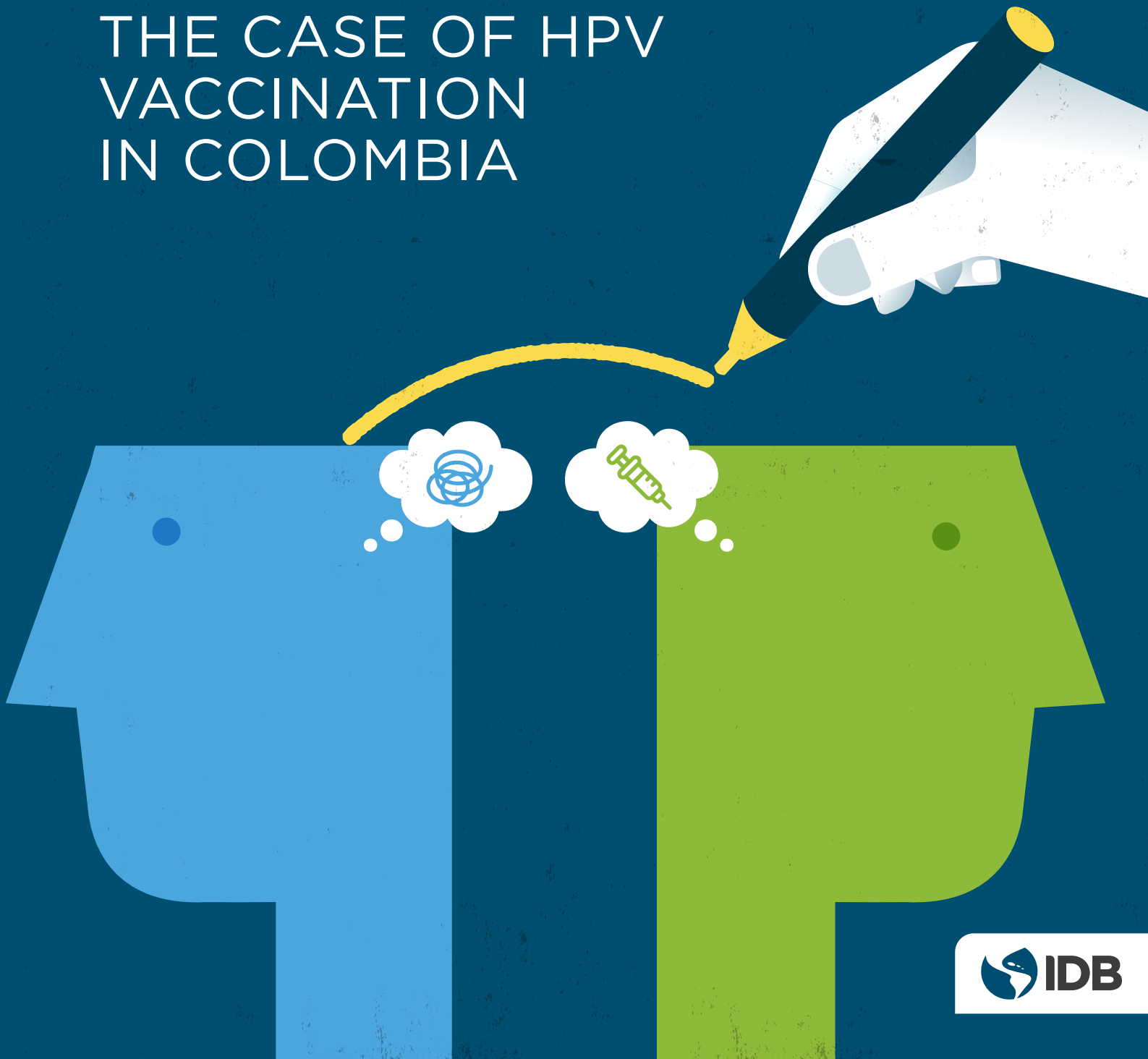
A BEHAVIORAL ECONOMICS TOOLKIT

THE CASE OF HPV VACCINATION IN COLOMBIA



IDB

One reason for high health care costs is that patients fail to follow their treatment regimen.

Richard Thaler

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THE CASE OF HPV VACCINATION IN COLOMBIA

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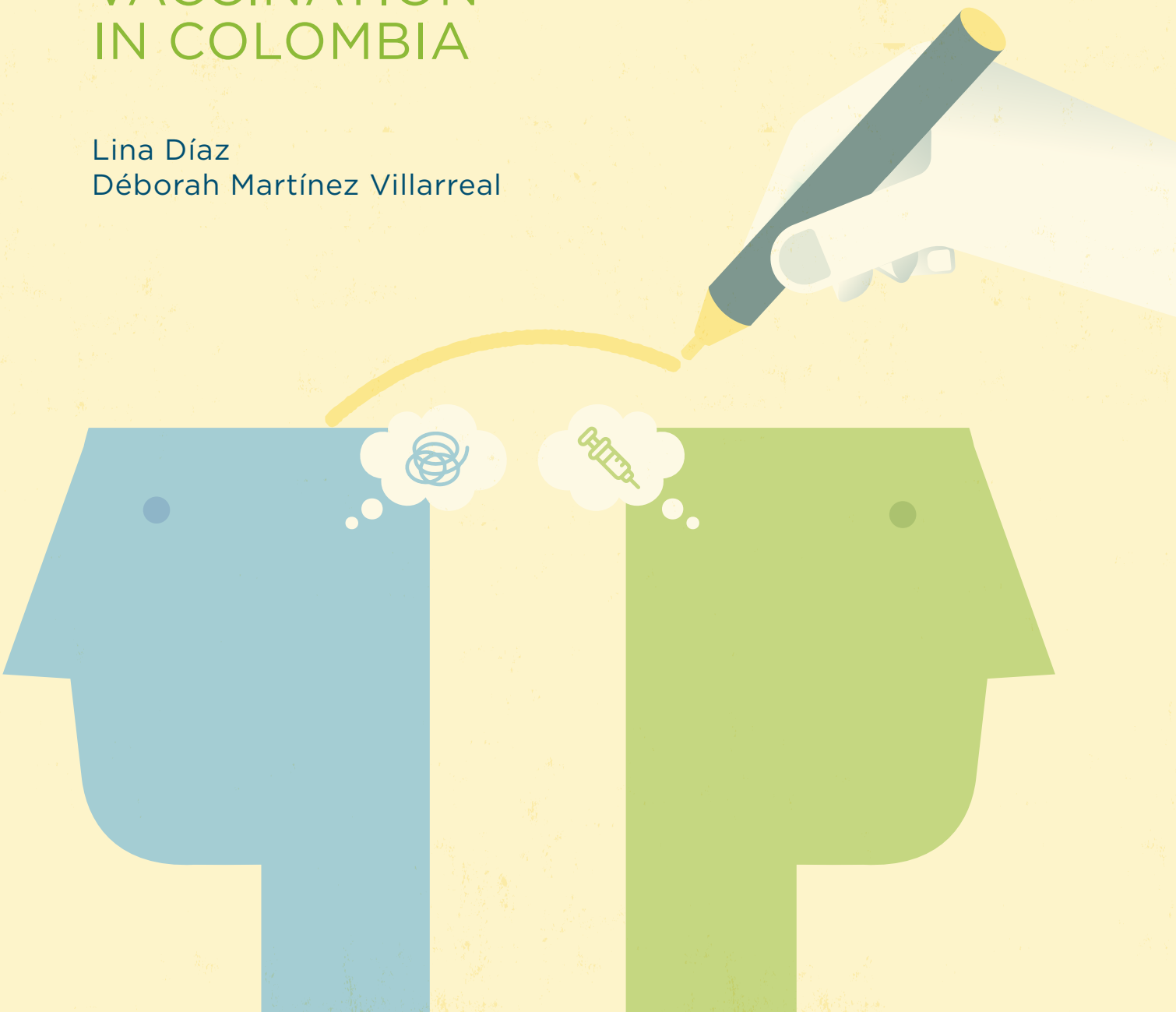

