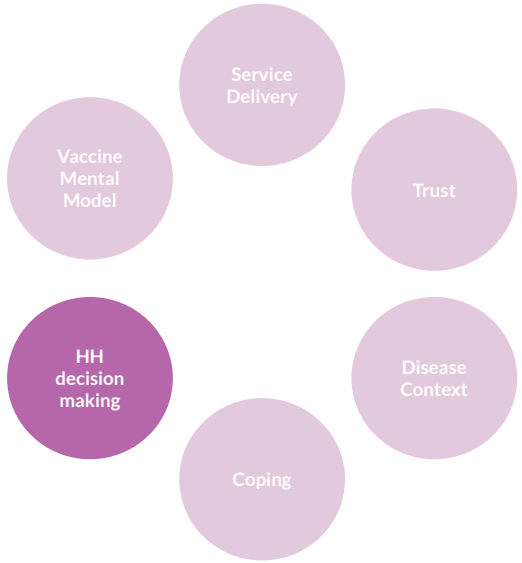
Household decision-making Context



While caregivers see girls as children, 9-14 year olds are a diverse cohort, and cannot be looked upon as a homogeneous group as they have differing needs for agency and independence (cont.)

- Caregivers are concerned about the risks that girls may be exposed to and want to continue playing a dominant role in decision making for them. But the girl starts to push back to assert her own autonomy where she can, mostly in the context of peer groups.
- Caregivers feel it is their decision to make about the girl taking the HPV vaccine, as it may have future health consequences, that a girl cannot see.
- In single parent households, girls may be required to have more responsibilities. This may lead to some girls more actively involved in the vaccine decision process.

> *"I think she is not so, her age is not so advanced to judge certain subjects, that is, so I think that for certain subjects she is obliged to ask permission or seek advice before making certain decisions...Children cannot make all kinds of decisions, sometimes there are certain decisions that they think are good for them, but in reality they are bad for their development. That is why I judge that she is not able to make all kinds of decisions."*
> *- PCG, CDI*

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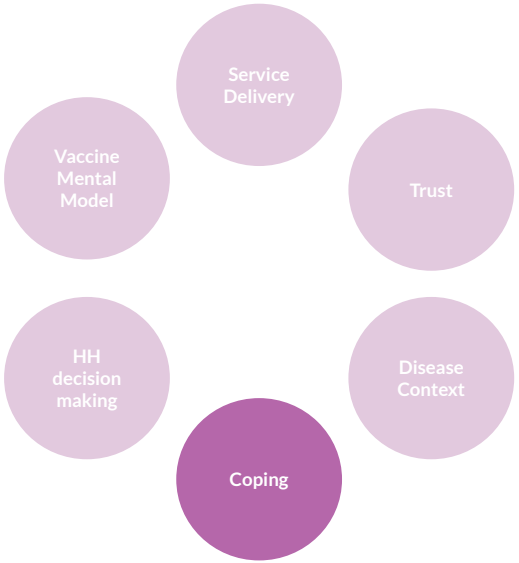
Coping



Girls need to cope with short term "hot state" risk, but caregiver concerns are with the long term risk and implication

- Coping is required when a barrier, dissonance or stressor is present. It either involves an action to address the source or adapting to its presence.
- With the HPV vaccine, 9-14 year old girls' concerns are centered on coping in the hot state and immediate risks (needle fear), while caregivers' concerns are centered on coping with the long term risks (infertility, side effects) ,and coping with decision burden.
- If barriers, stressors or dissonances are not coped with adequately, HPV uptake can be adversely impacted. If the vaccination is conducted without adequate coping, the residual negative feelings may have adverse long term impacts.

> *"They often ask if it (HPV vaccine) makes them sterile. Some mums ask if it makes them sterile because it's linked to the reproductive system. They wonder if it can make their daughters sterile, that sort of question. We tell them no."*
> *-Nurse, CDI*

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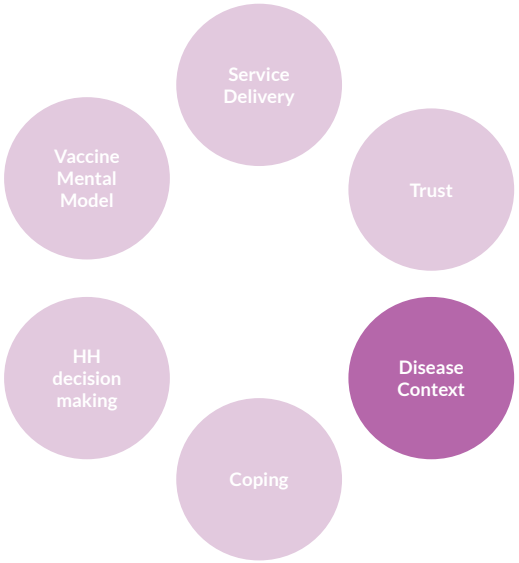
HPV / Cervical Cancer Disease Context



Low to no disease context or risk salience for HPV and cervical cancer leads to low demand.

- For caregivers and girls awareness of cancer is limited to it being a deadly disease with no treatment. There is low to no awareness and salience of risk of *cervical* cancer.
- Furthermore, there is no awareness and risk associated with HPV, and minimal understanding of the link between HPV and cervical cancer.
- With no existing disease context and risk perception, there is no 'pull' or demand for disease protection.
- The HPV vaccine information landscape is low as demand generation activities are limited mostly to radio and some commercial on non-popular news channels.
- Also given that cancer is only associated with adults, there is lowered relevance for young girls and the need for any mitigation measures.

