



## CALIFORNIA CORONAVIRUS TESTING TASK FORCE

*June 8, 2021*

# Human Centered Recommendations for Increasing Vaccine Uptake

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# Executive Summary

After enduring the COVID-19 pandemic for more than a year, people are tired, depressed, and eager to resume normal activities. Vaccines are safe, effective, and now widely available in the US. The tool we need to end the pandemic is within our grasp.

We fundamentally believe that people who are concerned and reluctant to get vaccinated can be influenced through the right combination of information, messaging, and engagement. To do so requires that we develop a deep understanding of their worldview and values. Then, we must deliver personalized messaging that resonates with this worldview, followed by a seamless service experience with as little friction as possible.

As we see pockets of people unwilling to get the COVID-19 vaccine, we need to ask ourselves what their values are and why they perceive vaccination as a threat to such

This document presents a set of human-centered recommendations to increase vaccine uptake and close the gap of herd immunity. These recommendations stem from extensive secondary research, primary research, and engaging with leading minds in design and innovation.

This document is intended for anyone involved in vaccination communication, marketing, operations, decision-making, and community outreach.

The key takeaways presented in this document include:

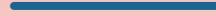
- + People are not entirely rational in evaluating the risk of new technologies. The human brain takes shortcuts. It uses cultural values to determine how the new technology makes us feel. This feeling produces a positive or negative perception of risk.
- + World views are the lens through which we perceive risk and make decisions. These are deep seated and unchanging

values. They can be understood and used to adapt messaging to be more effective.

- + Seven archetypes illustrate people's attitudes and mindsets towards COVID-19 vaccination. These archetypes provide insights into how to improve messaging and engagement to shift people towards vaccine acceptance.
- + Five categories of recommendations provide specific and concrete ways to drive vaccine acceptance and adoption. The recommendations span messaging, trusted messengers, behavior change, education, and service experience.
- + Specific examples of messaging and service delivery considerations are provided for each archetype.

**01**

# Introduction

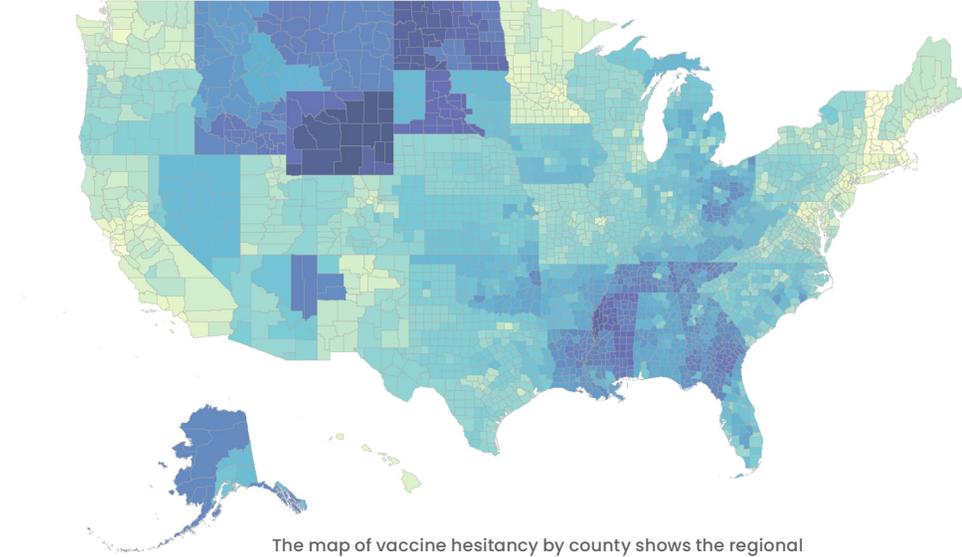


# This is a call to action.

COVID-19 vaccine hesitancy is not monolithic. It is a combination of factors. Polls on vaccine attitudes can show us how many people have a particular attitude, but don't tell us why they have that opinion. The 'wait and see' poll category includes people with very different rationales. Talking about vaccine hesitancy or confidence is not very helpful in actually changing people's attitudes and behaviors. To do that, we need to understand their why.

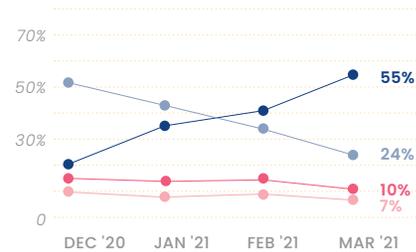
**One-size-fits all approaches to vaccination will no longer be effective.**

By the end of May 2021, we will likely have vaccinated all Americans who are enthusiastic about getting vaccinated and do not experience significant access barriers to doing so. The percentage that remains have entrenched views ranging from hesitancy to resistance. These individuals will be more difficult to convince to get vaccinated. It will take a long-term investment of personalized trust building, messaging, and engagement to move them to vaccine willingness. This investment occurs over a timetable of months and years. It must start now.

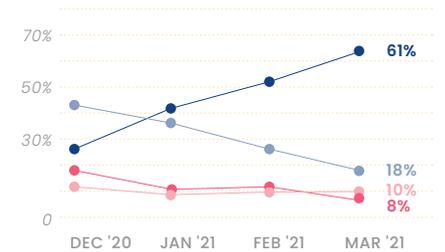


The map of vaccine hesitancy by county shows the regional and local variation in vaccine attitudes. The hesitancy estimate is derived from survey data from the US Census.

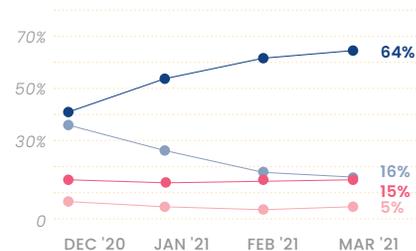
## BLACK ADULTS



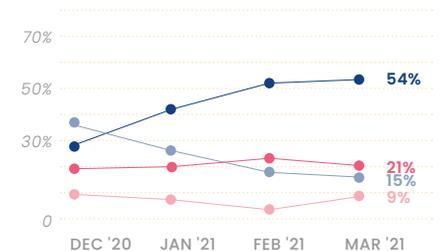
## HISPANIC ADULTS



## WHITE ADULTS



## RURAL RESIDENTS



- Already gotten/As soon as possible
- Wait and see
- Definitely not
- Only if required

The KFF Vaccine Monitor shows that the 'wait and see' attitude has declined over time as vaccines became more widely available. The 'only if required' and 'definitely not' attitudes have remained fairly steady.

Getting to this point has not been easy. It is an impressive feat of scientific advancement, production and distribution, and mobilization. We were able to create and implement the technical aspects of vaccination with unprecedented speed. However, the human dimensions of our vaccination system have not received the same level of investment and innovation. Convincing people to get a shot in the arm is functionally a behavior change intervention: a human challenge.

This document provides a roadmap to address many of the human dimensions of the vaccination system in order to increase vaccine uptake. It presents a way to understand people's worldviews and risk perceptions. It describes a range of COVID-19 vaccine attitudes and mindsets. And it provides recommendations for effective trust building, messaging, and engagement.

## VACCINATION AS A SOCIO-TECHNICAL SYSTEM

### SOCIO (HUMAN FACTORS)

- **INFLUENCE**  
Messaging, Messenger and Channel
- **TRUST**  
Dynamics and root enablers of trust in order to reduce fear, create transparency, and engender institutional trust.
- **ACCESS AND EQUITY**  
Understanding barriers to vaccine access and the dimensions of cultural acceptance
- **BEHAVIOR CHANGE**  
Move people from contemplation to action
- **PRODUCT DESIGN & USABILITY**  
Designing around the needs, mindsets, and behaviors of people to facilitate
- **SERVICE EXPERIENCE**  
End-to-end service experience that instills confidence and encourages greater participation in vaccination programs

### TECHNICAL (SCIENTIFIC, COMMERCIAL, LOGISTICS)

- **FINANCIAL**  
Funding sources and fiscal impact
- **OPERATIONAL**  
Facilities, equipment, supply chain, expertise, and capabilities
- **CHANNEL-BASED**  
Optimizing product, service, message delivery mechanisms
- **PORTFOLIO-BASED**  
Mix of offerings and how they work together
- **TECHNOLOGICAL**  
Potential automation and efficiency through technology
- **ORGANIZATIONAL**  
Structures, systems, practices that enable solution deployment
- **STEM**  
Various forms of specific expertise, especially cross-industry applications

**02**

**Conceptual  
Foundations**

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## Conceptual Foundations

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### What drives the vaccination attitudes and behaviors we are observing?

#### PSYCHOLOGY OF RISK

*HOW DO PEOPLE ASSESS THE RISK OF COVID-19 AND MAKE DECISIONS ABOUT VACCINATION?*

The psychology of risk perception and cultural cognition put the first pieces of the puzzle into place. The human brain is less rational than we would like to believe in evaluating new things. It takes a shortcut to evaluate new things in terms of our worldview and past experience.

#### CULTURAL LOGIC

*WHERE DO CULTURAL VALUES AND WORLD VIEWS COME FROM?*

The answer to where worldviews come from can be found in the social science research around cultural logic — deep seated, normative values that determine how we interpret the world around us, perceive risk, and make decisions. They span various socio-economic statuses, political ideologies, and education levels.

#### BEHAVIORAL ARCHETYPES

*HOW DOES THIS MANIFEST AS ATTITUDES TOWARDS COVID-19 VACCINATION?*

The seven behavioral archetypes emerged from our qualitative study of COVID-19 attitudes and mindsets. We believe the right messaging and value alignment can shift people's mindsets to be more receptive to getting vaccinated.

# Psychology of Risk Perception

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Summarized from a presentation by Sarah O'Farrell from ?What If! Innovation, The Cultural Cognition Project at Yale Law School, and the work of Dan M. Kahn

**The perception of risk is less about scientific consensus, and more a matter of how people feel about a new technology. We often conflate "liking something" with whether or not it's risky.**

Whether we are interested in vaccine uptake, medication adherence, or behavior change, the psychology of risk perception gives us insights into how to develop solutions that will drive acceptance, engagement, and adoption.

**Culturally Motivated Cognition** argues that our idea of risk stems from our deeply-held values and beliefs about how society should be organized. In evaluating new things, the role of data, pros, and cons are less significant than we would like to imagine. Risk assessments are actually based on emotional and cultural processing, a marking of our evolutionary past. This allows us to quickly weigh a situation and take action. The threats in our environment have changed, but we still use the same mental shortcut to evaluate risk.

Our brains evolved to use simple assessments.

- + Does XYZ threaten our way of life?
- + Does XYZ fit with our deeply held values?
- + Does XYZ feel good or feel bad?

Our cultural values and emotional experiences feed into this evaluation. **If a new concept affirms our worldview, we like it and perceive it as less risky. If it threatens our worldview, it makes us uncomfortable and we perceive it as more risky.**

Further, we are predisposed to perceive things that threaten our sense of comfort and ease as more risky than the scientific evidence would suggest. Things that seem more difficult are also perceived to be more risky.

Finally, the more friction and uncertainty we experience in an interaction, the more our our brains will sense risk and avoid the situation.

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Vaccination is a great case study for the importance of cultural cognition. The COVID-19 vaccines are a new technology being introduced to society at-large. That coupled with distrust of institutions grounded in past experiences triggers our risk radar.