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CONTENTS

1 ABOUT BEHAVIORAL ECONOMICS

If you are reading this toolkit, you are most likely a person who has made inconsistent decisions. If you doubt that, ask yourself, have you ever over-snoozed your morning alarm or eaten beyond the point of feeling full?

Humans, as it turns out, often fail to act in their own best interest. We fail to follow through on intended goals, and we undervalue the importance of the future. We also take mental shortcuts, instinctively overgeneralizing from events and believing in patterns that do not exist.

In short, we often make judgments and solve problems in ways that are harmful to our long-term welfare.

Because these irrational behaviors do not fit standard predictions from economic models, economists and psychologists have integrated findings from their two disciplines to increase their understanding of human decision-making. With the tools and insights that psychology offers, behavioral economists evaluate ways to correct some of our irrational tendencies or biases to help us make better choices that improve our well-being and, therefore, society's welfare.

IDB BEHAVIORAL ECONOMICS GROUP

The IDB Behavioral Economics Group was established in 2018 with the goal of using behavioral insights to improve lives.

Our work is based on identifying biases and the choice architecture[1] that prevent people from making better decisions and on improving them with low-cost/high-impact solutions. After more than a decade of partnering with local and national governments in Latin America and the Caribbean, both before and after the establishment of the Behavioral Economics Group, **the IDB has accumulated innovative findings on:**

- EDUCATION
- GENDER
- HEALTH
- COVID-19
- SOCIAL SECURITY AND PENSIONS
- TAXES
- PUBLIC ADMINISTRATION
- SMALL & MEDIUM ENTERPRISES

Below are some examples of the work that we have done and the work that you could do by learning behavioral economics and our methodology.

In Chile, we helped students **choose more profitable courses of study.** Since the initial behavioral problem had to do with availability and confirmation biases, we exposed the students to information on financial aid—that would allow them to pursue those more profitable and sometimes more expensive courses of study—and the financial returns of the resulting careers. This helped correct the biases that were making students choose less lucrative courses of study.

One of our most important activities in the region has involved **increasing voluntary tax compliance.** The behavioral problem we addressed in these cases was people's lack of understanding of notifications or simply procrastination in regard to paying taxes. In Colombia, we used different methods ranging from letters to in-person visits to remind delinquent taxpayers to pay their tax debts. In Argentina, we redesigned the notifications and explained how much taxpayers needed to pay on late tax payments instead of letting them compute the

[1] Choice architecture refers to the design of the context in which people make decisions to influence behavior in a specific direction.

compounded interest calculation. The latter has been particularly effective in getting delinquent taxpayers to meet their obligations. The results of both cases were highly successful.

Finally, we have **increased vaccination rates in different countries.** As was the case in Peru and Colombia, parents forget to vaccinate their children or procrastinate on their intention. We sent reminders designed with behavioral economics principles, such as planning tools, to increase the probability of parents following through with their intention. In both examples, we increased vaccination rates and helped parents protect their children.

In this toolkit, you will learn about an intervention designed to increase HPV vaccination rates in Bogotá by following the steps of our methodology: define, diagnose, design and test.

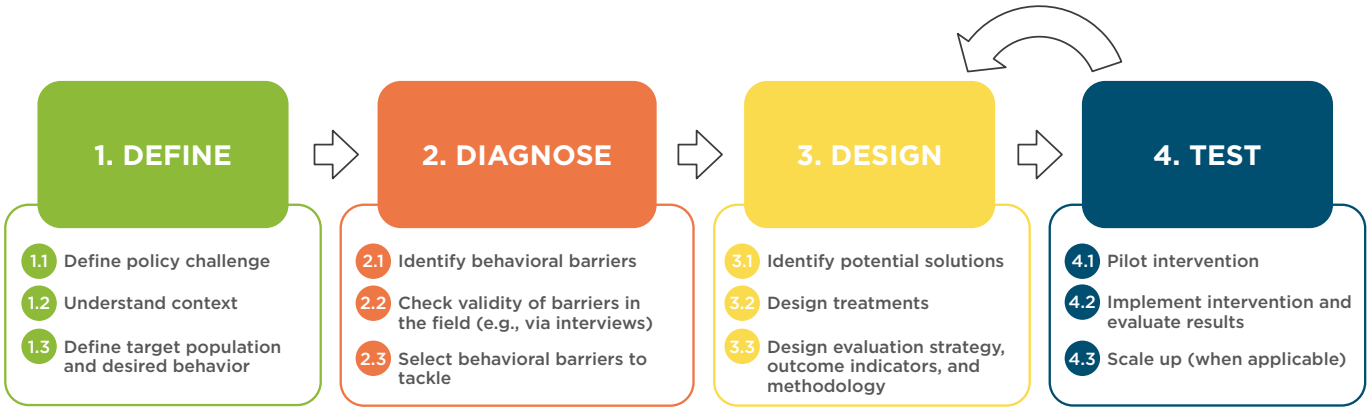
This guide will explain in detail why we chose the population targeted, the behavioral barriers we found, and the designs that proved most helpful for this intervention. This toolkit aims to **give practitioners and policymakers the tools to design interventions** informed by behavioral economics to increase HPV vaccinations in their area.