> *When **you're really expecting cancer, it's something that scares me** so today if we say that there is a vaccine that can cure cancer, that makes me very happy"*
> *- PCG, CDI*

> *They'll feel have grown up to that old age of maybe 49 or 50 and have never had cervical cancer. So they are like their kids can't get it. **If I didn't, they can't so it's not a major issue.***
> - PCG, Kenya

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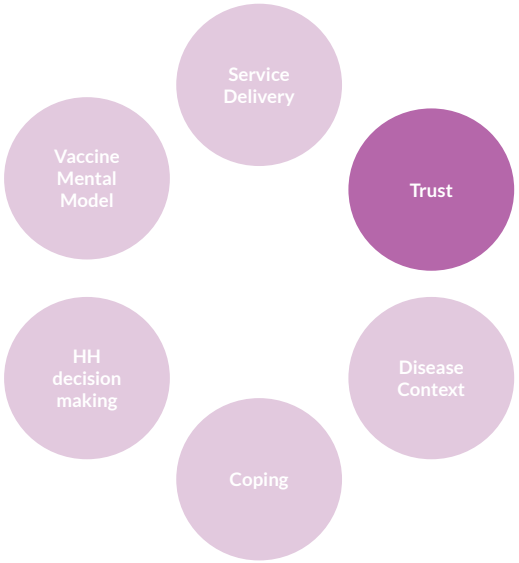
Trust



Trust is a critical part of the HPV vaccine appraisal and therefore a driver of action (uptake or rejection)

- Trust is a social emotion which plays a critical role in decisions wherein:
  - A third person's perceived thoughts, intentions and actions have implications for how we feel about and respond to a situation
  - The information asymmetry between the self and another – as in the case of a patient and healthcare provider/system – makes it difficult for those who possess incomplete information to accurately gauge the implications of the other's recommendations
- Trust judgements are made by understanding the agents involved, their intentions and incentives, and the alignment of their intentions with our own interests, based on past experiences as well as cues available in the context.
- Trust is critical for health behaviors and decisions, as the services are received from external agents and the recipients often do not have access and ability to evaluate medical information, especially post COVID-19 pandemic which caused breaks in trust.
- A study by RED associates broke down trust into two key components: trust in the promise (what I know about the HPV vaccine) and trust in the process (how I get the HPV vaccine)

> *I have not heard any negative comment about it. I just heard that children are being injected and I have not heard any person refusing it because it is bad. I know that all parents believe that when the teachers accept that the children should get it then it is safe."*
> - PCG, Kenya

> *On school days the children are all at school, and if it's done at school there's a bit of safety too. If you can see that* ***the teachers accept, then it's a good thing.****" -PCG, CDI*

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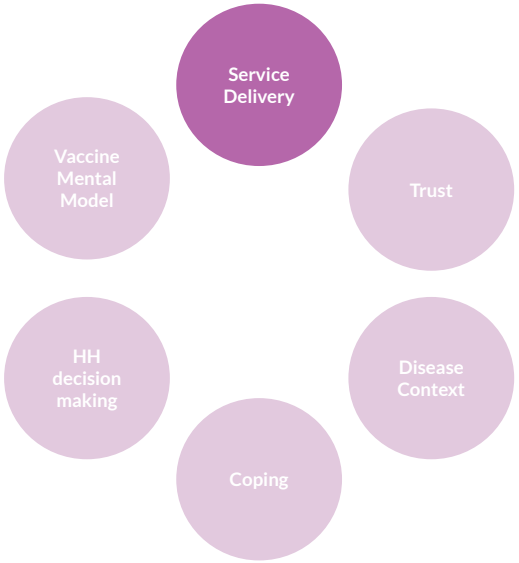
Service Delivery



Variation in service delivery within and across countries for the HPV vaccine creates different uptake and experiences for caregivers and girls

- Health systems are modeling HPV vaccine service delivery based on successful routine immunization service delivery (assumptions of understanding of need, consent, etc) while caregivers and girls are seeing this as a decision to be made with a service delivery that leads to questions and negative impacts on trust.
- Service delivery is primarily through the school, with variation across certain characteristics like location, messenger, message, information pathway, consent artefact, time for consent, etc. We can think of these as 'push' models.
- School channels usually rely on the girl as the carrier of information with leads to caregivers feeling left out of the decision making process.
- Out of school girls are missed in a predominantly 'school program'.
- There are also 'pull' models of service delivery where HPV vaccines are offered in clinics and girls and their caregivers can go there to receive it.

> *.... We made queues and they started injecting us then I was told that the injection was to prevent that disease, cancer, HIV, just then we were given a letter on the next vaccine. The next vaccine, not all the girls got it, just a few and they said they would come back and they never did. Just that"*
> - AG, Kenya

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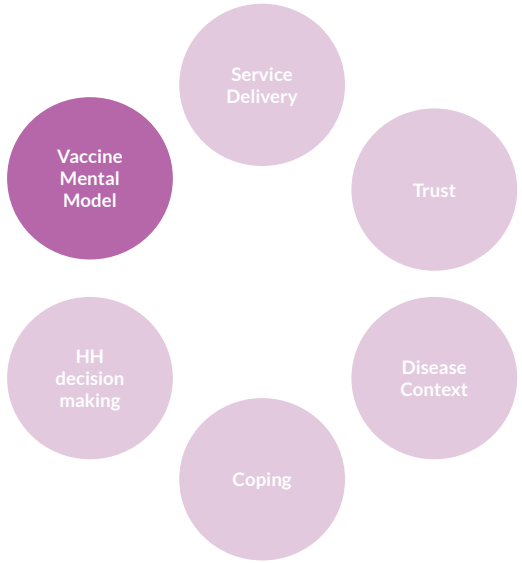
Vaccine Mental Models