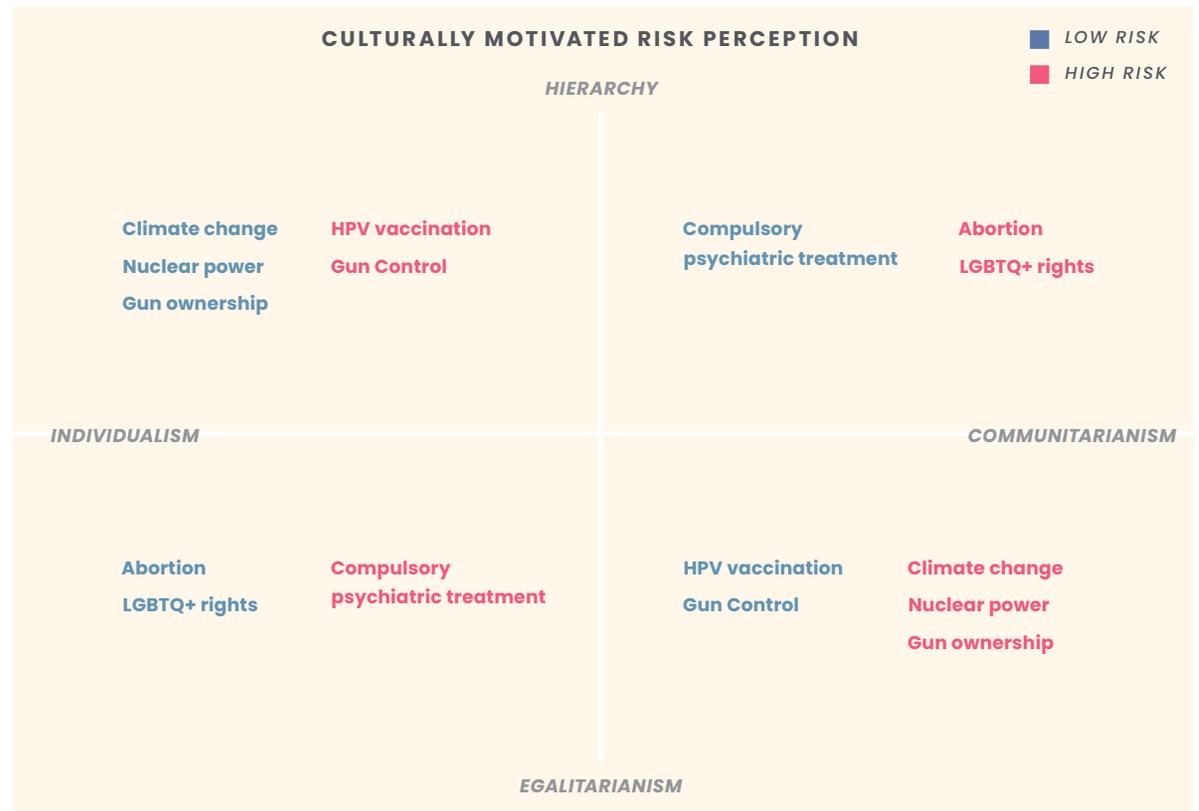
Generally, our beliefs about the world and how it should be organized can be categorized into two tensions, represented on the adjacent grid.

On the horizontal axis is individualism and communitarianism. Does a person prioritize the rights of the individual first and foremost, or those of the community or larger population?

On the vertical axis is hierarchy and egalitarianism, which is slightly more elusive: does a person believe in traditional family structures, orientations of power, and institutions, or do they believe in non-traditional family and power structures with a focus on equal treatment for all?

These orientations are critically important because they shape our perception of risk. If hierarchy is threatened, and we value hierarchy, we lash out at the risk.

A concrete vaccination example is presented in the paper “Who Fears the HPV vaccine, Who Doesn’t, and Why? An Experimental Study.”



Compulsory HPV vaccination spurred a contentious public debate, even though the vaccine was shown to be very effective at preventing cervical cancer. On one side of the debate, people with a hierarchical orientation perceived the HPV vaccine to be threatening and risky. The public health messaging about safer sexual practices for women conflicted with their belief that sex is reserved for marriage. A vaccine mandate felt to them like the government intruding on their freedom and traditional family values.

On the other side, those who were more egalitarian oriented perceived less risk in the HPV vaccine. They were less threatened by ideas of womanhood and sexuality, and more motivated by the value that sexual safety should be afforded to all.

Issues of gun control, LGBTQ+ rights, and environmentalism tend to follow a similar pattern.

# Cultural Logic

The social science work around cultural logic provides guidance about what drives our worldview. We have deep seated, normative values that determine how we interpret the world around us, perceive risk, and make decisions.

These cultural logics are universal across nationality, race and ethnicity, age, religion, and political orientation. And they are fixed, unchanging.

Cultural logic provides a way to talk about cultural worldview without bias or referring to political orientation.

We might think of public health guidance as facts and science. However, these facts exist within the context of cultural values and can trigger a strong emotional response. **This highlights the importance of understanding the context of people's worldview and communicating to them from within that worldview.**

	CHARACTERISTICS	MESSAGING STRATEGY	EXAMPLE CAMPAIGN
<b>DIGNITY</b>	<ul style="list-style-type: none"> <li>+ Inalienable worth of the individual, irrespective of context</li> <li>+ Contributing to the "greater good" determines individual worth</li> <li>+ Internal altruistic motivation over external perceptions</li> <li>+ Shame comes from inadequately supporting others</li> <li>+ Identity stems from ability to help others</li> <li>+ Utilitarianism</li> </ul>	<ul style="list-style-type: none"> <li>+ Emphasize community protection</li> <li>+ Intuition and making the right choice</li> <li>+ Allyship and altruism</li> <li>+ Return to caring</li> </ul>	<p>Smokey the Bear</p>
<b>FACE</b>	<ul style="list-style-type: none"> <li>+ Emphasis on social hierarchy</li> <li>+ "Face" determines worth. Value conferred based on place in hierarchy and adherence to norms.</li> <li>+ Status based on supporting the social order and harmony</li> <li>+ Loss of face incurs shame</li> <li>+ Identity revolves around role performance</li> <li>+ Accepts group will</li> <li>+ Confucianism</li> </ul>	<ul style="list-style-type: none"> <li>+ Do your part to protect your community</li> <li>+ Play your role</li> <li>+ Loyalty to social order</li> <li>+ Emphasize harmony and non-confrontation</li> </ul>	<p>I'd Like to Buy the World a Coke</p>
<b>HONOR</b>	<ul style="list-style-type: none"> <li>+ Fiercely individualistic; highly loyal to 'in group' peers</li> <li>+ Reputation can be conferred or revoked by in-group peers. Protection of social image is paramount.</li> <li>+ Status determined by individual actions and success</li> <li>+ Breaking in-group norms incurs shame</li> <li>+ Identity revolves around local group norms</li> <li>+ Protect self and social unit.</li> <li>+ Objectivism</li> </ul>	<ul style="list-style-type: none"> <li>+ Protect yourself and your family</li> <li>+ Highlight behavioral norms of identity groups</li> <li>+ Security and stability</li> <li>+ Reputation</li> <li>+ Return to security</li> </ul>	<p>Truth anti-smoking campaign</p>

The segment titled "Elephant in the Zoom" in Episode 736 of *This American Life* is a very concrete illustration of cultural logic in action. The story takes the listener inside a focus group session to test COVID-19 vaccination messaging with a conservative audience. The focus group was organized by the de Beaumont Foundation out of concern for the continued vaccine reluctance of conservative voters.

The first hour of the focus group was spent listening to the opinions and concerns of the participants. Then the organizers began testing fairly conventional public health and vaccination messaging, starting with Dr. Tom Frieden, former director of the CDC. He was followed by several members of congress, some of whom are also physicians.

Every fact and argument for vaccination gets rejected. Nothing works; some participant become even more resistant to vaccination.

*"All true. Heard the science before, but it doesn't line up with what the response to the virus was on a federal level and a state level... I'm not going to take a vaccine."*

**— Female Participant**

Dr. Tom Frieden listened to the discussion and took notes. He came back on to present five very clear facts:

- 1 If you get infected with the virus, it will go all over your body and stay there for at least a week and be much more likely to cause you long-term problems than the vaccine.
- 2 If you get the vaccine, it will prime your immune system, but then the vaccine is gone. It will not be with you anymore.
- 3 More than 95% of the doctors who have been offered this vaccine have gotten it as soon as they can.
- 4 The more we vaccinate, the faster we can get back to growing our economy and getting jobs.
- 5 If people get vaccinated, we're going to save at least 100,000 lives of Americans who would otherwise be killed by COVID.

The final speaker was former New Jersey Governor Chris Christie. He didn't try to persuade people; he simply told stories of how COVID-19 affected him and people around him. He contracted COVID at the White House, the "safest place in America." Five other people contracted COVID from the same meetings – President Trump, Hope Hicks, Kellyanne Conway, Bill Sapien, and Bill Miller. Six out of seven people in the room. Chris Christie was the sickest and had the longest hospitalization. Hope Hicks, who is in her early 30s and jogs 5 miles a day, was sick for 10 days. And, Chris Christie had two relatives in their 60s, one a smoker and one very healthy, die of COVID two weeks earlier.

This combination of facts and personal stories finally started to have an impact, as shown by the quote from a participant named Sue on the right.

**While this example is a conservative audience, the same dynamic will play out for any segment with strong hesitancy or resistance. Facts and messages that don't align with their worldview are rejected. Once you understand the worldview, you can tailor the facts, messages, and messengers to finally break through.**

*"I think what I've learned is, I probably need to separate my reaction to the government involvement in this, and look at just the science. I'm a pharmacist. I used to work for Merck. I know all their vaccines are good products. I trust them. What I don't trust is the government telling me what I need to do when they haven't led us down the right road, in my view, to this day. So if I can set the government aside and just look at the science and think about it from a medical standpoint, I think I'm OK."*

**– Sue**

*"... presenting the science on COVID-19 vaccines does not guarantee that people will accept recommendations or modify behavior accordingly. People can see the same evidence and reach different conclusions if they have different priorities."*

**– National Academy of Sciences**

**03**

# Archetypes

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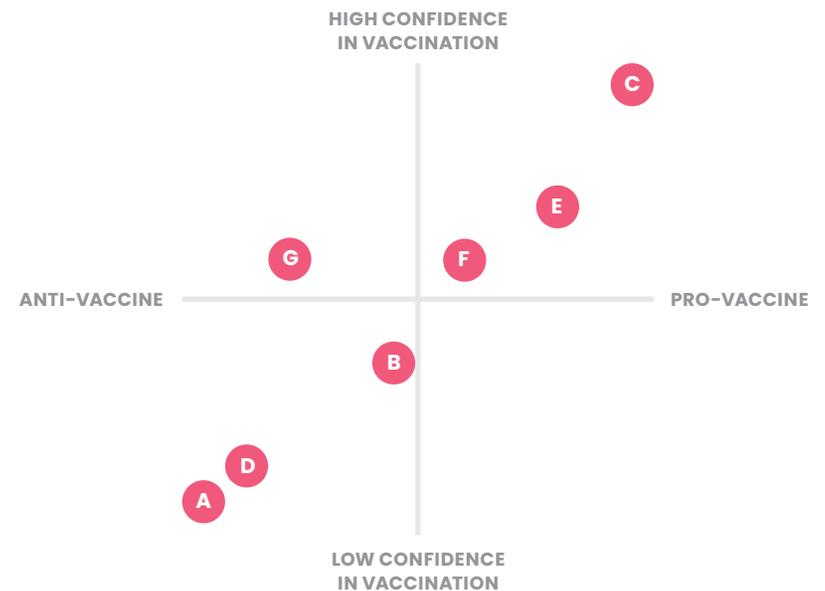
# 7 Archetypes

Beyond traditional demographics and segmentation criteria often associated with personas, **archetypes** draw on various data sets to reveal user behavior – often expressed as preferences, routines, goals, and interactions. Archetypes help us understand systems of belief, needs, expectations, context and circumstances over time. Archetypes, by their very nature, cut across the more traditional persona constructs sometimes used in human centered design.

It's not important *what* people did, but *why* they did it.

When analyzing mindsets and attitudes of participants in a national qualitative study in early 2021, we identified seven archetypes that represent similar belief systems, standpoints, frustrations and desires, and sentiments about the vaccine and what life will ultimately look like. These archetypes highlight helpful aspects of people's value and belief systems and provide insight into how we might approach vaccine conversation and action.

- A. STEADFAST OPPONENTS
- B. INDIFFERENT INDIVIDUALS
- C. VACCINE ADVOCATES
- D. CONCERNED SKEPTICS
- E. CAUTIOUS SUPPORTERS
- F. RELUCTANT VAXXERS
- G. HEALTHY INDEPENDENTS



The archetypes map against both a pro- to anti-vaccine attitude axis as well as a confidence level axis. This confidence level is dependent on their understanding and perception of how well the vaccine would work for them.



### **STEADFAST OPPONENTS**

This group is against getting the vaccine and do not see themselves getting the vaccine in the future because it opposes their beliefs.



### **HEALTHY INDEPENDENTS**

This group believes that the vaccine is fine for others who are most vulnerable to COVID-19, but trust in their good health and immune systems above the vaccine.



### **CONCERNED SKEPTICS**

This group is fearful of side effects and what the short and long term health implications would look like for their unique health condition. They will not consider the vaccine for years.