METHODOLOGY AND PRACTICAL GUIDE

Although behavioral economics interventions are low-cost, designing and testing them requires a rigorous methodology. In Figure 1 below, you can review the methodology that we use at the Behavioral Economics Group.

Over the following pages, we will describe our process and lessons learned from our HPV project in each of the four steps.

FIGURE 1. Behavioral Economics Group Work Methodology



CASE STUDY HPV VACCINATION IN COLOMBIA

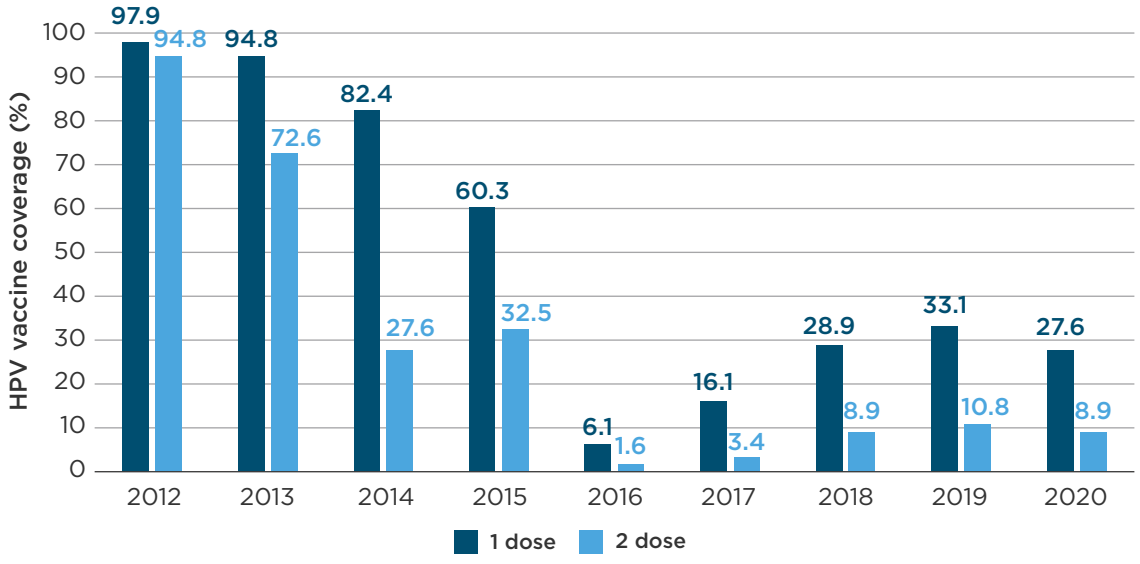
1. DEFINE

The Behavioral Economics Group is usually approached by policymakers from different countries that face significant policy challenges. However, sometimes we are approached by organizations and NGOs. In the case we will describe below, the American Cancer Society and the *Liga Colombiana Contra el Cáncer,* two organizations with a mission to eradicate cancer, recruited us to be part of a team devoted to addressing **the challenge of record-low HPV vaccination rates in Bogotá, Colombia.** We strengthened the team by creating a coalition with the Colombian Government and the academic sector of the country. The governmental bodies we worked with were the Secretariat of Health of Bogotá and the Ministry of Health of Colombia. The Behavioral Government Lab at *Universidad del Rosario* served as the academic arm of the coalition.

1. DEFINE

- 1.1 Define policy challenge
- 1.2 Understand context
- 1.3 Define target population and desired behavior

FIGURE 2. HPV Vaccinations in Bogotá, Colombia



Source: Author's elaboration based on data from the Information System of the Expanded Immunization Program (PAI) of the Ministry of Health Social Protection of Colombia.

1.1 Defining the Policy Challenge

HPV vaccination rates are at a record low in Bogotá, Colombia.

1.2 Understanding the Context

According to the Ministry of Health and Social Protection, **cervical cancer is the leading cause of death from cancer among women aged 30 to 59 years in Colombia.**

Unlike many other cancers, cervical cancer is almost always caused by a virus, the human papilloma virus (HPV), which can be transmitted through intimate skin-to-skin contact, including oral, vaginal, and anal sexual contact.

The prevalence of HPV in Latin America and the Caribbean is 16%, the second highest in the world after countries in Sub-Saharan Africa (24%).

Fortunately, **the risk of HPV infection and the development of cervical cancer can be greatly reduced through an HPV vaccine administered free of charge in Colombia to girls and adolescents between the ages of 9 and 17.** However, HPV vaccination coverage in Bogotá was lower than expected, and only 6% of 9-year-old girls were fully inoculated with two doses of the HPV vaccine.

The HPV low vaccination rate contrasts with high rates for other vaccines also free of charge in Colombia. An important factor contributing to the low rate is the **mistrust of the HPV vaccine's safety.** In 2014 there was an event in a small town called Carmen de Bolívar that was widely publicized and has lingered in the minds of many Colombians. Over 500 girls reported adverse symptoms after being vaccinated against HPV. These included headaches, paresthesia (a prickling or tingling sensation), shortness of breath, chest pain, and fainting. Although an epidemiological study concluded that the symptoms had no biological relationship with the HPV vaccine, by the time of the intervention, vaccination rates had not returned to previous levels. Another aspect differentiating the HPV vaccine **is its recommended age compared with other vaccines for children.** Prior to the administration of the HPV vaccine, children between the ages of 0 and 5 receive 20 other vaccines which are requested by public schools when children enroll. Given that the HPV vaccine is administered starting age 9, there is a period of 4 years that separates the HPV vaccine from other vaccines, and the HPV vaccine has never been mandatory to access education.