Vaccine mental models informed from previous vaccines beliefs and experiences impact HPV vaccine uptake

- Vaccine mental models are cognitive frameworks that individuals use to understand and make decisions about vaccinations. These models encompass beliefs, knowledge, attitudes, and perceptions about vaccines, their benefits, and potential risks. These are constructed based on past experience and informational cues available in the context.
- Prior to COVID-19, vaccines were mostly associated with child routine immunization creating a 'child vaccine' mental model of safe, legacy, life savings vaccines, with low risk and high rewards of protection. Therefore, the child vaccination mental is associated with defaulted uptake.
- A mental model for 'new vaccines' has been created with the infodemic context and negative perceptions of the COVID-19 vaccine, and high myth and misinformation around infertility and death, where they see COVID = New vaccine = Bad/Risky vaccine.
- New vaccines are perceived as experimental, insufficiently tested, with high levels of ambiguities and uncertainties about their benefits and risks.

> *Because **you don't know if it's (HPV vaccine) going to be beneficial or if it's going to destroy the child**, that's it!"*
> *-PCG, CDI*

> *The concern is that we cannot go and get a vaccine that we do not know exists. Because if **I am not informed about the purpose of the vaccine, I cannot go and get it.**"*
> *-PCG, CDI*

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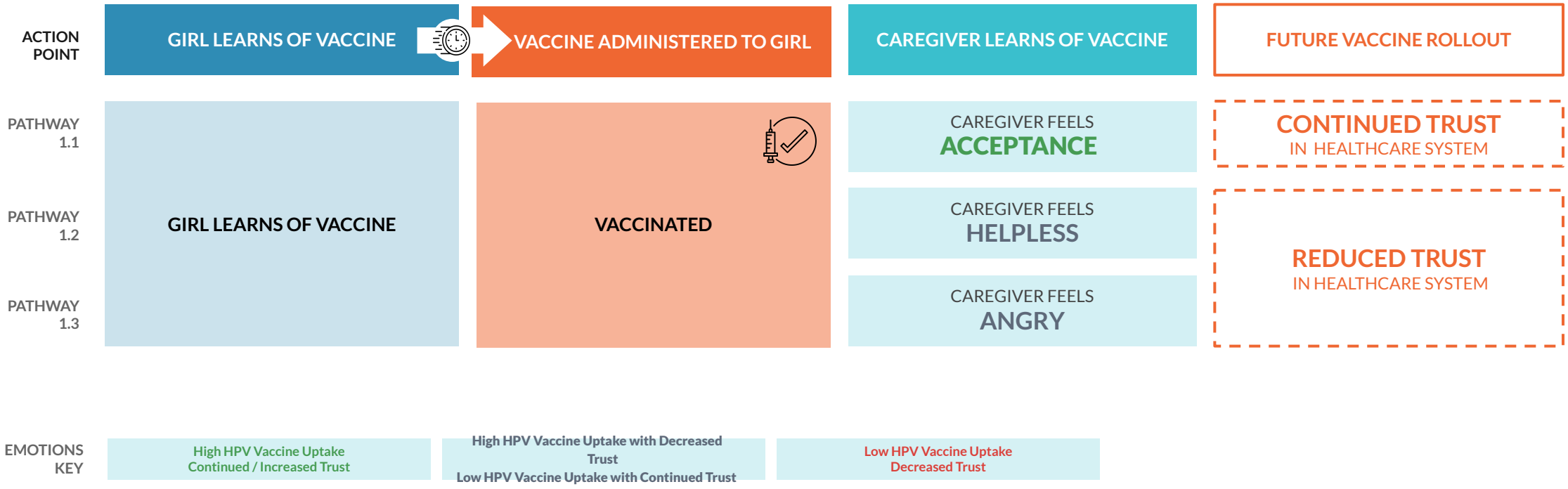
UNDERSTANDING THE SERVICE DELIVERY EXPERIENCE

Journey 1 | Overview

The caregiver is informed about the vaccine through the girl, after the vaccine has already been administered. This leads to three possible uptake and trust outcomes, as illustrated in the pathways below:



Journey 1

GIRL LEARNS OF VACCINE → VACCINE ADMINISTERED TO GIRL | CAREGIVER LEARNS OF VACCINE | FUTURE VACCINE ROLLOUT

SERVICE DELIVERY

Girls receive information about the vaccine at **school through a teacher or a nurse**.

The information received is often vague and is delivered using **fear appeals** aimed at heightening risk perceptions around HPV and non-receipt of the vaccine.

In these journeys, there is **no expectation of gaining consent** from caregivers.

GIRLS' APPRAISAL

Girls are **trusting of information that they receive from teachers** or nurses through their school.

> *R: We went to get the vaccine together, they finished doing it for me and they did it for her, I asked her if she wasn't going to tell her mother, she said yes.*
>
> *M: And she told you why she won't tell her mother?*
>
> *R: I asked her and she told me because her mother is going to hit her because she didn't inform her before giving this vaccine."*
>
> *- Vaccinated Girl (9-11 years), CDI*

Journey 1

GIRL LEARNS OF VACCINE | VACCINE ADMINISTERED TO GIRL | CAREGIVER LEARNS OF VACCINE | FUTURE VACCINE ROLLOUT

1.1 - 1.3 VACCINATED

SERVICE DELIVERY

Girls are given the vaccine at **schools or facilities, accompanied by their peers and teachers.**

There is **limited time** between the girls learning about the vaccine and point of vaccination.