### **INDIFFERENT INDIVIDUALS**

Getting the vaccine is not top of mind for this group. They do not think it's necessary because they believe they are healthy enough already, and they have largely already "returned to normal."



### **CAUTIOUS SUPPORTERS**

This group believes that the vaccine is helpful, but they do have a few reservations for themselves or loved ones in getting the shot.



### **RELUCTANT VAXXERS**

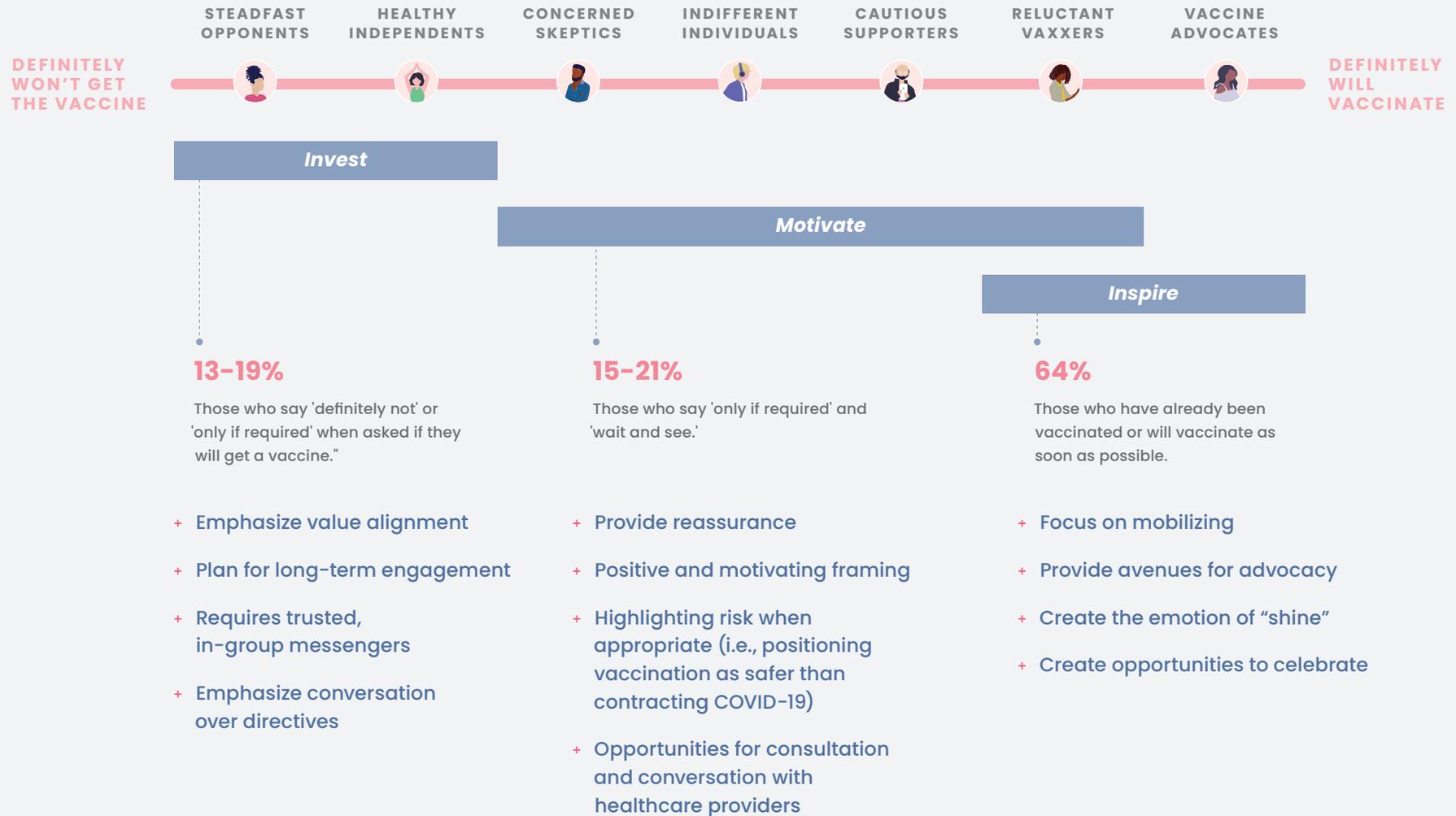
This group has reservations about the vaccine, how rushed it was, and what the side effects would be, but are ultimately willing to get the shot.



### **VACCINE ADVOCATES**

This group is fully supportive of getting the vaccine or have already been vaccinated. They may have some questions, but fully trust the shot.

# Array of Engagement Strategies



PERCENT OF POPULATION ESTIMATES  
 EXTRAPOLATED FROM KFF VACCINE MONITOR,  
 VALID AS OF 14 MAY 2020

# Steadfast Opponents



*“My main concern around vaccinations is always the integrity and honesty by which information is provided, as well as the integrity and honesty about the manufacturing of the vaccination.”*

—Kevin

## INFLUENCES

Family, religion / church, spouse, independence

## PERSPECTIVE ON FUTURE

Go back to the way things were before the pandemic

## BELIEF SYSTEMS

Very religious, political – lean republican, autonomy

## NEWS SOURCES

Medical Journals, Associated Press, friends/family, Epoch Times, Christian news sources

## COMMON FRUSTRATIONS

Phasing done wrong, supply and demand, forcing populations or professions to vaccinate

## COMMON DESIRES

No more masking, let people make decisions for themselves, no more politicization of the vaccine

## COMMON BEHAVIORS

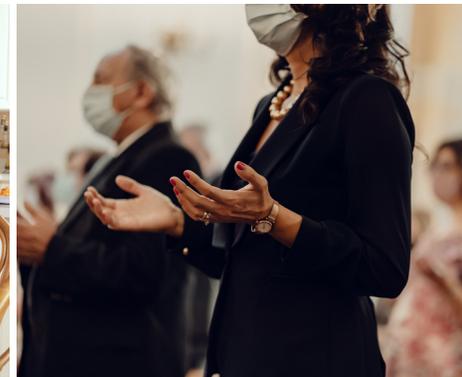
Follow the rules but also follow own beliefs and practices, watch out for self and family

## PARTICIPANTS

Kevin, 65  
Kathy, 50

## VACCINE MINDSET / ATTITUDE

- + Steadfast Opponents are against getting the vaccine and do not see themselves getting the vaccine in the future. They would require significant investment in time and effort to sway their decision.
- + They believe the entire handling of the vaccine effort has been messy – from the information released on it, to the supply and demand, to the two presidential administrations handling the rollout.
- + These individuals believe in their own ability to manage risk and do not have faith in masks or distancing offering much protection.
- + Steadfast Opponents are very religious and believe some vaccine ingredients directly oppose their faith – testing on/using stem cells or aborted fetus is not acceptable for them.
- + They believe that this vaccine effort was rushed and fighting something like COVID-19 could take decades to master.
- + These individuals may have directly experienced COVID-19 and overcome it; further bolstering their beliefs in the human immune system and strengthening their faith and resolve to remain in control of their bodies and their choices.



# Healthy Independents



*"I am not worried and feel completely safe and subject myself to this every day. I do not feel that I need to take precautions. I don't feel like that threat is that big. But I'm not against anyone that does."*

—Bob

## INFLUENCES

Politics, family, personal knowledge

## PERSPECTIVE ON FUTURE

Bodies will learn and adapt and the world will get back to normal

## BELIEF SYSTEMS

Lean republican, believe in taking care of their bodies and being healthy and active

## NEWS SOURCES

Google, self-research

## COMMON FRUSTRATIONS

COVID-19 is being blown out of proportion, it's largely drug companies making money

## COMMON DESIRES

Want to get back to no masks and being able to live freely

## COMMON BEHAVIORS

Mask only when absolutely necessary, haven't really changed any other behaviors

## PARTICIPANTS

Bob, 40  
Georgia, 55

## VACCINE MINDSET / ATTITUDE

- + Healthy Independents believe that COVID-19 is real, but that it is more or less like the flu. They believe that for most people who are healthy, in good shape, and have healthy immune systems, getting sick is a “non-event.”
- + They begrudgingly follow the mask rules and social distance regulations – but don't think either does much and will take off their masks as soon as they can.
- + They have generally continued to live life as though COVID-19 weren't around. They travel, see friends and family, watch their kids play, and continue with their normal activities as much as possible.
- + They value their independence to make a choice about this vaccine, and presently do not see a need for it. Some of their friends and family have vaccinated, and while they respect that, they do not think the vaccine is necessary for them.
- + If the vaccine became mandated for them to do their jobs or travel, this group would likely reconsider their current denial of the vaccine.



# Concerned Skeptics



*“We keep our masks on, we don't go out any more than we have to, and we try to stay further than six feet away from people. It's just a whole mess of things, so we're trying to do the best we can.”*

—Michael

## INFLUENCES

Health, chronic or recent health issues, family

## PERSPECTIVE ON FUTURE

Going to keep being careful and wait for guidance on when it's ok to not mask or distance

## BELIEF SYSTEMS

Self, health provider

## NEWS SOURCES

CNN, Apple News, National News on TV

## COMMON FRUSTRATIONS

So many unknowns with the vaccines, different news every day, no long term findings

## COMMON DESIRES

Want to know how the vaccine would impact personal health status

## COMMON BEHAVIORS

Home bodies, stick to themselves, take the news with a grain of salt, trying the best to take care of themselves and those they love

## PARTICIPANTS

Troy, 37  
Michael, 63

## VACCINE MINDSET / ATTITUDE

- + Concerned Skeptics are leery of the vaccine, not only because it was seemingly tested, manufactured, and distributed quickly – but also because it was not tested on individuals with their particular health concerns. The concerns about side effects, how it would impact their current (good) health status, and what it means long-term are all questions swirling in this archetype's minds.
- + These individuals have a very forward-looking perspective and expect another year of masking, social distancing, and avoiding public as much as possible.
- + Right now, they are not willing to vaccinate, but are willing to think about it. Though, they would still wait a few years before considering an actual needle to arm.
- + Because of their concerns about personal health and the implications of the vaccine, they would consult with their care team, whom they trust above all else, about what they should specifically do or not do.
- + They are not overly informed about the vaccine effort, but know enough to know it's not for them at the moment.



# Indifferent Individuals



*"I was never COVID safe. I would go meet up, for better or worse, living my daily life as close to normal as I could. I'm not worried about my personal safety, but I'm also not worried to be in a room with vaccinated or unvaccinated people. I don't have personal fears, but I will be cognizant of others."*

**—Danielle**

## INFLUENCES

Returning to normal, convenience, making others feel comfortable, alleviating stigma

## PERSPECTIVE ON FUTURE

Thinks the future will be whatever we collectively decide on, just wants their lifestyle to fit into it

## BELIEF SYSTEMS

Individually-oriented, seeks social connection

## NEWS SOURCES

General news media, avoids political bias

## COMMON FRUSTRATIONS

Disruption of daily life, social routines, ambiguity of guidance, stigma not being "COVID safe"

## COMMON DESIRES

A return to normalcy, protecting their social and mental health

## COMMON BEHAVIORS

Not very stringent in following prevention guidelines, indoor diner, congregates with friends, takes precautions to make others comfortable

## PARTICIPANTS

Danielle, 25

## VACCINE MINDSET / ATTITUDE

- + Indifferent Individuals tend to be less risk averse to COVID-19. They are younger, in relatively good health, and don't see COVID-19 as a threat to themselves or those in their immediate social circles.
- + They see the vaccine as less about protecting themselves, and more about having a "ticket" to return to the activities they enjoy guilt-free.
- + Indifferent Individuals tend to express the social and lifestyle benefits of being vaccinated, though they may also admit that their behaviors won't radically change from what they currently do to see friends, family, and enjoy their time. The social pressure to vaccinate will also be a key motivator.
- + With the vaccine, they would feel cleared to return to the things they enjoy, rather than doing those things at the expense of the judgement of others.
- + The convenience of the vaccine becomes a key factor for them. Having an easily accessible, clearly communicated, quick process in getting the shot(s) can overcome the risk that these folks will take a "free-ride" on the collective benefits of herd immunity.