1.3 Defining the Target Population and Desired Behavior

Policymakers can address a problem like this one from multiple angles. For instance, it can be ameliorated by reminding doctors of the importance of HPV vaccination, training vaccinators on motivating parents to vaccinate their children against HPV when they get other vaccines, starting a massive extramural campaign to vaccinate children, or improving the physical location of vaccination centers to attract demand, among other possibilities.

TAKE NOTE

For behavioral economics to be helpful, the problem needs to be narrowed down to a specific action that needs to be changed in a target population.

A behavioral problem is composed of a target population and the desired behavior of that population

TARGET POPULATION | DESIRED BEHAVIOR

and it can be defined using the following format:

The target population is doing X, we want to help them do Y.

Our team talked to many stakeholders in the vaccination context to understand sentiment on the topic. Some stakeholders were:

- POLICYMAKERS AND PUBLIC ADMINISTRATORS
- INSURANCE COMPANIES
- DOCTORS
- VACCINATORS
- NON-PROFIT HEALTH ORGANIZATIONS
- TEACHERS
- PARENTS

We could have chosen any of these stakeholders as our target population, but availability of databases or data to construct one and run a controlled experiment was an important factor when choosing the target population.

In Colombia, administrative records, specifically the health records the government partner had access to, were key for choosing parents as the target population. These records showed whether a child was vaccinated against HPV and the contact information of the parent whom we could nudge.

Most importantly, these health records are updated constantly. In other words, if a child gets vaccinated, the record immediately changes to reflect this. The conditions were optimal so we could narrow down to "vaccinating" as the behavior we could work to encourage.

BEHAVIORAL PROBLEM:

Parents in Bogotá are not vaccinating their daughters against HPV.

We want to help them vaccinate their daughters against HPV.

Notice that if we had chosen doctors as our target population, the behavior we would have chosen to nudge would have been different. The behavioral problem would have read like this: "Medical doctors do not recommend the HPV vaccine for girls and adolescents. We want to help medical doctors recommend the HPV vaccine." There is nothing wrong with choosing other target populations if it helps address the policy challenge. However, the project will look different depending on the chosen population. In the next section, we will explain how to diagnose why parents decide not have their daughters vaccinated against HPV.

2. DIAGNOSE

The first step to uncovering the contexts and behavioral biases preventing parents from vaccinating their daughters is mapping all the decisions and action points a parent had to go through from the beginning to the end of their journey. Second, one must visualize the contextual, structural, and psychological barriers that can appear at each node.

2. DIAGNOSE

- 2.1 Identify behavioral barriers
- 2.2 Check validity of barriers in the field (e.g., via interviews)
- 2.3 Select behavioral barriers to tackle

For this specific project, we worked with insurance companies, health authorities, and trained medical doctors to obtain a detailed picture of the process and a comprehensive list of potential barriers at each moment of decision and moment of action.

Once we created a list of hypothesized behavioral barriers, we developed an instrument to interview people in the field to validate our hypotheses.

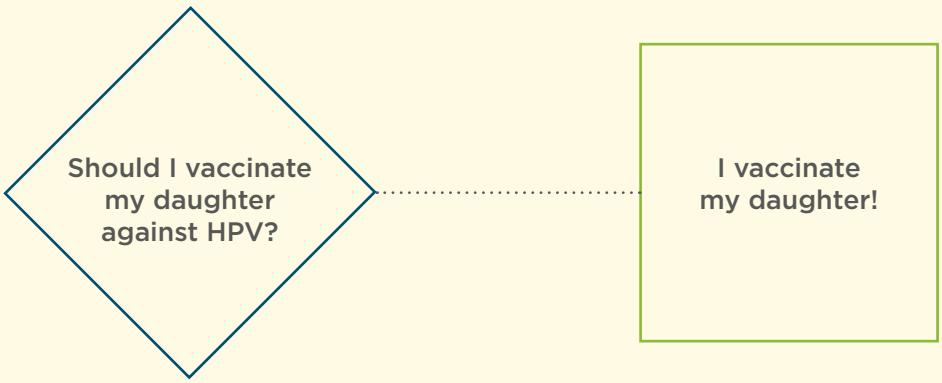
With the help of our partners, especially the *Liga Colombiana Contra el Cáncer*, we recruited parents with daughters who had not been vaccinated before and parents who had vaccinated their daughters once before, but who had not completed the vaccination regimen.

TAKE NOTE

Now, it is time to think about what contexts and behavioral biases are preventing our target population from engaging in the desired behavior. In our case, we will ask what might be stopping parents from taking their daughters to get vaccinated.

A decision-action map is useful for mapping the behavioral process. The diamonds represent the decisions someone must make, and the squares represent the action(s) they need to take. Below each node, one can write a list of contexts, biases, or structural barriers that could be problematic at that point.

DECISION-ACTION MAP



A behavioral mapping sheet like the one presented in Table 1 is useful for combining the contextual features and the behavioral biases into behavioral barriers that are impacting the decision by parents to vaccinate their daughters and follow through on their intention. Next are some examples of the behavioral barriers we hypothesized for our HPV case.

TABLE 1. Behavioral Mapping Sheet and Examples of Behavioral Hypotheses

Node	Context	Behavioral bias	Behavioral barrier
Decision	Parents don't discuss vaccination of their daughters with each other.	Social norms	Parents do not take their daughters to get vaccinated against HPV because they believe other parents have not done so either.
Action	Parents have many things to do during the day and don't have time to take their daughters to the vaccination center.	Scarcity	Parents do not take their daughters to get vaccinated because they do not have the cognitive resources to plan the trip to the vaccination center.
Action	Parents are not reminded to take their daughters to get vaccinated against HPV.	Procrastination	Parents leave the action of taking their daughters to get vaccinated for later and then forget about it.
Decision	HPV is a sexually transmitted disease.	Lack of information	Parents decide not to vaccinate their daughters because they do not know that young girls can receive the vaccine.
Decision	Parents remember a case of a vaccine side effect that became viral in the news ("Carmen de Bolívar event").	Availability bias	Parents decide not to vaccinate their daughters because of the erroneous belief that side effects are very likely to happen due to the Carmen de Bolívar event coming to mind.