GIRLS' APPRAISAL

Girls feel **fearful** of needles which they express by hiding and crying. Some are able to **cope** by receiving emotional reassurance through **teachers**, **nurses**, and **peers** who are also receiving the vaccine.

> *...so we went to get the vaccine, well it hurt a little but as I was among my friends, I shouldn't cry, that's all."*
>
> *- Vaccinated Girl (9-11 years), CDI*

> *They [peers] told me that when the lady pricked them, they almost cried and then the lady there said don't, they're going to cry."*
>
> *- Vaccinated Girl (12-14 years), CDI*

Journey 1

GIRL LEARNS OF VACCINE → VACCINE ADMINISTERED TO GIRL | CAREGIVER LEARNS OF VACCINE | FUTURE VACCINE ROLLOUT

SERVICE DELIVERY

The caregivers are **informed of the vaccination post hoc** by the girl. The school and facility staff are not involved in this stage.

The caregivers receive the same **incomplete and vague information** based on what the girls are able to recall at that time.

> *"It is they [girls] who go with the information and bring it to us, and I don't know if they really understand everything."*
>
> *- Primary caregiver, CDI*

Journey 1

GIRL LEARNS OF VACCINE → VACCINE ADMINISTERED TO GIRL | CAREGIVER LEARNS OF VACCINE | FUTURE VACCINE ROLLOUT

CAREGIVER APPRAISAL

Caregivers evaluate and respond to the circumstances of the girls vaccination. Based on their **past experiences, beliefs and mental models** they may feel varying emotions:

1.1 CAREGIVER FEELS ACCEPTANCE

These caregivers have existing **trust** in schools and the public health system, coupled with **positive mental models** about vaccines which help them **cope** with not being involved in this decision.

In this case, the caregivers feel passive **acceptance.**

1.2 CAREGIVER FEELS HELPLESS

These caregivers feel like they have no **power** and struggle to **cope** with the girl being vaccinated for a **new, unfamiliar disease** without their permission.

Here, the caregivers feel **helpless.**

1.3 CAREGIVER FEELS ANGRY

These caregivers are **unsure about the relevance of the disease** for children, and the **unfamiliar vaccine**. They exercise their **power** and **cope** with this by going to schools and seeking redressal.

The caregivers feel **anger** toward the system.

> *"I accepted, as it's at school and things that happen at school or in the hospital don't scare me. But if it's outside of school, who are you going to complain to if there's a problem?"*
>
> *- Primary caregiver, CDI*

> *"That's what I said before, my niece took a vaccine without consulting me, I got angry."*
>
> *- Primary caregiver, CDI*

EMOTIONS KEY

- High HPV Vaccine Uptake Continued / Increased Trust
- High HPV Vaccine Uptake with Decreased Trust
  Low HPV Vaccine Uptake with Continued Trust
- Low HPV Vaccine Uptake Decreased Trust

Journey 1

GIRL LEARNS OF VACCINE → VACCINE ADMINISTERED TO GIRL | CAREGIVER LEARNS OF VACCINE | **FUTURE VACCINE ROLLOUT**

Caregivers' **experience of the HPV vaccine service delivery**, coupled with their **ability to cope with negative stressors** can influence their **trust toward future vaccines and the health system**:

1.1 CONTINUED TRUST IN HEALTHCARE SYSTEM

These caregivers' **trust** in the health system makes them more accepting of the vaccination process, even if they may have preferred a different method.

They are likely to **maintain** their current level of trust during future vaccine rollout.

1.2 REDUCED TRUST IN HEALTHCARE SYSTEM

These caregivers wish they had been involved in the vaccination decision, but they feel unable to take **control** at this moment.

They are likely to feel **less trustful** toward future vaccine rollout.