# Cautious Supporters



*“My husband and I are getting the vaccine, but I don’t think I will have my son will get the vaccine. I worry that it may affect his ability to father children in the future. I worry that it isn’t effective and once people get it they will let their guard down on safety protocols.”*

—Susan

## INFLUENCES

Desire for herd immunity, risks of side effects risk-averse, risk of COVID-19 for themselves and loved ones

## PERSPECTIVE ON FUTURE

Wishy-washy – the “new normal” will look different, and congeal slowly

## BELIEF SYSTEMS

Communitarian orientation, belief in COVID as a threat, eager to contribute in the ways they can

## NEWS SOURCES

Common mainstream media, wide range of sources and political leanings, “truth-seekers”

## COMMON FRUSTRATIONS

No long-term data, doctors unable to answer detailed questions, worried about adverse reactions

## COMMON DESIRES

Beating COVID-19, orienting

## COMMON BEHAVIORS

Takes COVID prevention behaviors seriously

## PARTICIPANTS

Joe P., 25  
Susan, 44  
David, 51  
Jerry, 59

## VACCINE MINDSET / ATTITUDE

- + Cautious Supporters tend to support the vaccine in its objectives – they internalize the threat of COVID-19 to themselves and their communities, recognize the need for herd immunity to overcome the virus, and want to put an end to this public health threat.
- + At the same time, they are cautious about the individual ramifications the vaccine may have for themselves – they are worried about the lack of long-term data and want to ensure that this is the right decision for their health.
- + Cautious Supporters will use the tried and tested tools they have available to them for prevention, so long as they are not bodily invasive and present additional health risks (i.e., an injection). They tend to mask, social distance, and stay home when the option is available to them. In many ways, non-vaccinated prevention tools feel safer and easier to them than the risks of getting vaccinated.
- + Cautious Supporters tend to be motivated to vaccinate based on well-communicated evidence on the vaccine safety. They also may be motivated by increased external risk, such as being put in positions where congregation is necessary.



# Reluctant Vaxxers

*“If the vaccine becomes mandated, I would get vaccine. If that’s a mandatory by government that will become my higher priority for me and that will push me to get it. It tells me something that if something happened, I feel more better that I can sue government.”*

—Jabinia



## INFLUENCES

Personal experience with medicine, science

## PERSPECTIVE ON FUTURE

Going to continue to mask and social distance, believe we won’t be able to return to normal for an extended period of time

## BELIEF SYSTEMS

Focused on their own health and the health of their friends and family

## NEWS SOURCES

CDC, NPR and other news sources they perceive as non-biased

## COMMON FRUSTRATIONS

Lack of clear information, unanswered questions. Worry that the rest of the world isn’t taking the continued need for vigilance in pandemic behavior seriously

## COMMON DESIRES

Health and happiness for themselves, their family and the community

## COMMON BEHAVIORS

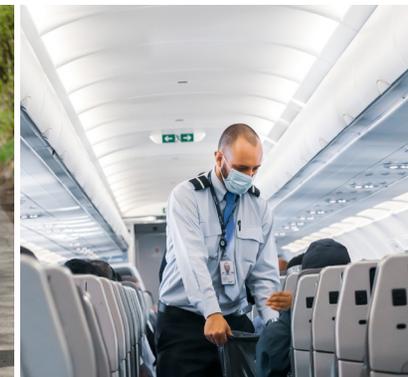
Continue to wear masks and worry that the rest of the world isn’t

## PARTICIPANTS

Kelly, 52  
Jabinia, 46

## VACCINE MINDSET / ATTITUDE

- + Reluctant Vaxxers are not opposed to vaccines in general but believe that the COVID-19 vaccine was rushed and is still in the experimental phase. They have serious questions about how the vaccine will affect their health in the short and long term.
- + They would prefer to rely on traditional methods, like masking and physical distancing, to combat the virus and have been very careful about exposure when going out. They are very concerned that many areas are relaxing mask requirements and worry this will increase cases and exposure.
- + They may be pushed to get the vaccine if they feel it will help family return to activities they love or if the vaccine was required by a trusted business or industry. Fear of the virus and the lack of care from others is also a driver in their decision making.
- + Reluctant Vaxxers are very well informed and are up to date on the latest information about the vaccine and vaccination efforts.



# Vaccine Advocates



*"I decided to get it because I don't want to be continuously worrying about going out, catching it and bringing it home, giving it to my grandson and other family members. Plus, with my health, I decided it's better just to get it."*

**—Nanci**

## INFLUENCES

Health, family, know people who got or died from COVID-19

## PERSPECTIVE ON FUTURE

Thinks more vaccinations will accelerate returning to normal – which may look a little different

## BELIEF SYSTEMS

Range of political affiliations, believe in science and medicine

## NEWS SOURCES

CDC, City's website, Governor's social media, CNN, National News

## COMMON FRUSTRATIONS

Information transparency and accuracy, frustrations towards vaccine doubters and anti-vaxxers

## COMMON DESIRES

A return to normalcy, get vaccinated as soon as possible, achieve herd immunity

## COMMON BEHAVIORS

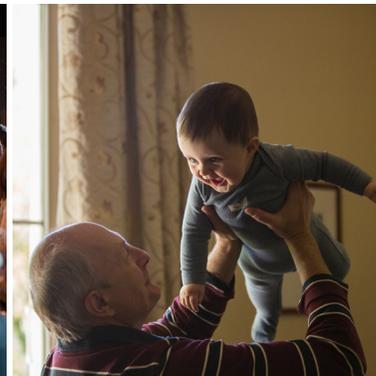
Actively seeking out information, following regulations

## PARTICIPANTS

Nanci, 52  
Joe F., 73  
Samson, 38  
Latosha, 33  
Shelly, 54  
Joshua, 40s  
Jessica, 36

## VACCINE MINDSET / ATTITUDE

- + Vaccine Advocates are those who have already gotten the vaccine or have strong desires to get the vaccine in the future.
- + They are active information seekers and have a strong preference for unbiased information sources and regularly keep up with new developments.
- + Vaccine Advocates tend to believe that going back to normal is dependent on how widely the vaccine becomes available as well as the number of people vaccinated. They hope that not only themselves and their friends/family will vaccinate, but also others, including children, as soon as possible.
- + They value health and life and make decisions to to keep themselves and others healthy and safe. They want to do their part to add to herd immunity.
- + They are most likely to conform to taking any available vaccine options they are given. They tend to have a willingness to take the risk of having side effects as long as the vaccine is effective.
- + They hope to go back to normal – not wearing masks – once they are vaccinated, however, they are also willing to follow regulations if needed.

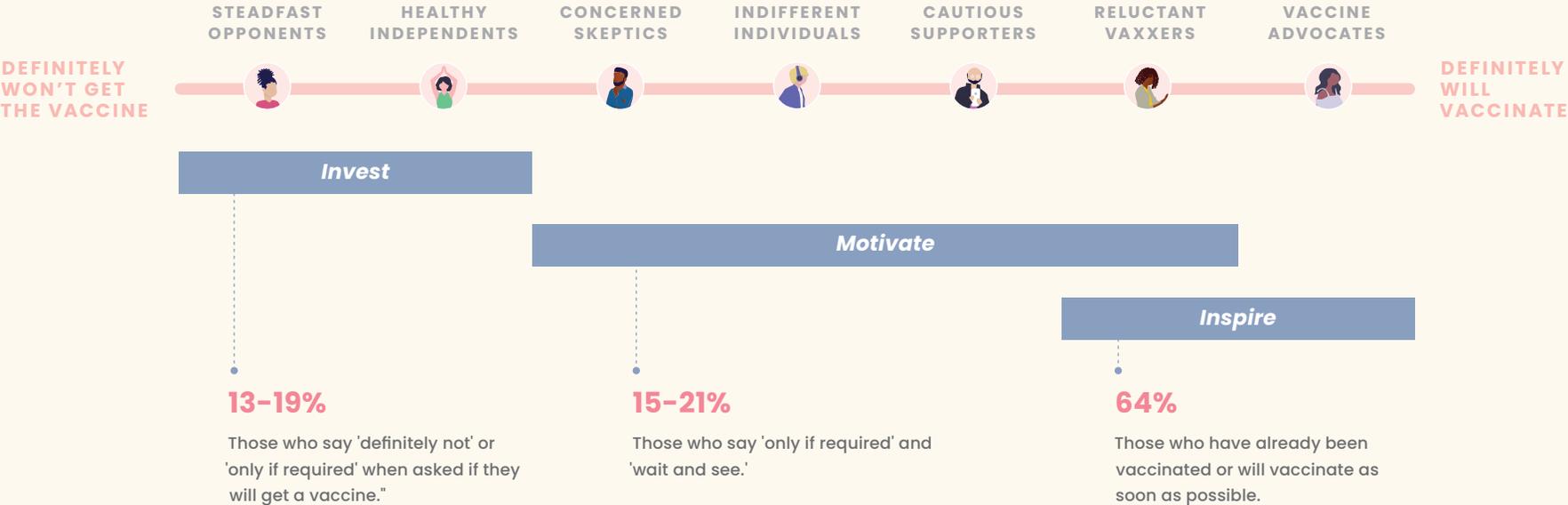


# Opportunities for Influence

Depending on an individual or archetype's stage in the decision-making process, different approaches and expectations are necessary. For those least motivated to take the vaccine, larger cultural shifts may be required, and we must *invest* in the emotional, belief-driven, and intellectual spaces, while ensuring that if they do decide to get a vaccine, proper ease and

supports are in place. For those closer to a "yes," approaches should emphasize emotionally *motivating* these individuals positively, providing needed information clearly, introducing behavioral nudges, and making sure the service experience is as simple, smooth, as accessible as possible. Lastly, for those who are ready and willing to get the vaccine or have already gotten

the vaccine, *inspiring* them to spread beliefs, have conversations, and mobilize will be key. This framework illustrates how these various dimensions may appear in each archetype and highlights some basic strategies for *investing in*, *motivating*, and *inspiring* them.



INTERNAL

FACTORS

EXTERNAL

The most personal and close-to-home factor, the emotional factor, captures a person's sense of self-interest, culture/values, autonomy, and how they analyze risk on a personal level.

The belief factor captures the influence of a person's political, religious, and scientific/medical views.

The intellectual factor embodies the influence of a person's knowledge and understanding of information, news, and data.

The experiential factor frames the influence that a person's proximity to COVID-19 (including testing, vaccines, diagnoses) has had on them and their behaviors / attitudes.

The physical / environmental factor captures the influence that a person's location, accessibility, and lifestyle has on their mindset and behavior.

Finally, the global factor, which is also the most external factor, frames how influential national security/wellbeing, public duty, government, public health, and the bigger picture are to one's individual actions.

● EMOTIONAL

● BELIEFS, INFLUENTIAL

● INTELLECTUAL

● EXPERIENTIAL

● PHYSICAL, ENVIRONMENTAL

● GLOBAL

■ BARRIERS / CONSIDERATIONS

■ STRATEGIES



STEADFAST OPPONENTS

Perceived condescension, feeling neglected, angered by politics

Removing directives, asking questions, active listening

High value on autonomy, frustration with vaccine rollout, religious values, personal over public health

Messaging around values, emphasizing choice, promoting vaccine as personal health, educating on public health

Viewing science through religious lens; emphasis on micronutrients, ingredients, and small health niches

Appealing to moral duty and religion, emphasizing clinical trial success, providing fresh voices to accommodate a "new perspective"

Experiences with paternalism, feeling written off, seeing things they love taken away from them

Religious vaccination efforts; personalized conversations; giving space to acknowledge and air grievances

Frustrated with lockdowns and low mobility, want access to spaces again

Connecting vaccines to re-opening, offering vaccines in "lost community spaces" such as churches and fitness groups

"Every person for themselves" / "survival of the fittest" mentality; concerned about government overreach

Messaging around national security, removing politicians, getting the government out of COVID/the economy by managing it ourselves



## HEALTHY INDEPENDENTS



## CONCERNED SKEPTICS

### EMOTIONAL

Frustrated with COVID-19 politicization, annoyance with others who are risk-averse

Emphasizing taking charge of personal health, ending masking through vaccination, removing politics, and giving choice

Risk averse, concerned with unique health status, high stress

Highlighting stories of others with "unique" conditions, emphasizing feelings of safety and reassurance

### BELIEFS, INFLUENTIAL

Emphasis on autonomy, belief in mind-body relationships, individualistic

Speaking to vaccines in a mind-body context, emphasizing "strength," creating spaces for vaccine discourse in "alternative health" groups