After completing the interviews and analyzing the responses, we found the following themes.

Availability Bias

The media phenomenon involving the vaccine, in which several minors from the municipality of Carmen de Bolívar assured that they suffered fainting because of the vaccine, is easily remembered and has been assimilated into the country's culture. Thus, the availability bias is present in parents' belief that side effects are more likely than they are in reality because of the ease with which they remember the events in Carmen de Bolívar. All parents and doctors remembered this episode. However, since it was not a factor that prevented some families from getting their girls vaccinated with the first dose, this indicates that there may be other barriers that lead these parents to **procrastinate or defer vaccination.**

Salience

Bogotá's health system is weak in providing HPV vaccination opportunities. Evidence from our interviews indicates that vaccination is no longer a significant priority in children's health considerations after age 5. In general, there is a lack of moments of reflection, choice, and opportunities to take action on HPV vaccination for girls ages 9-17 in Bogotá.

Parents wait for the doctor to recommend HPV vaccination rather than having it in mind as the natural next step on the vaccination schedule. Related to the previous point, parents are unsure when they should vaccinate their daughters and wait for doctors to recommend the vaccine. However, all interviewed doctors report that sometimes they do not have time to talk about the vaccine during their appointments because they usually have more urgent issues.

The absence of discussions and reminders leads parents to take a passive attitude toward HPV vaccination.

Present Bias

There are no visible short-term benefits of having the HPV vaccine due to their preventive nature.

Trust

Parents feel that the government does not strongly support the vaccine, which creates distrust in the HPV vaccine.

Most parents and health professionals express a desire for more support from the government. The health professionals in our sample believe that a more explicit endorsement by the government would make parents more likely to accept the vaccine recommendation. **Also, they expressed their desire to be provided with more information to make informed decisions.**

Among the behavioral hypotheses for which we found no evidence are the following:

Time Constraints

Parents do not express an inability to take their daughters to vaccinate due to a lack of time. On the contrary, they say they would find time if it were necessary to vaccinate their children in general.

Encourage Sexual Intercourse

Parents do not mention concern that their daughters may become sexually active due to the HPV vaccination.

Justifying

Parents feel fully responsible for the decision to vaccinate their children.

Lack of Knowledge

Most parents were knowledgeable about what vaccines are, what the HPV vaccine is for, and cervical cancer.

It is worth mentioning that the group of parents interviewed had a medium to high income profile. However, one person of a lower socioeconomic status and Venezuelan nationality displayed a very different profile than the other parents in the sample. This person showed a lack of knowledge about HPV and cervical cancer and expressed time constraints and lack of cognitive resources to take charge of their children's health. There was no availability bias, as they did not remember the Carmen de Bolívar incident (possibly due to their foreign status).

We learned the following lessons about the context of HPV vaccination in Colombia:

The vaccination card is no longer a reference for the HPV vaccine. Many parents do not know that the vaccination card contains the HPV vaccine, and they mistakenly believe that it does not. The card is not widely used to record the HPV vaccine.

Informed consent is not a barrier to vaccination. No parent or health professional articulated concerns about the required informed consent. A highly experienced nurse explained that no family had ever regretted or backed out from vaccinating their daughters after signing the informed consent.

Parents are open to extramural vaccination. Parents are open to obtaining the vaccine in different locations, i.e., at home by their health insurance company or a state vaccinator, if health protocols are followed. They mentioned that saving time would constitute a benefit to them.

Parents receive communications and make appointments through their health insurance company's website. Parents mentioned that they receive text messages and emails. In most cases, they said they use the website to schedule their doctor's visits.

In the next step, we will explain how we designed our intervention for parents in Colombia and what were the most impactful designs.

3. DESIGN AND TEST

Once we had narrowed down some themes that summarized the barriers and contextual features we found in the field, it was time to design the intervention. We conducted a series of design thinking activities with all team members, and we prioritized some designs that ranged from micro-incentives to informational videos. However, the Secretariat of Health of Bogotá had, in the past, sent text messages to parents in the city so they would vaccinate their kids against other diseases and had an established relationship with an implementing firm.

3. DESIGN

- 3.1 **Identify potential solutions**
- 3.2 **Design treatments**
- 3.3 **Design evaluation strategy, outcome indicators, and methodology**

Considering the relevance and scalability of the intervention, we chose the text messaging channel for messages designed with behavioral economics principles.

TAKE NOTE

To devise potential solutions to the behavioral barriers you prioritize, we recommend asking yourself the following questions:

How might we change the context behind each specific barrier?

How might we correct the bias causing each specific barrier?

What solutions can be identified in the literature for each specific barrier?

What channels might we use to reach the target population to change the context or bias causing this barrier?

Could I adapt another design that has impacted my life to this project to help my target population?

Once we think of potential solutions, we proceed to design the treatments for the intervention.

Our team, in coordination with the Secretariat of Health of Bogotá, and the Ministry of Health of Colombia, implemented several experiments. All experiments were implemented through text messaging, but differed in the behavioral tool used to prepare the messages. We separated the sample into 6 experiments, each varying in the number of treatments. All experiments had one control group. Also, each experiment had one policy control group that emulated some of the messages that the Secretariat had sent, which allowed us to compare messages with behavioral economic designs and messages without them.

We also had two different populations: the parents who had not vaccinated their daughters with the first dose and the universe of parents who had already vaccinated their daughters once and just needed to complete the vaccination regimen. The number of parents who participated was 131,124 in the first-dose experiment and 43,057 in the second-dose experiment. Table 2 shows the messages that proved statistically significant.[2]

[2] To learn more scientific details about the experiments, please visit our project's website: https://behavioral.iadb.org/en/our-projects and read our forthcoming academic papers on this project.