1.3 REDUCED TRUST IN HEALTHCARE SYSTEM

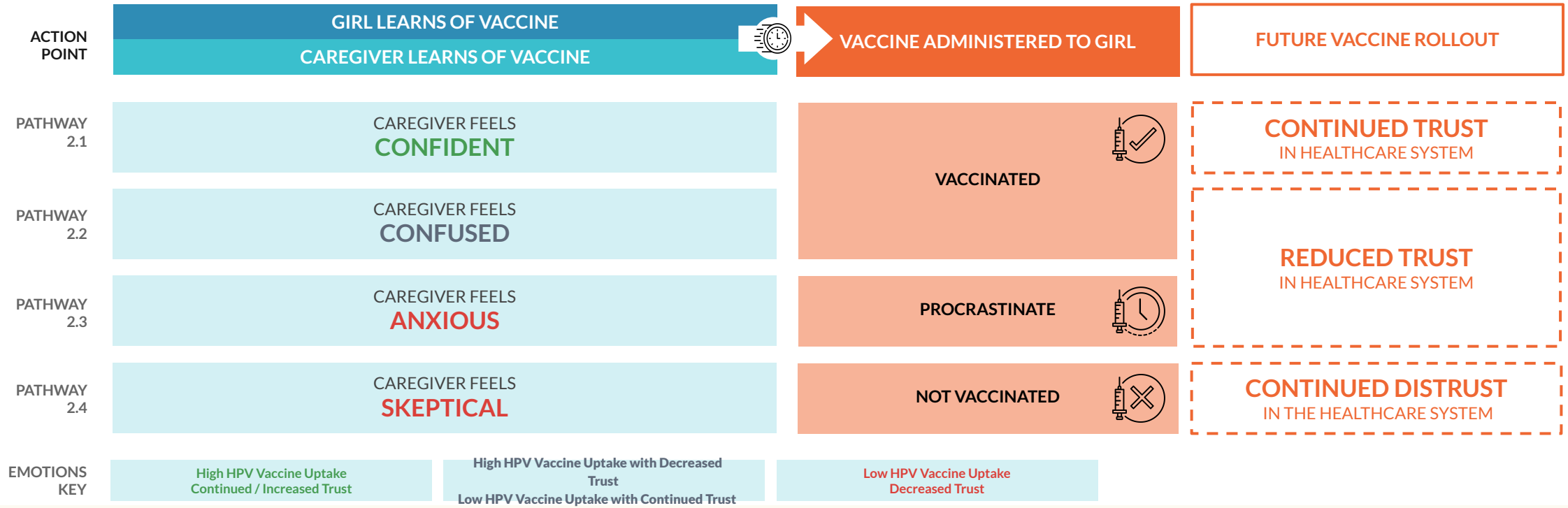
These caregivers are angry that the girls were vaccinated **without their permission.**

They are likely to feel **less trustful** toward future vaccine rollout.

Click *here* to return to Summary slide

Journey 2 | Overview

The caregiver is informed about the vaccine prior to vaccine administration, but is forced to make a rushed decision around getting the girl vaccinated. This leads to four possible uptake and trust outcomes, as illustrated in the pathways below:



Journey 2

GIRL LEARNS OF VACCINE
CAREGIVER LEARNS OF VACCINE

VACCINE ADMINISTERED TO GIRL

FUTURE VACCINE ROLLOUT

SERVICE DELIVERY

Girls receive information about the vaccine at **school through a teacher or a nurse**.

The information received is often vague referencing 'cancer' and can be delivered using **fear appeals** aimed at heightening risk perceptions around HPV and non-receipt of the vaccine.

While there is some expectation of gaining alignment with the parent in this journey, **consent processes are often inconsistent and not mandated** across schools.

GIRLS' APPRAISAL

Girls are **trusting of information that they receive from teachers** or nurses through their school, but they understand that their **caregiver is the final decision-maker** with regards to their healthcare decisions.

> *M: What did she [teacher] tell you?*
>
> *R: You go and tell your mother if you will be injected because that injection is preventing you from not getting cancer.*
>
> *- Unvaccinated girl (9-11 years), Kenya*

> *They [school] just told me it's good and prevents cervical cancer but I've never heard about HPV.*
>
> *- Vaccinated girl (9-11 years), Kenya*

Journey 2

GIRL LEARNS OF VACCINE
CAREGIVER LEARNS OF VACCINE

VACCINE ADMINISTERED TO GIRL

FUTURE VACCINE ROLLOUT

SERVICE DELIVERY

The caregivers are **informed about the vaccination through the girl**. The school and facility staff are typically not involved in this stage. In some cases, caregivers who have not signed the consent forms are **contacted by the school staff directly**, and can then seek additional information.

They receive the same **incomplete and vague information** based on what the girls are able to recall at that time.

In cases where consent artefacts exist, it may provide them more information than the girl may recall. More commonly, however, **additional information is not available at this point.**

There is **limited time** between the caregiver learning about the vaccine and point of vaccination.

> *...it was when she had to be vaccinated that she came to see me and we left for school that's when I knew it was the vaccine against cervical cancer, that this vaccination exists. They told me if she gets vaccinated, she won't get the disease*
>
> *- Primary caregiver, CDI*

> *...you tell me that tomorrow you will be coming to give my kid a vaccine for reproductive health... You now see, when you abruptly receive such news without being informed prior it's not a good thing."*
>
> *- Primary caregiver, Kenya*

Journey 2

GIRL LEARNS OF VACCINE
CAREGIVER LEARNS OF VACCINE

VACCINE ADMINISTERED TO GIRL

FUTURE VACCINE ROLLOUT

CAREGIVER APPRAISAL

Caregivers evaluate and respond to the circumstances of their girls vaccination. Based on their **past experiences, beliefs and mental models** they may feel varying emotions:

2.1 CAREGIVER FEELS CONTENT

These caregivers display **trust in schools** and the public health system, and have **positive mental models about vaccines**. They decide to get their girl vaccinated.

They feel **content** in their decision, as they have ample **trust in the promise of the HPV vaccine** which helps them **cope** with the limited time to make the decision.

2.2 CAREGIVER FEELS CONFUSED

This caregiver is **unsure about the disease relevance** for children and an **unfamiliar vaccine**. However, given their **existing trust in schools** and the public health system, coupled with their **positive mental models** about vaccines, they **default** to allowing their girl to be vaccinated.

They feel **confused** but allow their girl to be vaccinated.

2.3 CAREGIVER FEELS ANXIOUS

This caregiver is **unsure about the relevance on the disease** for children and the **unfamiliar vaccine**.

They feel **anxious** about their decision, so in order to regain **control,** they **procrastinate** their decision.

2.4 CAREGIVER FEELS SKEPTICAL

These caregivers have **negative mental models about unfamiliar vaccines**, coupled with **low relevance of the disease for girls**.