Latch onto stories of adverse reactions, side effects; forward-looking and future oriented

Emphasize long-term efforts, highlight monitoring and surveillance tools and data

### INTELLECTUAL

Interested in health niches, compelled by health fads, interested in the optics of personal health interventions

Highlighting health risks for healthy people and chronic condition "niches", speaking to chronic condition management, discussing "immune resilience" from the vaccine

Fine data points, adverse outcomes, negative details outweigh positive story arcs

Address the details; Unique, condition-specific messaging; emphasize vaccine development and scientific wins

### EXPERIENTIAL

Interested in health niches, compelled by health fads

Business incentives for vaccination, equipping mind-body health influencers

Mishandling of prior health conditions, poor vaccine reactions in the past, wanting unique attention

Messaging side effect expectations up front, proactive outreach from providers

### PHYSICAL, ENVIRONMENTAL

Will likely view vaccination as a "necessary evil" or inconvenience, may be deterred by site inefficiencies or scheduling issues

Ease in access such as scheduling, easy transportation, and spatial/workflow design to make vaccination feel like "part of a personal health journey"

May be less mobile individuals, more concerned about exposure risk on-site

Geographically close vaccine locations, emphasizing exposure protection on-site beforehand, outdoor clinics

### GLOBAL

Individualism, personal responsibility, and an emphasis on personal health

Framing vaccines as a large-scale personal health movement ("taking charge," "protecting yourself," "getting the government out of your health")

Worried about the big picture. Focus on vulnerable populations

Discuss the future of COVID-19 and how they can contribute to eradicating it. Highlight wins in disproportionately impacted communities

 BARRIERS / CONSIDERATIONS

 STRATEGIES



## INDIFFERENT INDIVIDUALS



## CAUTIOUS SUPPORTERS

### EMOTIONAL

Indifference to COVID-19 risk, desire for "normalcy," frustration with COVID-19 obsession

Social and mobility incentives for vaccination, emphasizing COVID-19 long-haul risks

Compelled by collective efforts to eradicate COVID-19, more risk averse, want to protect selves and family

Emphasizing feelings of safety, protection of family, taking steps for the collective

### BELIEFS, INFLUENTIAL

Less politically interested, high value on social activity and connection, desire for independence

De-emphasize politicians, emphasizing lost social activities, creating "instagramable" moments

Communitarian orientation, belief in COVID-19 as a threat, eager to contribute in ways they can

Messaging around community, emphasizing community leaders, sharing motivating stories

### INTELLECTUAL

Swayed by anecdotes, less focus on science, want unbiased "quick takeaways"

Promoting positive vaccine experiences and anecdotes, messaging basic science accessibly

Information-oriented, desire for no bias, focus on health data, prefer the "solutions they know" (masking, distancing, etc.)

Single information source, scientific updates, safety data messaging, introducing vaccines as a "complement" to masking, etc.

### EXPERIENTIAL

Have likely experienced COVID-19 and recovered just fine, concerned about adverse reactions from former vaccine experiences, don't want to go through hassle of vaccination

Emphasizing ease and convenience, addressing reaction concerns, quick and simple scheduling

Concerned with doctors dismissing health concerns; unique personal or family situations that drive concern around long term side effects

Messaging the service experience beforehand, 1 on 1 doctor conversations, discussing risks of re-opening, family vax programs

### PHYSICAL, ENVIRONMENTAL

Likely to view vaccination as an inconvenience

Ensuring convenience (smartphone scheduling apps, ride-share codes, prompts and notifications for eligibility)

More likely to be concerned over exposure at the site, more emphasis on community-based solutions

Community-based vaccination efforts, mobilizing efforts, family vax programs, outdoor clinics

### GLOBAL

Emphasis on personal health, little interest in larger implications

Public health education, discussing community spread and herd immunity, emphasizing global travel and social activity benefits of vaccination

Emphasis on community, wanting to contribute, tuned into global failings and bad news may be a disincentive

Herd immunity education, discourse around localized applications of public health, highlighting safety and efficacy wins

 BARRIERS / CONSIDERATIONS

 STRATEGIES



## RELUCTANT VAXXERS



## VACCINE ADVOCATES

### EMOTIONAL

Less risk aversion than cautious supporters, can be easily deterred, are anxious to contribute to vaccination efforts, but want to do so safely

Making people feel secure in their choice, not introducing additional concerns, ensuring a smooth experience

Excited, motivated by the vaccine, forward-looking

Creating easy tools, media-sharing, text scheduling, or mobilization to "spread the love"

### BELIEFS, INFLUENTIAL

Communitarian orientation, belief in COVID-19 as a threat, eager to contribute in ways they can

Messaging around community, emphasizing community leaders, sharing motivating stories

Belief in science and medicine

Conversation guides for others, equipping with talking points

### INTELLECTUAL

Desire for unbiased information, mitigating personal risk, validating decision to get the vaccine

Assurance of the right decision, continually messaging vaccination "wins" and safety developments

Focused on data points, media narratives, trusted governmental and scientific sources

Conversation guides for engaging with others, equipping with talking points

### EXPERIENTIAL

May be triggered by an experience during vaccination that reminds them of past experiences (neglect, pain, etc.)

Maximizing the service experience, improving the ease of vaccination, ensuring culturally competent and patient-centered health system interactions

Tend to more positively view vaccine experiences, see the tradeoff of immune response effects as worth it

Consistently delivering on a smooth and pleasant service experience, giving stickers/text scripts as mobilizing tools, monitoring post-vaccine reactions

### PHYSICAL, ENVIRONMENTAL

Concern over on-site exposure risk, need easy scheduling mechanisms so as not to deter, need assurance of transportation to site

High convenience to "ease the decision" — follow-up messaging after scheduling, transportation aid, paid time off work, etc.

Already high demand for vaccine, access barriers will be key to solve

Transportation subsidies and mechanisms, paid time off for shot + recovery, smooth service experience, leveraging excited individuals for outreach

### GLOBAL

Emphasis on community, wanting to contribute, tuned into global failings and bad news may be a disincentive

Herd immunity education, discourse around localized applications of public health, highlighting safety and efficacy wins

High excitement, eagerness to contribute to herd efforts

Leveraging these individuals to start a global vaccine movement. Using early adopters to inspire and mobilize

 BARRIERS / CONSIDERATIONS

 STRATEGIES

**04**

# **Recommendations**

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# Recommendations at a Glance

**These recommendations are informed by multiple workstreams over the course of nine months working under the auspices of the California Testing Taskforce. The initial work centered on COVID-19 testing strategy and transitioned to vaccination. The work includes secondary research, primary qualitative research, convening leading designers and innovators, and a digital study using machine learning to develop hyper-specific behavioral segments.**

## WHAT WE SAY, HOW WE SAY IT, WHEN WE SAY IT

This set of recommendations revolves around messaging, communication, aspects of follow-up, and outreach pertaining to the vaccine. The message itself and the design of how it is executed drives significant impact. People need to feel heard and have their concerns taken seriously.

- + Utilize “Get Out the Vote” models of calling, texting, scripting, and door-knocking.
- + Avoid restating myths or misinformation in an effort to debunk falsehoods.
- + Share real-life stories of vaccination successes.
- + Showcase personal vaccine stories in tandem with sign-up options.
- + Consider leveraging machine learning to identify users and messaging.
- + Provide avenues for people to express concerns, have real conversations, and feel heard.
- + Leverage scheduling for more than just logistics.
- + Share overlapping messages at scale, and specific messages through more narrow communication channels.

## BEHAVIOR CHANGE AND ECONOMICS

This set of recommendations stems from the attitudinal shifts, psychology, factors leading to adoption, role of incentives, the power of control and autonomy, and behavioral economics at play when it comes to making a decision about the vaccine.

- + Create a common moral enemy around COVID-19.
- + Continuously tailor messages and nudge individuals with ads and messages.
- + Emphasize the sentiments and feelings that protection with the vaccine gives us.
- + Provide non-medical incentives through community partnerships.
- + Put risk in comparison of other life activities — i.e., being struck by lightning.

## WHO DELIVERS THE MESSAGE

The spokesperson, messenger, and/or authority figure delivering information about the vaccine will be just as vital as the message itself. The social influence surrounding the vaccine can be leveraged to drive more shots in arms.

- + Leverage positive peer pressure through individuals who have already vaccinated.
- + Use virtual platforms to scale local experts (physicians, nurses, pharmacists, etc.) through virtual consults, chats, and recorded conversations.
- + Harness influential social networks to disseminate information and host conversations.
- + Do not engage politicians or celebrities to deliver vaccine information, use local “real” endorsers.

## EDUCATION AND INFORMATION

This category involves the yearning for understanding around the vaccine and what educational elements and information might help answer questions, ease anxiety, and drive acceptance.

- + Visualize the vaccination development process to clarify the safety and efficacy guardrails in place.
- + Create a task force of multi-lingual, multi-cultural “nudgers” to contact undecided people.
- + Create a go-to, all-encompassing source for specific and personalized vaccine questions.
- + Highlight the chain of impact that vaccines can have.
- + Create a source or tool for people to self-identify personal health status and see how they should prepare for the vaccine.
- + Admit what we know, what we don’t know, and how those things change over time.

## INTERVENTION / SERVICE DESIGN

The service design, experience, and end-to-end journey of getting a vaccine are critical considerations that can make or break a person’s impression of the vaccine itself. Captured here are recommendations highlighting how to optimize the intervention.

- + Leverage health system data as well as public datasets to identify “hotspots” where vaccine demand and/or access is lagging.
- + Make the vaccine moment “Instagram-worthy.”
- + Communicate the end-to-end service experience in detail in advance of an appointment.
- + Introduce mobile and walk-in sites in areas with lower vaccination demand.
- + Maximize the 15 minute wait time post-shot to mobilize and inspire others.
- + Introduce more streamlined options for scheduling (or use walk-in slots).
- + Utilize scheduling as a moment in which concerns can be eased and transparency can be emphasized.

# WHAT WE SAY, HOW WE SAY IT, WHEN WE SAY IT

**This set of recommendations revolves around messaging, communication, aspects of follow-up, and outreach pertaining to the vaccine. The message itself and the design of how it is executed drives significant impact. People need to feel heard and have their concerns taken seriously.**

*"The science doesn't mean a lot to me because I'm not educated in that field. What resonates with me are hearing real life stories of 'hey - this is what to expect, this is the experience, and these are the side effects."*

— **Danielle, 25** (Study Participant)

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**Humanize vaccine hesitancy:** provide balanced, unbiased information; bring in both side of the story and not only highlight the positive pro-vaccine sides of it; **help with decision making in a non-judgmental way;** have public discourse about the pros/cons of the vaccine.

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**Openly talk about the mental health impacts of the pandemic** and how we might alleviate long-hauler syndrome with the vaccine.

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**Take the time to listen to communities of color about vaccine mindsets** instead of just telling them that they are hesitant because they are Hispanic, African American, etc. Asking these communities to trust the government now with the vaccine after years of racial injustice isn't about being "hesitant," it is about not trusting the system, intentions, or outcomes.

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Create **community listening sessions for individuals to communicate with their own thoughts and opinions** first so that they can feel heard and have their communication needs identified.

Develop a framework for communicating scientific developments simply and without propagating distrust and alarm, frame solutions around alleviating information fatigue.

Create spaces for two-way connection and discourse so that communities feel heard.

Restating a myth or misinformation in an effort to debunk it is counter productive. It further validates the falsehood. Instead, inform by stating compelling facts.

Send a message to all patients that leads with “vaccines will be available in your area soon and you are eligible to vaccinate, do you have questions?” instead of “put your name on the waitlist.” Those with questions receive a call back.

Provide clear, direct messaging that puts the risks and side effects of each vaccine into context for a holistic perspective.

Find and **share real stories from those who have vaccinated** across different initial mindsets (nos to maybes) to use for setting the stage and to encourage similar mindsets to vaccinate as well.

**Remove the politics from the conversation**, or show how opposing political sides agree - get them all on a stage or a news platform and show cooperation and same messaging.

Instead of making information feel clinical or oversaturated with facts, **showcase personal vaccine stories** in tandem with signup options and highlight easy to act on, localized locations.

Like "get out the vote" phone banks or texting volunteers, **enlist an army of volunteers to "get out the shot"** encouragement. Provide phone scripts and text scripts.