TABLE 2. Most Impactful Text Messages by Behavioral Barrier Theme

Behavioral barrier theme	Design recommendation	Behavioral element of design	Message content
Availability bias 	Inform about HPV vaccine safety by comparing it to other vaccines.	Reference points	*Hi [Mother's name], did you know that the HPV vaccine is as safe as other vaccines in the vaccination plan? Secretariat of Health.*
	Use messages to show that HPV vaccination is a norm they need to conform to.	Social norms 1. Prescriptive norms 2. Trending norms 3. Dynamic norms	*Hi [Mother's name], 6 out of 10 parents in your area missed the opportunity to vaccinate their children against HPV and protect them from cancer ☹ Secretariat of Health.* *Hi [Mother's name], 4 out of 10 parents in your area vaccinated their children to protect them from cancer, an XX% increase since 2016. Secretariat of Health.* *Hi [Mother's name], Since 2016, 4 out of 10 parents in your area began to vaccinate their children against HPV and protect them from cancer. Secretariat of Health.*
Salience 	Use the doctor figure they are waiting to hear from.	Messenger effect	*Hi [Mother's name], medical doctors recommend that you vaccinate your daughter against HPV. There is an HPV vaccine waiting for your daughter. Secretariat of Health.*
	Use soft defaults and endowment language to keep vaccination top of mind.	Defaults	*Hi [Mother's name], you have an appointment on the xx of *MONTH* at (X) am/pm to vaccinate your daughter against HPV. Secretariat of Health.*
	Leverage the need for completion by framing the HPV vaccine as the last one of a larger set.	Pseudo sets	*Hi [Mother's name], your daughter is supposed to have 21 vaccines on her vaccination card, and she is still missing the vaccine against HPV. Secretariat of Health.*
Present bias 	Use emotions to remind parents of their responsibility to care for their children.	Soft shame	*Hi [Mother's name], your daughter does not have the HPV vaccine yet. ☹ Secretariat of Health.*
	Communicate the negative consequences of not being vaccinated against HPV.	Negative framing	*Hi [Mother's name], did you know that in 2018, 974 women with HPV developed cancer in Bogotá? Secretariat of Health.*

TABLE 2. Most Impactful Text Messages by Behavioral Barrier Theme (Cont.)

Behavioral barrier theme	Design recommendation	Behavioral element of design	Message content
Trust 	Reaffirm institutional support for the vaccine.	Trust	*Hi [Mother's name], the Secretariat of Health recommends that you vaccinate your daughter against HPV. Secretariat of Health.*
	Disseminate institutional resources that signal that the government cares about the cause.	Signaling	*Hi [Mother's name], vaccinate your daughter against HPV. Check here to find the closest vaccination point https://bit.ly/ssaludbog. Secretariat of Health.*
Procrastination 	Use simple reminders to counter forgetfulness.	Simple reminder	*Hi [Mother's name], remember that your daughter still needs the second dose of the HPV vaccine. Secretariat of Health.*
	Provide resources for people to plan their visit to vaccination centers (interactive map in this case).	Planning tools	*Hi [Mother's name], vaccinate your daughter against HPV. Check here to find the closest vaccination point https://bit.ly/ssaludbog. Secretariat of Health.*

4. POLICY IMPLICATIONS

This behavioral intervention effectively reached thousands of parents and helped advance HPV vaccination in Bogotá in a cost-effective manner.

We witnessed how a simple message with the right content can go a long way. **However, the race against cancer involves combining efforts like this with other strategies to ensure high HPV vaccination rates.** A coordinated effort should involve stakeholders at all levels, such that the government promotes the vaccine, health insurance companies prioritize it, doctors recommend it, and nurses applying it provide timely information, among other actions.

Besides identifying the most impactful content for text messages, this experiment held important policy implications for future efforts to increase HPV vaccination.

First, diagnosing the challenges that prevent parents from getting their girls vaccinated is essential, keeping in mind that vulnerable populations may require special attention. **Second,** when there are safety concerns around a vaccine it is vital to show a consistent stance among different stakeholders to reassure individuals of the veracity of the information. **Third,** personalizing and signing messages may be as important as the message itself. **Fourth,** for the second dose of the vaccine, all parents may need is a simple reminder.

In the next section, we invite you to think like a behavioral economist and build your own HPV case. With our guidance, we hope you can develop impactful designs to help parents vaccinate their daughters in your area. We strongly encourage you to work with academics or experimental economics practitioners to test the designs that you come up with, and we strongly discourage you from generalizing your ideas before subjecting them to rigorous testing.

TAKE NOTE

Note of caution: Sometimes what we think will work does not—creating a "boomerang effect," where an intervention promotes the opposite behavior of what it was designed for. An example of this happened during the implementation of a social norms experiment aimed at decreasing household electricity consumption. Since consumption levels across households varied, when a message informed households about the average consumption in their neighborhood, some households below the average increased their consumption. The consensus is that this detrimental effect among high consumers could be prevented by including a prescriptive social norm (e.g., happy face or frowning face) to reinforce the behavior one wants to promote.

Considering all the potential unintended consequences of any intervention is crucial, not only for the purposes of the intervention itself but for all other outcomes. For example, during the intervention, we paid special attention to vaccine availability and noticed that HPV vaccines ran out after week 4. We stopped the intervention immediately to prevent the detrimental effect of furthering distrust and creating a bad reputation for the institution that was sending the message. **Only after we were sure vaccines were available did we resume text message delivery.**

WORKSHOP YOUR OWN HPV VACCINATION CASE

STEP 1. DEFINE

1.1 Policy Challenge

Think of the current context of HPV vaccination in your area. Something to keep in mind is the area where you want to work. Maybe you want to undertake a local campaign or a school campaign. Use the field below to answer what the current policy is and why this is a problem.

Define the policy challenge you want to tackle in the space below. Summarize as succinctly as possible.

1.2 Target Population and Desired Behavior

Policymakers usually face big challenges that can be addressed from multiple angles. A behavioral challenge narrows down to a specific action that needs to be changed in a target population. Once you identify this action, you can use the tools of behavioral science to find a solution.

Let us define the specific behavioral problem by following the logic below.