They **reject** the vaccine for the girl, as they are **skeptical** of the vaccine.

> *"I cannot accept that we take her to inject her with a vaccine that I have no information about."*
>
> *- Primary caregiver, CDI*

EMOTIONS KEY

- High HPV Vaccine Uptake Continued / Increased Trust
- High HPV Vaccine Uptake with Decreased Trust
  Low HPV Vaccine Uptake with Continued Trust
- Low HPV Vaccine Uptake Decreased Trust

Journey 2

GIRL LEARNS OF VACCINE
CAREGIVER LEARNS OF VACCINE

VACCINE ADMINISTERED TO GIRL

FUTURE VACCINE ROLLOUT

2.1 - 2.2 VACCINATED

2.3 PROCRASTINATE

2.4 REFUSE

SERVICE DELIVERY

Girls are given the vaccine at **schools or facilities, accompanied by their peers and teachers**.

GIRLS' APPRAISAL

Girls feel **fearful of needles**. They **cope** by receiving emotional reassurance from trusted sources – teachers, nurses, and peers who are also receiving the vaccine.

NOT VACCINATED

"So in the morning the teacher…came and told us that the nurses were coming and they were coming to inject the girls. I was very much scared and I was telling my friends if they just prick me with the injection I will cry… So we went and we were asked to stand in a queue…I was scared because then it will be my turn and I was the last one. I kept moving to the back… I went and I was injected. I don't even know where the tears came from but I cried."

- Vaccinated Girl (12-14 years), Kenya

Journey 2

GIRL LEARNS OF VACCINE
CAREGIVER LEARNS OF VACCINE

VACCINE ADMINISTERED TO GIRL

FUTURE VACCINE ROLLOUT

Caregivers' **experience of the HPV vaccine service delivery**, coupled with their a**bility to cope with negative stressors** can also influence their **trust toward future vaccines and the health system**:

2.1 CONTINUED TRUST IN HEALTHCARE SYSTEM

These caregivers feel **content** in their decision, and are likely to **continue to have high trust** in in future vaccines.

2.2 REDUCED TRUST IN HEALTHCARE SYSTEM

These caregivers feel like they **did not have adequate time and information** about the disease and the vaccine to make an informed choice, and question their decision. Their feelings of **anxiousness** may lead to **reduced trust** in future vaccine rollout.

2.3 REDUCED TRUST IN HEALTHCARE SYSTEM

These caregivers have regained control of the situation, by **procrastinating** their decision. They may feel some **reduced trust** toward future vaccine rollout, especially where the service delivery also reduces their control.

2.4 CONTINUED DISTRUST IN HEALTHCARE SYSTEM

These caregivers feel **confident** in their decision to not vaccinate their girl and **continue to have low trust** in the system.

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Journey 3 | Overview

The caregiver is informed about the vaccine directly and has adequate time to make the decision around getting their girl vaccinated. This leads to two possible uptake and trust outcomes, as illustrated in the pathways below:

ACTION POINT	CAREGIVER LEARNS OF VACCINE	GIRL LEARNS OF VACCINE	VACCINE ADMINISTERED TO GIRL	FUTURE VACCINE ROLLOUT
PATHWAY 3.1	CAREGIVER FEELS **CONFIDENT**	GIRL LEARNS OF VACCINE	VACCINATED 	**CONTINUED TRUST** IN HEALTHCARE SYSTEM
PATHWAY 3.2	CAREGIVER FEELS **ANXIOUS**	GIRL DOES NOT LEARN OF VACCINE	PROCRASTINATE 	**CONTINUED LOW TRUST** IN THE HEALTHCARE SYSTEM

EMOTIONS KEY			
	High HPV Vaccine Uptake Continued / Increased Trust	High HPV Vaccine Uptake with Decreased Trust Low HPV Vaccine Uptake with Continued Trust	Low HPV Vaccine Uptake Decreased Trust

Journey 3

CAREGIVER LEARNS OF VACCINE | GIRL LEARNS OF VACCINE | VACCINE ADMINISTERED TO GIRL | FUTURE VACCINE ROLLOUT

SERVICE DELIVERY

Caregivers receive information about the vaccine **through a healthcare provider** or from **someone in their community**. The messenger in this case is not the girl.

The information received is more **complete and detailed.** Caregivers are able to **seek clarification** in case of any questions at this point.

Caregivers typically have **adequate time** to make the decision in this case.

While consent artefacts may or may not be present, **consent is implied as caregivers are directly informed** of and involved in the decision making process.

> *M: Where did you hear about HPV?*
>
> *R: From schools and doctors who came on a door to door mission but we didn't take it seriously."*
>
> *- Secondary caregiver, Kenya*

> *When I was pregnant with [girl] and I left, the midwives talked about it [HPV vaccine] too."*
>
> *- Primary caregiver, CDI*

Journey 3

CAREGIVER APPRAISAL

Caregivers evaluate and respond to the circumstances of their girls vaccination. Based on their **past experiences, beliefs and mental models** they may feel varying emotions:

3.1 CAREGIVER FEELS CONFIDENT

These caregivers have **positive vaccine mental models** and **trust in the system**. They **do not question the relevance of the disease** for children. They feel **in control** as they are able to obtain additional information from trusted sources. They are **confident** of their decision to vaccinate their child.

3.2 CAREGIVER FEELS ANXIOUS

These caregivers are **unsure about the unfamiliar disease and new vaccine**. The uncertainty that caregivers feel about the vaccine makes them feel **anxious** and they **cope** with this by **procrastinating** their decision.