#### RELUCTANT VAXXERS, STEADFAST OPPONENTS

Humanizing hesitancy is key. These individuals do not want to feel condescended to or told what to do, but recognized for having rational perspectives and beliefs as the first step in connecting and discussing their beliefs.



#### RELUCTANT VAXXERS, CONCERNED SKEPTICS

Avoiding restating myths is key. Stating myths to dispel them may run the risk of surfacing new concerns around vaccination.

#### MIS- AND DISINFORMATION RESEARCH

1 in 3 unvaccinated individuals believe or are unsure about common COVID-19 vaccine myths.

- + **19% believe or are unsure that** COVID-19 vaccines currently being distributed contain the live virus that causes COVID-19.
- + **12% believe or are unsure that** COVID-19 vaccines have been shown to cause infertility.
- + **12% believe or are unsure that** you have to pay out-of-pocket costs to get the vaccine.

The search term '**sputnik**' is highly associated with the **Spanish language translation of 'get the vaccine,'** but it should be known that the Russian vaccine bears the same name and is not available in the US, nor is it the most common vaccine in South America. If you want to target Spanish speakers in America who are interested in getting the vaccine, run ads that target the term 'Sputnik.'

Provide "real talk" conversation starters, talking points for clinicians to have with patients, and tools to help pin-point "what" is hard for folks to understand or grasp. These conversation points can be for family and friends to have amongst one another, and for clinicians to have with patients.

Reframe the vaccine as a means to combatting long-term issues; economic recovery, social health, mental wellness, school reopening.

We can leverage scheduling for more than just logistics – we can use it to combat misinformation, build trust, anticipate and message on-site service experiences, and communicate post-vaccine benefits.

Relay the message that it is ok, and even encouraged, to reach out to your physician or care team with questions.

Consider using machine learning and online, moment-based engagement tactics to purchase advertisement space and prompt individuals over time with targeted messages based on their unique, online user segments. Messages can be refined as they are tested at scale across millions of internet users with distinct online behavioral profiles.

Leverage big data (online search terms, content engagement, advertisement interactions, and social media listening) to understand what type of information people are open to responding to, and what times and moments they are most receptive to hearing such.



#### INDIFFERENT INDIVIDUALS

"I'm vaccinated, ask me about it" stickers can instill a sense of social pressure or motivation to vaccinate. If others are enjoying their lives and expressing positive vaccine experiences with visual markers, these folks may feel more motivation to hop on the train.



#### CONCERNED SKEPTICS

One-on-one discussions with physicians are key steps in the vaccine process. These individuals are looking to have their unique and specific questions answered and peace of mind provided by a trusted source.

#### HEALTH LEADS COMMUNITY DESIGN PRINCIPLES

Health Leads, a healthcare innovation hub that participated in our Human Factors by Design work, sought community input to create design principles. These principles informed what resources they curated for the community.

- + Accessible, not intimidating
- + Human, not clinical
- + Credible, not elitist
- + Community-minded, not general public
- + Informative, not pushy
- + Bi-directional, not one-way
- + Adaptable, not static
- + Tailored, not one-size-fits-all

## Combating Misinformation

Restating a myth or misinformation in an effort to debunk it is counter productive. It further validates the falsehood. Instead, inform by stating compelling facts and reframe the conversation.

### MYTH

1

The mRNA vaccines being developed for COVID-19 will alter human DNA.

2

The COVID-19 vaccine can cause people to develop COVID-19.

### SAMPLE MESSAGE

COVID-19 Vaccine Facts

**THE VACCINE DOES NOT CHANGE YOUR DNA**



The vaccine never enters the nucleus of the cell, which is where our DNA is kept. This means the vaccine does not affect or interact with our DNA in any way.



Don't listen to misinformation.  
The COVID-19 vaccines approved for use in the U.S. are safe and effective.



### BETTER MESSAGES

COVID-19 Vaccine Facts

**NO CORNERS WERE CUT, ONLY RED TAPE**



All 3 approved COVID-19 vaccines are 99.99% effective at preventing hospitalization and death.



COVID-19 Vaccine Facts

**Did you know?**

70 million Americans have safely received a COVID-19 vaccine.

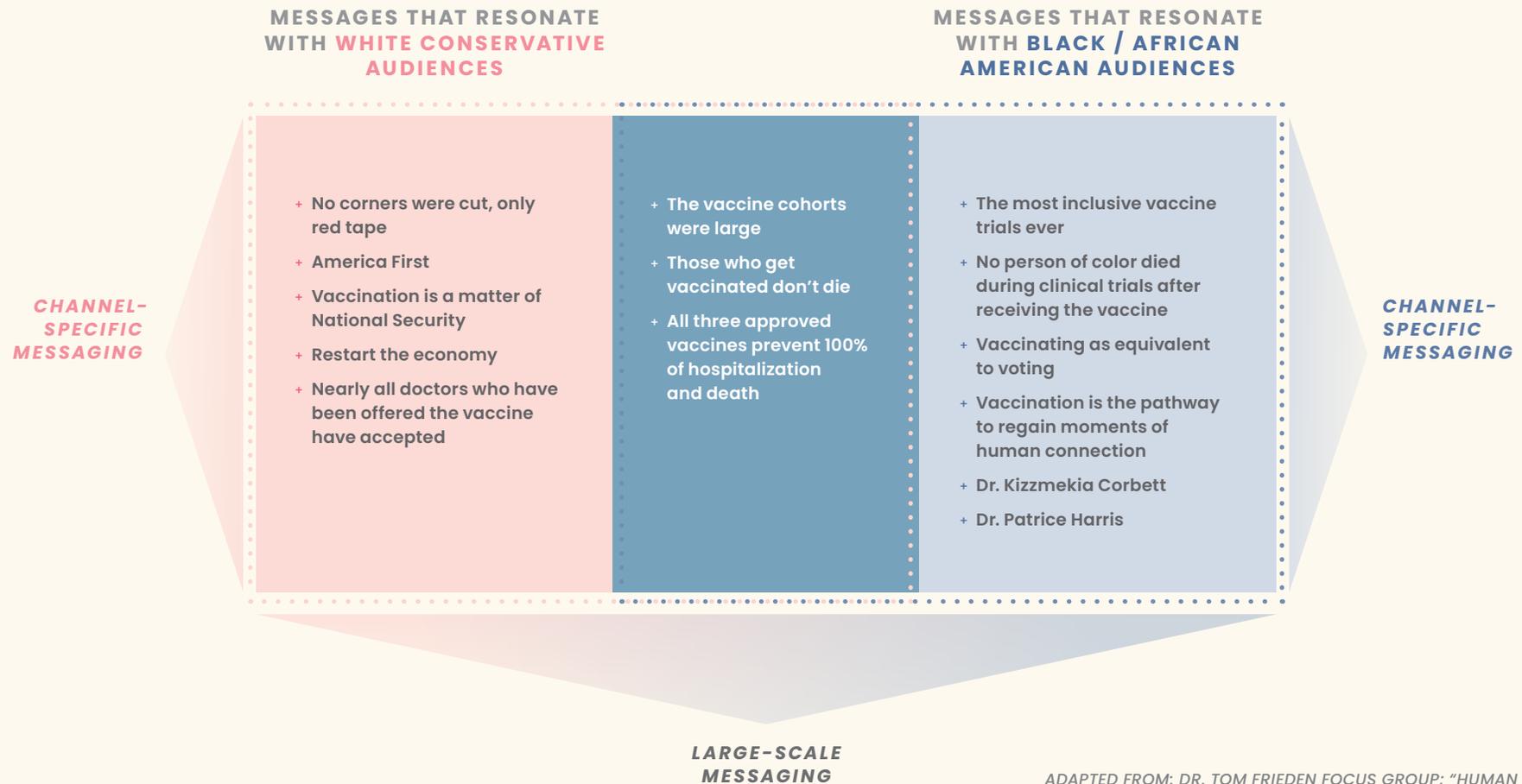
COVID-19 Vaccine Facts

**Did you know?**

No person of color in clinical trials got COVID-19 after receiving the vaccine.

## Aligning Messages to Values and Scale

Find the messages that resonate across specific audiences and across all audiences. Leverage them at varying scales.



ADAPTED FROM: DR. TOM FRIEDEN FOCUS GROUP; "HUMAN VALUES AND ATTITUDES TOWARDS VACCINATION IN SOCIAL MEDIA," 2020; AD COUNCIL + COVIDCOLLABORATIVE; PUBLIC DEMOCRACY VACCINE ATTITUDES STUDY

# BEHAVIOR CHANGE AND ECONOMICS

**This set of recommendations stems from the attitudinal shifts, psychology, factors leading to adoption, role of incentives, the power of control and autonomy, and behavioral economics at play when it comes to making a decision about the vaccine.**

*"People should be given a chance for themselves and their families. The COVID-19 vaccine should be optional and not pushed on nursing home patients because they are most likely an older generation and are disposable. People should not lose their jobs because their personal choice is to not have the vaccine. Yet, this is happening"*

— **Kathy, 50** (Study Participant)

—  
Normalize the tension and make it OK to be undecided.

—  
It takes personalized messaging, aligned to individual values and beliefs, to shift people from pre-contemplation and contemplation into action.

—  
**Enable a sense of control by offering choice** among specified options; highlight where the vaccine allows you to regain control in life; always allow the vaccine to be a choice – do not mandate.

—  
Emphasize the sentiments and feelings of protection the vaccine gives us; "Breathe again, get vaccinated," "Get vaccinated, get back to brunch." **Highlight stories of families/friend groups doing fun things together post-vaccine.**

—  
Create a common moral enemy around COVID-19 and take the blame game away from political affiliations, vaccine mindsets, etc.

People who perceive the risk of COVID-19 as minimal have largely already returned to normal. They may not seek vaccination unless there is a clear, non-medical incentive (i.e., travel), convenient and quick access, and prompted messaging.

Normalize the tension and make it OK to be undecided.

Leverage the convenience and behavior economics of “fast pass” vaccine lines vs. waiting to be tested or provide test results to enter public establishments.

Put risk in the context of other common life activities. **A comparison helps frame context more clearly** and can encourage a shift in behavior / attitude.

Continuously tailor and nudge people based on continuous learning and understanding of behaviors and mindsets. Leverage resources that track clicks and online behavior to **develop behavioral segments, identify patterns in behavior, and understand user needs.**

Apply data-informed personalization to drive real world behavior and continuously learn, personalize, and deploy messaging: i.e. evolve as quickly as memes do.



#### **INDIFFERENT INDIVIDUALS, CONCERNED SKEPTICS**

Emphasizing sentiments that protection from vaccination gives us is a key approach. Many of these individuals do not see a purpose in vaccinating for themselves, so attaching value to the vaccine for them is key.



#### **STEADFAST OPPONENTS, CONCERNED SKEPTICS**

Offering choice is key in alleviating the feeling of pressure and condescension that these individuals often feel in outreach. Emphasizing choice in both messaging and scheduling is key.