1.2.1 Target Population

The target population could be any of the actors who play a role in the vaccination challenge. **In the case of HPV vaccination, the following are potential target populations:**


PARENTS


DOCTORS


VACCINATORS


ADOLESCENTS


GOVERMENT EMPLOYEES


INSURANCE COMPANY EMPLOYEES

Usually, it takes time to understand the context well enough to choose the actor that you want to focus on. We encourage you to do desk and field research to determine the most viable target population.

Think about the potential target populations and write or draw them in the circles below:

Choose the target population in the space below.

1.2.2 Desired Behavior

A rule of thumb when choosing a behavior is thinking that a behavior is something we can see.

TARGET POPULATION + DESIRED BEHAVIOR

To make it easy, let us use the following format:

"The target population is doing X. We want to help them do Y."

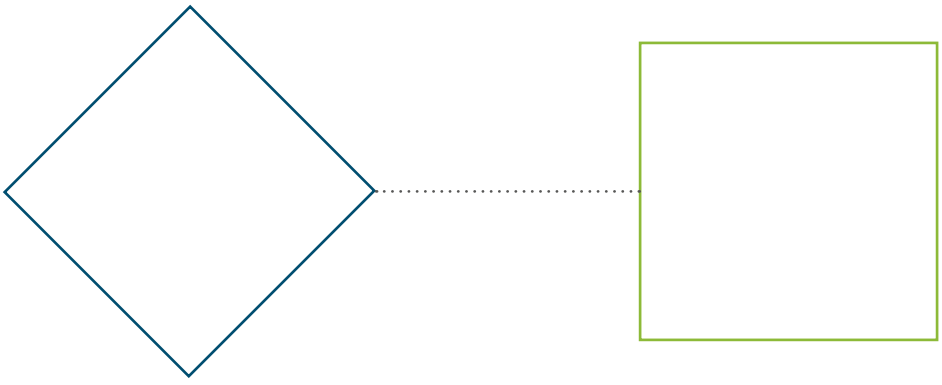
STEP 2. DIAGNOSE

2.1 Build a Decision-Action Map

Now, it is time to think about what contexts and behavioral biases are preventing the target population from engaging in the desired behavior.

The first step is to draw the decision-action map, which helps you think about all the barriers present at the time of making a decision and taking the corresponding action.

In the case of an HPV intervention, the decision-action map will help us think about all the contexts and biases that impact **decisions** by the target population about vaccinating girls and adolescents against HPV and all the contexts and biases that impact **actions** when there is already an intention.



Decision node

Action node

2.2 Identify Behavioral Barriers

Think of which contexts and behavioral biases are preventing the target population from making the desired decision and carrying out the desired action.

Node	Context	Behavioral bias	Behavioral barrier

QUICK CHECK!

Look at the glossary at the end of the document and ask yourself – is this bias impacting my population when they are supposed to make the decision? Is this bias present at the moment of action?

Some biases that might be present at the decision node: present bias, social norms, availability bias, salience.

Some biases that might be present at the action node: hassle factors, scarcity, procrastination, overconfidence, cognitive overload.

This is the time to check the validity of the barriers identified in the field, for example, by conducting interviews and focus groups. This can be a time-consuming task, but it is necessary to design solutions that will "move the needle."

STEP 3. DESIGN

Now, it is time to think of potential solutions to the behavioral barriers identified in the diagnosis. You might find more than one potential design for one specific behavioral barrier.

Ask yourself the following questions to come up with designs:

How might we change the context behind each specific barrier?

How might we correct the bias causing each specific barrier?

What solutions can be identified in the literature for each specific barrier?

What channels might we use to reach the target population to change the context or bias causing this barrier?

Behavioral barrier	Potential design 1	Potential design 2	Potential design 3

After completing the previous table, you can focus on designing the elements of your intervention. Choose your favorite design from the table above:

Use the space below to sketch your design or write down how you would carry out your idea in detail. Are you already thinking about an experiment you can run in the field? We invite you to write it down in as much detail as possible.

We encourage you to seek the assistance of a behavioral economist to design the evaluation strategy and carry out the remaining steps of the methodology. **GOOD LUCK, DESIGNERS!**

GLOSSARY

Anchoring: See priming. A particular form of priming by which an initial exposure to a certain number of attributes serves as a point of reference that affects subsequent judgments. When faced with a decision under uncertainty, individuals attribute excessive weight to the initial exposure, which, without further awareness, distorts estimates and judgments.

Availability Heuristic: The tendency of individuals to estimate the probability of a future event based on how readily representative examples of such an event come to mind.

Choice Complexity: The complexity of a set of choices increases as the number of equally valued alternatives increases and/or the number of attributes used to describe those alternatives increases. As the complexity of the choice set increases, the amount of time the individual takes to choose one of the alternatives increases.

Cognitive Overload: Refers to the amount of mental effort and memory used at a given moment in time. Overload occurs when the volume of information provided exceeds an individual's capacity to process it. People have limited amounts of attention and memory, which means they are not able to process all the information available.

Commitment Device: A choice made in the present that restricts future options to those reflecting long-term objectives. Commitment devices therefore serve as mechanisms for mitigating future impulsive behavior. Based on people's tendency toward inertia, they can help address time inconsistency and cognitive overload.

Defaults: Automatically preset courses of desired action that are effective when the individual making the decision does not change them. This tool is generally used to address cognitive overload or present bias, supported by people's tendency to maintain the status quo.

Descriptive Social Norms: See social norms. Norms that describe how a social group behaves, without regard for whether the behavior is good or bad. Presenting people with norms can help change their behavior.

Empathetic Identification: Refers to the capacity of a person to imagine him- or herself living someone else's experience.

Feedback Mechanism: An effective tool to enhance awareness of the consequences of various choices by filling knowledge gaps and/or fostering the search for efficient alternatives.

Framing: The way in which information is presented, influencing people's conclusions. Options may, for example, be presented in a way that highlights their positive or negative aspects, leading each to be perceived as relatively more or less attractive.

Gamification: The use of game elements, such as challenges, accumulation of points, timely feedback, badges, and rewards, into a real-life experience. Once tuned in to the game, nudges might prove more efficient for behavioral change.