> *"Parents are worried about the health of their children. If they give the vaccine and the child develops another illness that they can't treat, it may worry them…Every person has a different body, and some bodies react differently to vaccines. It is possible that a vaccine could cause other illnesses in some people."*
>
> *- Primary caregiver, CDI*

EMOTIONS KEY

- High HPV Vaccine Uptake Continued / Increased Trust
- High HPV Vaccine Uptake with Decreased Trust
  Low HPV Vaccine Uptake with Continued Trust
- Low HPV Vaccine Uptake Decreased Trust

Journey 3

CAREGIVER LEARNS OF VACCINE | **GIRL LEARNS OF VACCINE** | VACCINE ADMINISTERED TO GIRL | FUTURE VACCINE ROLLOUT

Only relevant for 3.1 where caregivers decide to get the girl girls vaccinated

SERVICE DELIVERY

Girls receive information about the vaccine through their **caregivers**, in case of an uptake decision.

The information received can be **vague**, depending on what their caregiver chooses to share with them.

Girls are merely informed of the decision, with **no expectation from the caregivers of gaining alignment** with them.

There is typically **limited time** between when girls are informed of the decision and vaccine administration.

GIRLS APPRAISAL

Girls are **trusting of information that they receive from caregivers** and they understand that their **caregiver is the final decision-maker** with regards to their health.

In rare cases, they **resent** not being involved in the decision.

M: And your classmates who were not stressed, why do you think they were not stressed?

R: Their parents had already talked to them about the vaccine to get."

- Vaccinated girl (12-14 years), CDI

Journey 3

CAREGIVER LEARNS OF VACCINE | GIRL LEARNS OF VACCINE | VACCINE ADMINISTERED TO GIRL | FUTURE VACCINE ROLLOUT

3.1 VACCINATED

SERVICE DELIVERY

Girls are typically given the vaccine at facilities in the **presence of their caregiver**.

GIRLS' APPRAISAL

Girls feel **fearful of needles**. They **cope** by receiving emotional reassurance from trusted sources – primarily, caregivers and nurses.

3.2 PROCRASTINATE

NOT VACCINATED

> *R: He [doctor] said not to stress, to stay calm and that it doesn't hurt, to convince me…I felt comfortable and trusted the doctor...*
>
> *M: If the doctor hadn't told you to stay calm, to be comfortable, how would you feel?*
>
> *R: Unwell and stressed… Because it's a needle that penetrates the skin. And so if they put this needle in my body, won't it create other problems?"*
>
> *- Vaccinated girl (12-14 years),CDI*

Journey 3

Caregivers' **experience of the HPV vaccine service delivery**, coupled with their **ability to cope with negative stressors** can also influence their **trust toward future vaccines and the health system**:

3.1 CONTINUED TRUST IN HEALTHCARE SYSTEM

These caregivers feel **confident** in their decision and trust the process that was followed. They **continue to maintain high trust** in the system post the HPV vaccine experience.

3.2 CONTINUED LOW TRUST IN HEALTHCARE SYSTEM

While trust in the healthcare system is generally present, caregivers may be wary of 'new vaccines'. With this uncertainty, their information seeking efforts may lead to further doubts about the 'new vaccine'. This could lead to **erosion of trust** in the healthcare system in the long term.

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Objectives of the Share-Out

Objectives

- Sharing out learnings from the formative research
- Understanding how these feed into ongoing quant work
- Showcasing how these insights can be operationalised and made actionable in the subsequent phases – segmentation research and co-design process
- High involvement / Low involvement
- Look at these qual outputs, then talk about the quant / segment tools
- **We'll have insights, resources and HCD process - what we need is context / partners with an ongoing program -**
    - Want to understand if you're interested, we just need an entry
        - Understand: This is where we're struggling, how these insights may be useful

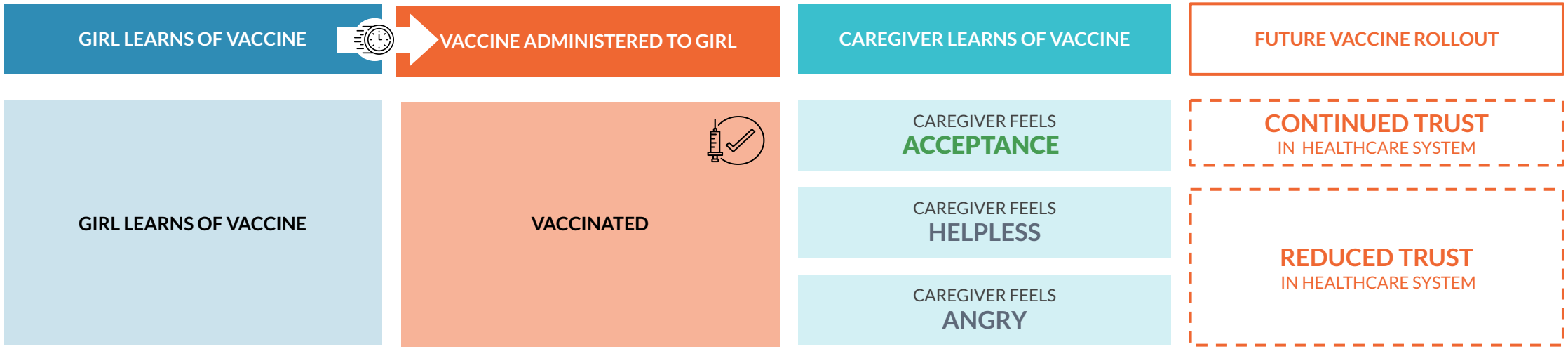
Information IPs may like to know:

- Resources, time needed
- How to use this - look forward to segmentation, but we can also assist with applying this in the meantime
- Methodology, samping - how we did qual and how we we are doing quant
- Looking for collaborators
- While listening, let us know if you're interested in collaborating
- Listen for: what resonates, what questions, what you're seeing in your context
- Let us know: what would be helpful
- **How these learnings could be applied with ongoing and future vaccination programs (HPV and others) along with other geographies**

Decision Journey | Key Takeaways

SERVICE DELIVERY INTERACTION | J1

Depending on how the different elements of the HPV decision making and uptake framework interact with the service delivery experience, independent pathways are experienced within each of the journeys. Each pathway is characterised by a unique emotion experienced by caregivers, and differential HPV vaccine uptake and future vaccine trust implications:

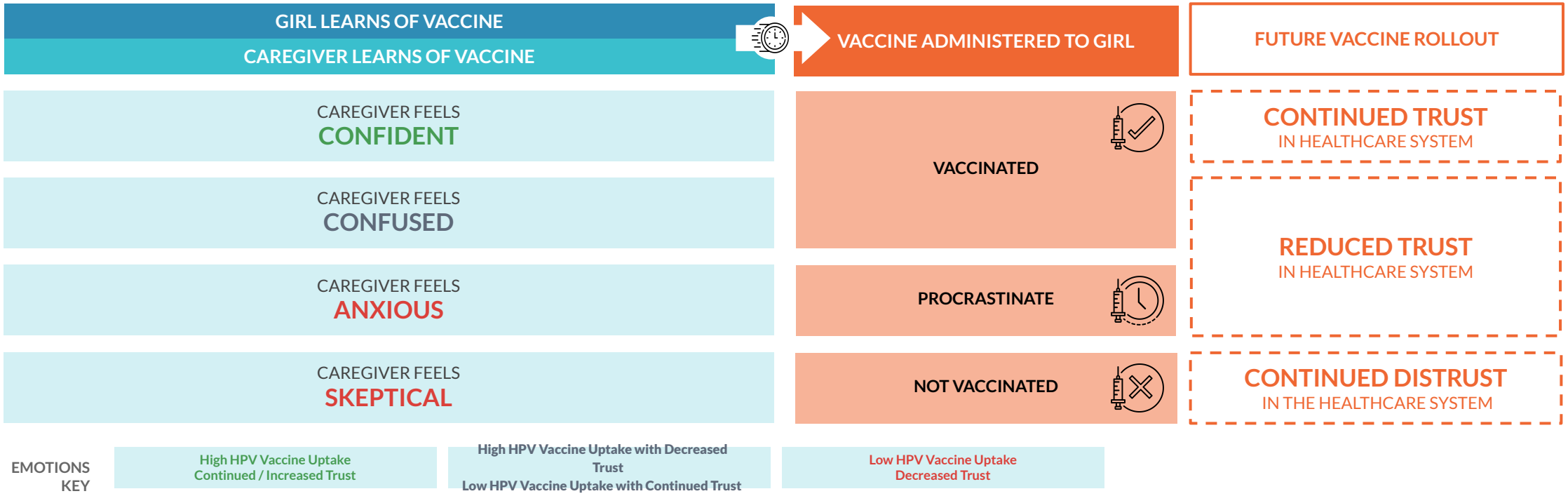


Click *here* for more information about Journey 1

Decision Journey | Key Takeaways

SERVICE DELIVERY INTERACTION | J2

Depending on how the different elements of the HPV decision making and uptake framework interact with the service delivery experience, independent pathways are experienced within each of the journeys. Each pathway is characterised by a unique emotion experienced by caregivers, and differential HPV vaccine uptake and future vaccine trust implications:



Click *here* for more information about Journey 2

Decision Journey | Key Takeaways

SERVICE DELIVERY INTERACTION | J3

Depending on how the different elements of the HPV decision making and uptake framework interact with the service delivery experience, independent pathways are experienced within each of the journeys. Each pathway is characterised by a unique emotion experienced by caregivers, and differential HPV vaccine uptake and future vaccine trust implications:

CAREGIVER LEARNS OF VACCINE	GIRL LEARNS OF VACCINE	VACCINE ADMINISTERED TO GIRL	FUTURE VACCINE ROLLOUT
CAREGIVER FEELS **CONFIDENT**	GIRL LEARNS OF VACCINE	VACCINATED	**CONTINUED TRUST** IN HEALTHCARE SYSTEM
CAREGIVER FEELS **ANXIOUS**	GIRL DOES NOT LEARN OF VACCINE	PROCRASTINATE	***CONTINUED LOW TRUST** IN THE HEALTHCARE SYSTEM

*While trust in the healthcare system is generally present, caregivers may be wary of 'new vaccines'. With this uncertainty, their information seeking efforts may lead to further doubts about the 'new vaccine'. This could lead to erosion of trust in the healthcare system in the long term.

EMOTIONS KEY

- High HPV Vaccine Uptake Continued / Increased Trust
- High HPV Vaccine Uptake with Decreased Trust
  Low HPV Vaccine Uptake with Continued Trust
- Low HPV Vaccine Uptake Decreased Trust

Click *here* for more information about Journey 3