#### **INDIFFERENT INDIVIDUALS**

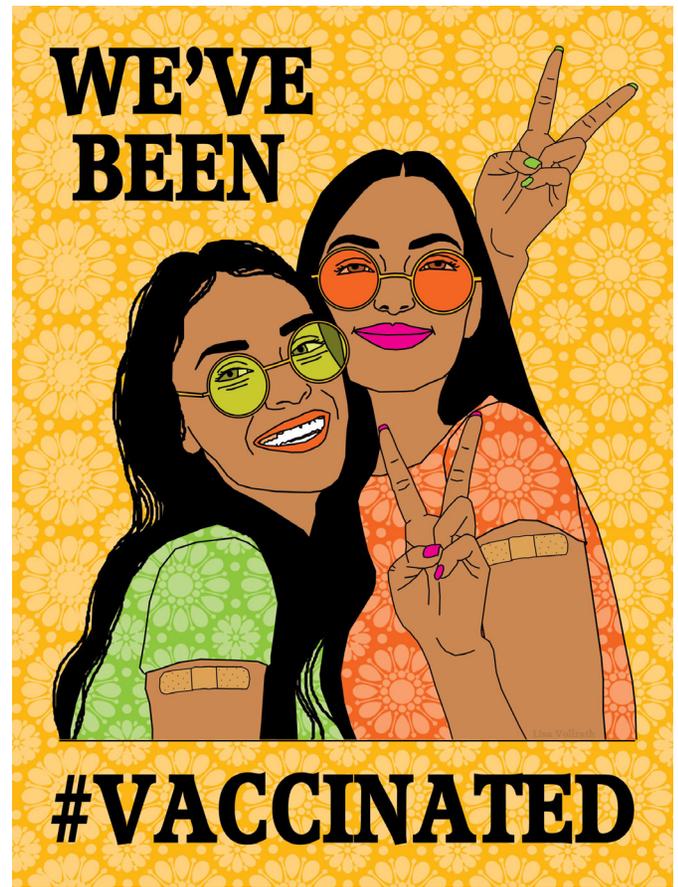
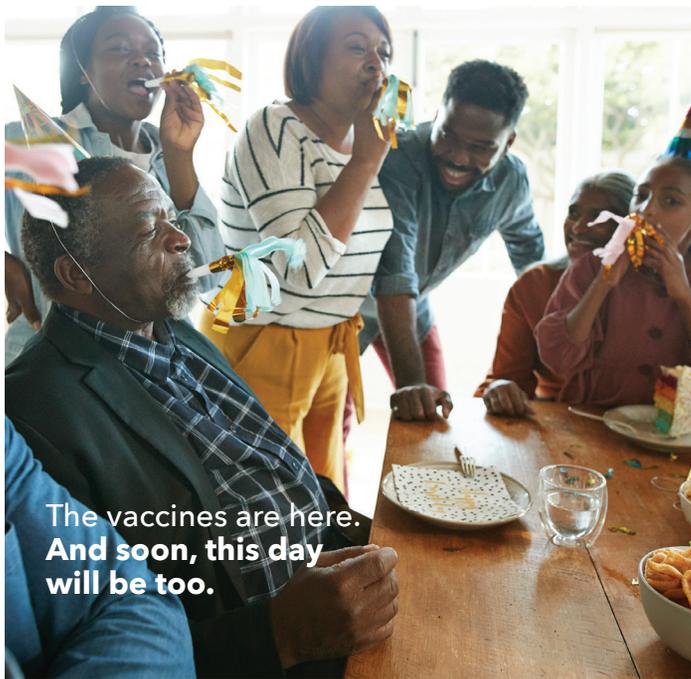
Convenience, incentives to vaccinate, and not wanting to “miss out” on social activities are vital approaches. These individuals are not looking to vaccinate unless there is a tangible benefit to themselves outside of simply COVID-19 protection.

#### **NATIONAL MARKET RESEARCH (JAN, 2021)**

New CDC travel guidelines may incent vaccinations: 35% of consumers who have not yet been vaccinated are “much” or “somewhat” more likely to do so knowing they can travel within the US without testing or quarantining.

#### **PUBLIC DEMOCRACY VACCINE ATTITUDES STUDY**

It takes multiple exposures to the same or related messages to have an impact. **People who see 5 related ads are 3x more likely to engage with trusted COVID-19 content** than people who see a single ad.



IT'S UP TO YOU  
COVID-19 VACCINATION

ad COUNCIL

Get the latest information about COVID-19 vaccines at [GetVaccineAnswers.org](https://www.getvaccineanswers.org)



jwelds • Follow  
The Ritz-Carlton, Sarasota

jwelds Reunited! #feelsgood #family #sisters #reunion #thanksvaccine 🍷👯💕

cocogro811 Love it! 2w 1 like Reply

uncoyle Putting on the Ritz 🍷 2w 1 like Reply

danielle.mills\_ So excited! 🍷 2w 1 like Reply

meganmeighan Beautiful 🍷🍷 2w 1 like Reply

49 likes  
APRIL 4

Add a comment... Post



## WHO DELIVERS THE MESSAGE

**The spokesperson, messenger, and/or authority figure delivering information about the vaccine will be just as vital as the message itself. The social influence surrounding the vaccine can be leveraged to drive more shots in arms.**

*"Politics are huge. This whole thing is a shame. Everything was fueled by money and power from the state level all the way to the national level."*

— **Bob, 40** (Study Participant)

—  
**Do not engage politicians or celebrities to deliver vaccine information.** People don't want this information from them and don't trust them for health information.

—  
Position physicians and public health experts from a variety of backgrounds to be the public face of vaccine information.

—  
Use virtual platforms to scale local experts. These **virtual consults, chats and recorded conversations can scale to the local community.** The professional you connect with should look and sound like you, and ideally be from the same area. Engendering trust must start with shared values.

—  
**Start fresh with a new voice that can establish trust:** get an epidemiologist a mic; identify a trusted local source; elevate "press secretaries" from leading health and science institutions; carve out a Public Health communication discipline.

Identify authorities from communities of color and other groups whose voices haven't been heard to address and acknowledge their community's concerns. **Empower them to cut through the noise and translate media messages into trustable conversation pieces.**

Harness the power of influential social networks (like schools, social circles, influencers) to disseminate information and host conversations about vaccine mindsets without creating stigma.

Provide incentives / sharing rewards like 'I vaccinated, ask me how / why' stickers.

**Leverage positive peer pressure from known social groups/members.** The more vaccinated people talk about the shot and encourage their hesitant friends to get it, the better.



#### HEALTHY INDEPENDENTS

Trusted messengers are key. These individuals have very specific pre-existing notions of what impacts their health, and hearing vaccination messaging through existing health channels will be key in instilling motivation to take a community health perspective on vaccination.



#### CONCERNED SKEPTICS

Promotional materials and anecdotes to see that others have vaccinated and are doing fine are key. These individuals may be heavily influenced by the successes of others.



#### RELUCTANT VAXXERS, CONCERNED SKEPTICS, STEADFAST OPPONENTS

Avoiding celebrities and politicians is a key consideration. These individuals may have information fatigue, harbor ill feelings towards politicians, or feel like they haven't heard their voice expressed in other media channels. A fresh messenger is key.

#### NATIONAL ACADEMY OF SCIENCES

Individuals respond to different motivating factors for getting vaccinated — some may choose to get vaccinated to mitigate personal risks and others may desire contributing to the protection of their friends, family, or community.

#### MCKINSEY COVID SENTIMENT SURVEY

**69% of people over the age 65** have a high level of trust in their physician... but that **rate falls to 25% of respondents ages 18-24.**



### What a Grand Rabbi's request might teach us about combating vaccine hesitancy.

By Eric Boodman

Rabbi Twersky thought it might be useful to have a document from some medical authority that he could show visitors, to help convince them that immunizations would not only protect their children, but also that the injections were safe. A physician from the MAYO Clinic also joined him in educating community members — the joint effort drove thousands of immunizations to take place.

<https://www.statnews.com/2019/05/10/measles-rabbi-combating-vaccine-hesitancy/>



# BLACK DOCTORS, NURSES 50 FAQs ON THE COVID-19 VACCINES



Diabetes + COVID Vaccines: Updates with Dr. Anne Peters

Beyond Type 1  
January 22  
We spoke with Endocrinologist Anne Peters about what should people with diabetes should know about the COVID Vaccines, how the disease has progressed throughout Los Angeles, the UK Variant being found in the US, and more.



### The AMA offers physicians tips on how to talk to patients about vaccines.

By Tanya Albert Henry

<https://www.ama-assn.org/delivering-care/public-health/covid-19-vaccine-hesitancy-10-tips-talking-patients>



### “Why I Joined The Conversation” Health care workers on the COVID-19 vaccines



# EDUCATION AND INFORMATION

**This category involves the yearning for understanding around the vaccine and what educational elements and information might help answer questions, ease anxiety, and drive acceptance.**

*"You have the CDC, the NIH, president's task force, and state health departments, as well as local health departments are making rules and putting out news. Each entity, it feels like are not using the same information. There is no centralized source of information.*

— **Kelly, 52** (Study Participant)

—  
Create a visual representation of how the vaccine was developed to show actual timeline (10 years) and parallel-pathing of trials and development to debunk distrust, i.e. show how mRNA was developed.

—  
**Convene a task force of multi-lingual, multi-cultural "nudgers" to reach out to those who are undecided about the vaccine** to answer questions, point them to helpful resources, and even to schedule vaccine appointments for them if desired.

—  
Spell out the normal post-vaccination symptoms to expect to ease concerns.

—  
**Highlight that no corners were cut in the rollout of the vaccines, and rather, only red tape was cut** and processes streamlined because of the critical nature of the pandemic.

—  
**Compile a go-to, all-encompassing source** for very specific and personalized vaccine questions, locations, FAQs, "dial a doc" service, and more. People crave all relevant vaccine information to be easy to navigate and in one place.

Highlight the chain of impact that a single vaccine could have: **protect yourself, stop transmission, slow community spread, protect those you care about, eradicate the virus.**

Educate people on if the human body can become immune to COVID-19 on its own or not. Explain how the vaccine primes the immune system to do its job faster and better.

People crave background information about why new processes or procedures come into practice - **clearly inform people why and how new policies/procedures/processes came to be.**

**Emphasize what Public Health is and how it is different than individual health;** explain what is needed to allow for a safe return to being in public.

Highlight overwhelming evidence of vaccine safety – instead of focus being on how many people had side effects, highlight how many did not.

Provide unbiased information, data, and facts without the noise of encouraging any particular action.

Develop a source or tool for people to self-identify personal health statuses or conditions to be able to filter and see what similar humans have experienced as far as side effects and impact. **Debunking the concerns about what someone with a similar condition, background, age, etc., will help alleviate significant stress for those on the fence.**

Create on-ramps for conversation about the vaccine. **Imagine a hotline or call center being stood up so callers could speak with a medical professional about their concerns.** Local medical offices could dedicate specific office hours or host group discussions to do the same.



#### **INDIFFERENT INDIVIDUALS, HEALTHY INDEPENDENTS, CONCERNED SKEPTICS**

Understanding herd immunity and the chain of impact may be key in instilling motivation to vaccinate. A risk-based framework may increase motivation to vaccinate and instill a sense of community health for these individuals.



#### **INDIFFERENT INDIVIDUALS, HEALTHY INDEPENDENTS**

Focusing on the immune system in education approaches can contextualize COVID-19 in a more relatable/familiar way, as individuals are often thinking about their own health as independent from COVID-19's effects.

Share what is and is not known about long-term safety and side effects.

Highlight the CDCs active monitoring of side effects and safety.

Highlight how other countries of color and races are doing with the vaccine instead of just Anglo-centric nations like the US, the UK, Australia and New Zealand.

**Model what happens if we do not act now**, what will the world look like in one year, five years? Highlight that vaccines now mean fewer years of worry and fear.

Leverage lessons learned from post 9/11 infrastructure and changes; design principles for the next normal. Lay out what new rules, regulations, or entities need to be stood up will look like.

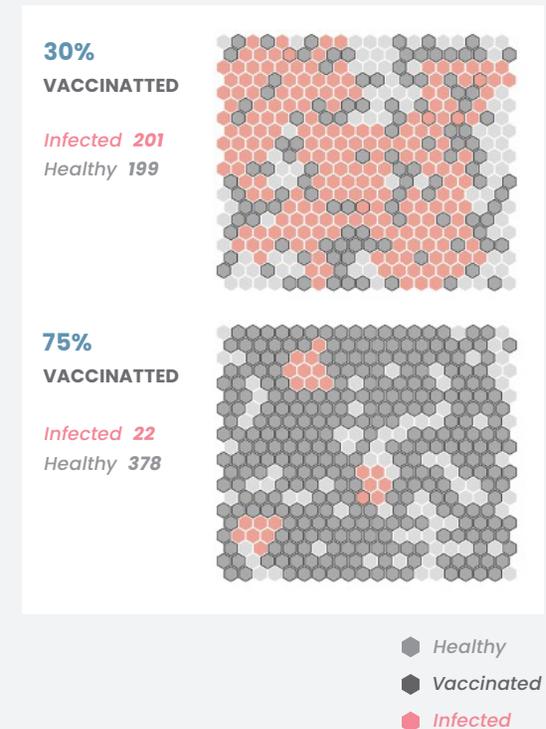
Make facts and science relatable to personal beliefs, values, and lifestyles.

Encourage that even people who have had COVID should still get vaccinated to protect themselves and others, especially as the virus morphs.

For some hesitant audiences, we must emphasize providing information over asking these audiences to get vaccinated. This requires prompted messaging over periods of time. Consider an inform, equip, and empower framework over a given time period: **providing key information, encouraging discourse through trusted voices, and subsequently presenting an ask to get vaccinated and share with friends.**

## HOW HERD IMMUNITY WORKS — AND WHAT STANDS IN ITS WAY

Tools like NPRs herd immunity visualizer can serve as key education tools to build an understanding of why vaccination is so important.