Group Identity: Refers to people's innate sense of belonging. They have a need to belong to groups they identify with.

Hassle Factors: Seemingly small inconveniences, such as having to read a lot of information or take an extra small step to complete an action, that can hinder or disrupt decision-making processes.

Identity Priming: See priming. Provides a sense of one's self based on one's own physical characteristics, memories, experiences, relationships, group memberships, and values.

Intention-Action Gap: The idea that people do not always do the things that they intend to do, due either to failing to get started or getting derailed along the way.

Lack of Information: Refers to a lack of relevant information because, for instance, information is difficult to obtain, scarce, or hard to understand.

Limited Attention: People's limited ability to process information even when the relevant information is, in principle, available. As a result, they may ignore relevant pieces of information unless it is communicated clearly and simply.

Loss Aversion: Refers to the idea that a loss causes distress that is greater than the happiness caused by a gain of the same size.

Lottery: A contest involving winning a prize by a random drawing of a number. This tool is used in behavioral interventions relying on bias that leads people to overestimate the probabilities of winning a reward.

Mental Model: The way that people make sense of the world and simplify its complexity. It rules people's intuitive perceptions about their own acts and consequences.

Micro-Incentives: Rewards or punishments offered to decision-makers with the aim of influencing their behavior or decisions. They may be tangible, such as food or money, or intangible, such as public recognition. In contrast to the incentives that form an integral part of policy design, these are small, low-cost, and easy-to-apply signals that complement the original design. Offering micro-incentives can thus help to mitigate loss aversion and present bias.

Mistrust: A lack of trust that occurs when one party is unwilling to rely on the actions of another party in a future situation.

Moral Suasion: The act of persuading a person or group to act in a certain way through theoretical appeals, persuasion, or implicit and explicit threats.

Motivated Reasoning: The tendency of people to interpret and process information in a way that conforms with preconceived beliefs and positions. Motivated reasoning is related to confirmation bias but describes cognitive processes more broadly, including information selection, memory encoding, attitude formation, judgment, and decision-making, that are all influenced by motivations and goals.

Nudge: To make a change to the choice architecture of the decision-maker without forbidding any other options or significantly changing economic incentives.

Optimism Bias: The tendency to underestimate the probability of negative events and overestimate the probability of positive ones.

Overconfidence: Also called superiority bias, the tendency for people to overestimate or exaggerate their own capacity to perform a certain task.

Partisanship: Attitude, feeling, or behavior of articulating support for a person, policy, organization, or party without further consideration for the concrete issue at hand. Partisanship is often a result of early learning or socialization.

Peer Mentoring: A form of mentoring that usually takes place between a person who has lived through a specific experience and a person who is new to that experience. An example would be an experienced student being a peer mentor to a new student—the peer mentee—in a particular subject or in a new school.

Personalization: A mechanism shown to improve responsiveness and outcomes by making information personal based on individual characteristics and traits of identity. This could take the form of approaching someone by using his or her name, nationality, or profession, among other characteristics.

Planning Tools: Prompts designed to encourage individuals to make a concrete action plan to achieve an important goal by helping them to break down the goal into a series of small, specific tasks and to anticipate unforeseen events. These prompts often encourage the individuals to write down relevant information, such as the date, time, and place of a commitment.

Prescriptive Social Norms: See social norms. Norms that describe what society approves or disapproves of—that is, what is considered to be right or wrong—regardless of how individuals actually behave. Such norms are useful for reaffirming or encouraging individual behaviors that are considered positive while discouraging negative ones.

Present Bias: The tendency to choose a smaller gain in the present over a large gain in the future. Also known as hyperbolic discounting, it is related to the preference for immediate gratification over the possibility of greater benefits in the future.

Priming: A phenomenon in which exposure to one stimulus influences how a person responds to a subsequent, related stimulus. These stimuli are often conceptually related words or images.

Provision of Information: A process where information is provided to subjects for decision-making.

Reciprocity: A social norm of in-kind exchange among individuals, referring particularly to one person's action being met by an equivalent action from another person. While reciprocity is generally associated with positive reactions—for example, returning a favor with an equivalent favor—it can also involve negative reactions, such as punishing another individual for a negative action.

Reminder: Email, text message, letter, or personal visit to remind a person making a decision about some aspect of his or her decision or action. Reminders are used to mitigate procrastination, forgetfulness, and cognitive overload for those who must make decisions.

Role Model: A person other people look up to as a model for appropriate behaviors. Often, behavioral interventions use counter-stereotypical role models to show the target population who identify with them that achievements commonly assumed not to be attainable are within reach.

Salience: Refers to the importance of making key elements visible and prominent at the proper time and place. Salience is a key tool and just as important as the central content of the message itself.

Scarcity Mindset: A feeling a person may have of not having enough resources (like financial means or time), which in turn absorbs some of the finite cognitive resources, or "mental bandwidth," the person does have, limiting the ability to make good decisions.

Self-Efficacy: Self-assessment of abilities to meet challenges and fulfill tasks successfully.

Signaling: The act of conveying credible information to others about one's expected actions or behavior.

Simplification: Reducing the effort required to perform an action by making the message clearer, cutting the number of steps, or breaking down into simple, easier steps a complex goal.

Social Norms: The unwritten rules governing behavior within a society. A distinction is drawn between descriptive social norms, which describe the ways in which individuals tend to behave, and prescriptive social norms, which establish what is considered acceptable or desirable behavior, independent of how individuals actually behave.

Status Quo: The tendency to maintain the current state of affairs, even when change is clearly better. The status quo is used as a reference point, and any change with regard to this reference is seen as a loss.

Stereotypes: The roles each individual performs in society as defined by cultural beliefs, historical conditions, social norms, and social image.

Structural Barrier: A rule, law, policy or physical structure (or lack thereof) that makes it difficult or impossible for something to happen or a goal to be achieved.

Sunk Cost Fallacy: The tendency to follow through on an endeavor in which we have already invested time, effort, or money that we will not recover in the future (sunk costs), whether or not the current costs outweigh the benefits. This tendency is mediated by loss aversion and the status quo.

Uncertainty Aversion: A preference for known risks over unknown risks.