# Public Democracy Engagement Framework

Organizing these recommendations in the following framework may be helpful in some contexts. Public Democracy utilized this framework successfully when engaging Black and African American communities.

1

## INFORM

*BEFORE WE PROVIDE AN ASK, WE NEED TO LISTEN AND FILL INFORMATION NEEDS.*

- + Don't just tell people to get vaccinated – put a face on vaccine development (show insight into the development process)
- + Emphasize clinical trial inclusiveness as a "win" – positive reframe

2

## EQUIP

*AFTER WE START TO FILL INFORMATION NEEDS, WE SHOULD USE TRUSTED MESSENGERS TO SPUR CONVERSATION AND GIVE INDIVIDUAL TOOLS AND RESOURCES TO SHARE.*

- + Show trusted leaders in support of the vaccine
- + Encourage conversation and sharing of content
- + Equip with resources for easy sharing amongst family and friends

3

## EMPOWER

*LASTLY, WE GIVE PEOPLE THE ASK TO "JOIN IN AND GET VACCINATED," ONCE WE HAVE ESTABLISHED TRUST AND CREDIBILITY.*

- + Ask for participation – "we need your help"
- + Encourage engagement with the portal
- + Emphasize the individual and community benefits of the vaccine



ENGAGEMENT AND EDUCATION FRAMEWORK DEVELOPED BY PUBLIC DEMOCRACY FOR OUR-VACCINE.ORG, A WEBSITE INTENDED TO INCREASE VACCINE UPTAKE AMONG AFRICAN AMERICANS.

# INTERVENTION / SERVICE DESIGN

The service design, experience, and end-to-end journey of getting a vaccine are critical considerations that can make or break a person's impression of the vaccine itself. Captured here are recommendations highlighting how to optimize the intervention.

*"We have found a strong appetite for someone to play an information curation role, where people can find the best of the best, what others have found successful, and what has been vetted in a similar community."*

— Susan McCarron, Health Leads

Use internal health system data as well as external data sets to identify or "hotspot" where vaccines still need to reach. **Bring together a care team and community organizers to go neighborhood by neighborhood**, door-to-door, to bring information and vaccines to those in need, akin to the Census effort.

Make the vaccine moment a fun and exciting "Instagram worthy" moment. **Leave room for joy and celebration** with cool photo opportunities, mementos, medical worker cutouts, etc.

For both access and equity concerns, more prevalent **walk-in vaccination sites need to be stood up** across the nation where the public frequents most. Some of the mass-vaccination sites are in parts of cities that many cannot get to or access via public transit (which is still not being used by many). Consider leveraging more grocery stores, libraries, community centers, bodegas, or other everyday locales.

Create and promote unique and fun hashtags, memes, and status symbols to encourage vaccine acceptance.

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### Create non-tech methods and solutions to encourage sign up and vaccination.

Consider word of mouth, direct calling, chaperoning/assistance with navigating the complex appointment scheduling system, and outreach efforts through third parties or volunteers.

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Equity begins with scheduling. We need a wide range of scheduling options. We also need scheduling flexibility, follow-ups, check-ins, and prompts to engage people in small windows of availability.

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Create a single, universal waitlist or appointment sign-up platform that can take in a person's information (eligibility, zip code), identify nearby appointments, and get them signed up without kicking them out to external websites which often prove frustrating or are broken.

---

Last minute texts informing eligible recipients of vaccine availability likely has inherent inequities built-in, especially when considering shift workers.

---

Allow for family scheduling so households with many people can all get vaccinated at the same time without having to fight the logistics of multiple appointments and trips. This way, a whole household is simultaneously protected as well.

---

Maximize the 15 min wait time post-shot for things like social needs screening and health and wellness guidance. **Leverage the time as an opportunity to mobilize people, incentivize folks to encourage their friends and family to vaccinate.** Provide text scripts for people to easily ping friends and even social media badges/backgrounds to drive influence. Also inform people of their option to opt-in to the CDC's post-vaccine symptom tracking.

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Emphasize on-site exposure protection measures that are being taken to ensure the safety of all.



#### CONCERNED SKEPTICS, RELUCTANT VAXXERS

Communicating the end-to-end service experience can mitigate fears or concerns over past experiences with vaccination, adverse reactions, or concern over lack of follow-up.



#### INDIFFERENT INDIVIDUALS, HEALTHY INDEPENDENTS

Need easy access and a seamless experience to "go through the hassle" of getting a vaccination. Ease of scheduling, physical proximity to vaccination, and continuous communication prompts are vital.



#### CONCERNED SKEPTICS, RELUCTANT VAXXERS

A streamlined information source highly desired. These individuals often have specific concerns that a one-on-one conversation (or a personal health status tool) can address, but they also suffer from information fatigue and desire an easy source of information to cut through the noise.

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#### SECOND DOSE IS NOT GUARANTEED

- + CDC reports that 12% of vaccine recipients had not received the second dose, but 8.6% are still within the allowable window to receive it.
- + An additional 4.4% of people received their second dose outside of the recommended window.

In advance of the vaccine appointment, **communicate with the patient what the end-to-end experience will entail.** Paint a clear picture of what to expect, wait times, what to do afterwards, etc. Similarly, conduct a post-vaccine check-in to close the loop with a person, allow for any symptom reporting and questions to be answered.

Provide uber-convenient vaccine locations that make it harder to avoid vaccination than to simply get the shot. **Emphasize the minimal time needed and even consider incentives to drive shots** (i.e. no registration needed, free coffee at the café hosting the clinic, etc.).

Consider the mobile-first experience, including canceling and rescheduling by text, add to calendar, ride-share codes, notifications and prompts.

Scheduling is a prime opportunity to ease concerns and emphasize transparency. If you're encountering operational difficulties, explain how this might impact someone from an on-site service experience perspective or a scheduling and planning one.

Before asking for information, include the offering itself. **Clarify required vs. optional data and explain its usage.**

Provide mechanisms for people to stay connected, and let them know that you will do that ahead of time. Continue communication of relevant guidelines and avenues for people to ask questions, promote vaccines to others, or receive information after their vaccination.

### SPM CONSUMER COMPASS

A study of Medicaid beneficiaries showed an overwhelming **perception that most or all healthcare experiences are "bad."**

### CDC COVID-19 VACCINATION INTENT, PERCEPTIONS AND REASONS FOR NOT VACCINATING

The CDC found that **uninsured individuals were the most likely to express non-intent** to get vaccinated, even though the vaccine is free to all Americans.

### KFF VACCINE MONITOR

44% of adults over 64 report they had difficulty getting an appointment online.

### SCHEDULING HURDLE

Workers of color have worse schedules than their white coworkers.



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## Any Amount of Friction Creates a Perception of Risk

The ideal-state service experience must account for patient concerns through communication, interaction, and operations design. Below are common questions about getting vaccinated. If left un-addressed, these create uncertainty and doubt in the vaccination process.

- I signed up, but I haven't received any communication.
- I haven't heard from others about their vaccinations.
- Is the vaccine really free?
- How long will getting vaccinated take?
- What happens if I lose my vaccination card?
- Why are they asking for insurance and identification?
- I don't feel safe waiting in a crowded line for a vaccination.
- What does it feel like to get a vaccination? Who will I interact with?
- Do I need to take time off work to recover from symptoms?
- I've given up on registration... this is just too hard.
- I can't get to the nearest vaccination site.
- How do I know my symptoms will be taken care of?
- I missed my initial appointment, why bother trying again?
- Will the staff judge me?
- Scheduling requires my personal information. Who sees that?

**05**

# Appendix

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# Resources

## WORK CITED

**“COVID-19 Vaccine Hesitancy in Your Community.”** *HHS COVID-19 Public Education Campaign*, 14 Apr. 2021, <https://wecandothis.hhs.gov/vaccine-hesitancy-your-community>.

**“Culture, Worldviews, & Risk Perception (Glossary Entries).”** *Cultural Cognition Project*. <http://www.culturalcognition.net/blog/2018/1/6/culture-worldviews-risk-perception-glossary-entries.html>.

Fischhoff, B., Gamble, V., Spana, M.

**“UNDERSTANDING AND COMMUNICATING ABOUT COVID-19 VACCINE EFFICACY, EFFECTIVENESS, AND EQUITY.”** *National Academies of Sciences, Engineering, and Medicine*. 2021. DOI 10.17226/26154.

Kahan, Dan M., et al. **“Cultural Cognition of Scientific Consensus.”** *Journal of Risk Research*, vol. 14, no. 2, Feb. 2011, pp. 147–74. DOI.org, doi:10.1080/13669877.2010.511246.

**“KFF COVID-19 Vaccine Monitor: March 2021.”** *KFF*, 30 Mar. 2021, <https://www.kff.org/coronavirus-covid-19/poll-finding/kff-covid-19-vaccine-monitor-march-2021/>.

Kahan, Dan M., et al. **“Who Fears the HPV Vaccine, Who Doesn’t, and Why? An Experimental Study of the Mechanisms of Cultural Cognition.”** *Law and Human Behavior*, vol. 34, no. 6, Dec. 2010, pp. 501–16. PubMed, doi:10.1007/s10979-009-9201-0.

**“Survey: US Consumer sentiment during the coronavirus crisis.”** *McKinsey & Company*. May, 2021. <https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/survey-us-consumer-sentiment-during-the-coronavirus-crisis>

Nguyen et al. **“COVID-19 Vaccination Intent, Perceptions, and Reasons for Not Vaccinating Among Groups Prioritized for Early Vaccination — United States, September and December 2020.”** *Centers for Disease Control and Prevention*, Feb. 2021. <https://www.cdc.gov/mmwr/volumes/70/wr/mm7006e3.htm>

O’Farrell, Sarah. ***The Psychology of Risk Perception***. Human Factors by Design.

Perez & Gould-Werth. **“How U.S. workers’ just-in-time schedules perpetuate racial and ethnic inequality.”** *Washington Center for Equitable Growth*. Oct 6, 2019. <https://equitablegrowth.org/how-u-s-workers-just-in-time-schedules-perpetuate-racial-and-ethnic-inequality/>

## RECOMMENDED SOURCES

### RELATED WORK

**COVID-19 Testing Attitudes Qualitative Study.** *Kaiser Permanente*. <https://garfieldcenter.kaiserpermanente.org/wp-content/uploads/2021/05/TestingAttitudesQualitativeStudy.pdf>

**COVID-19 Vaccine Attitudes Qualitative Study.** *Kaiser Permanente*. <http://garfieldcenter.kaiserpermanente.org/wp-content/uploads/2021/05/VaccineAttitudesQualitativeStudy.pdf>

***Human Factors by Design***. <https://readymag.com/u2698679822/2721039/Password:HFbD2021>

### MESSAGING

**“COVID-19 Community Resources.”** <https://covidcommunityresources.org>.

**“Covid-19 Vaccine Education.”** *The Ad Council*, <https://www.adcouncil.org/campaign/vaccine-education>.

**“Questions & Answers About COVID-19 Vaccines.”** *The Ad Council*, <https://getvaccineanswers.org/>.

**“Our Vaccine. My Decision.”** <https://our-vaccine.org/>.

### UNDERSTANDING HESITANCY

**“Changing the COVID Conversation.”** *De Beaumont Foundation*, <https://debeaumont.org/changing-the-covid-conversation/>.

**“Millions Are Saying No to the Vaccines. What Are They Thinking?”** *The Atlantic*. May, 2021. <https://www.theatlantic.com/ideas/archive/2021/05/the-people-who-wont-get-the-vaccine/618765/>

**“THE CONVERSATION: Between Us, About Us. Community Toolkit.”** *Greater Than COVID*, <https://www.greatertanccovid.org/theconversation/toolkit/>.

**“The Elephant in the Zoom.”** *This American Life*, 24 Apr. 2021, <https://www.thisamericanlife.org/736/the-herd/act-two-3>.

### EQUITY

**“Vaccine Equity Resources.”** *Health Leads*, <https://healthleadsusa.org/vaccine-equity-resources/>.

**“Vaccine Equity Toolkit Will Help Address Equitable Access.”** *Kaiser Permanente*, <https://about.kaiserpermanente.org/community-health/news/vaccine-equity-toolkit-will-help-address-equitable-access>.

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