

COVID-19 VACCINE ACCEPTANCE IN UNDERSERVED POPULATIONS: IMPLICATIONS FOR PUBLIC HEALTH POLICY AND PUBLIC AWARENESS CAMPAIGNS

NEED FOR RESEARCH

The COVID-19 pandemic has revealed pervasive social determinants, disparities and inequities among many disproportionate communities in California, demonstrating how overlooking or underserving any discrete community can have devastating effects on the overall population. Through thoughtful, innovative, and nuanced research and consequent action, we have an opportunity to address the immediate crisis of COVID-19 and deliver a model for lasting change to healthcare policy and practice in California.

AN INNOVATIVE MULTICULTURAL RESEARCH MODEL

The foundation of this multi-staged research model honors the critically focal role **culture** plays in targeting attitudes and belief change - ultimately behavioral change- to achieve desired health outcomes among California's diverse populations. Unique behavior patterns are embedded in every population's culture but, *even within a population*, behaviors vary on a continuum. These behaviors, and the beliefs and attitudes that drive them, must be understood and confronted in robust ways to advance public health goals.

To gather the broadest range of these diverse beliefs and attitudes, the research included multicultural and multigenerational populations across California in urban, suburban and rural communities. We involved adolescents, parents of school-aged children, adults, seniors, persons with underlying health conditions, essential workers and farmworkers. Multicultural perspectives were captured from African Americans, Latinos, Native Americans, Filipinos, Vietnamese, Cambodians, Laotians, Hmong, Koreans, Japanese, Chinese, Asian Indians, Middle Eastern and North Africans, and Indigenous Peoples.

The multi-phase study consists of 6 components:¹

I: Comprehensive literature review of past related research; ⁽¹⁾

II: Interviews with stakeholders (well-informed thought and action leaders in each of the targeted communities and populations) to uncover deep and nuanced understandings of attitudes and barriers to vaccine acceptance and access within the populations they represent; ⁽²⁾

III: Online interviews with intergenerational pods (small groups of co-habiting family members) across multiple populations, to learn the range of beliefs and attitudes and identify the chief influencers in positive health care decision making; ⁽³⁾

IV: One-on-one online discussions to elicit feedback on vaccine hesitancy and acceptance, gather reactions to 8 public awareness advertising concepts, and identify messages most likely to influence positive attitude and behavior change; ⁽⁴⁾

V: Multi-ethnic focus groups conducted via video by a skilled moderator who explored the distinct attitudes and barriers related to vaccine acceptance and access; ⁽⁵⁾

¹ This document provides high-level findings; for details, consult the full reports described in the endnotes.

VI: Monthly online surveys of 1,400+ California residents over a 13-month period to measure and evaluate the impact and influence of the State's vaccine awareness campaign. ⁽⁶⁾

Qualitative methods, implemented by persons from the underserved populations, are key to acquiring the foundational knowledge necessary for designing culturally appropriate public health campaigns.

Quantitative methods are key to maximizing the effectiveness of public health campaigns. Our research includes surveys of 1,400 – 1,600 Californians each month with oversampling for California's larger underserved populations (Asian/Pacific Islander, African American, Latino English/bilingual and Spanish-dominant Latino).² Monthly measures ensure messaging and strategies keep pace as attitudes and perceptions change over the life of the campaign and allow strategic shifts should unforeseen events impact the potential success of the campaign.

KEY FINDINGS: INSIGHTS AND IMPLICATIONS

Context: Where are we now?

People are coping with the pandemic; however, the loss of socializing and the impact of multiple stressors have undermined mental health for many. While some have been able to maintain relative financial stability, less fortunate individuals are reckoning with serious financial struggles. Families have been further stressed by home schooling and children's isolation.

There exists across populations a splintered reality, people in a state of shock and sadness who cannot always make reasoned health decisions. Previously existing codes of conduct have been disrupted by dis- and mis-information and a lack of transparency from some government, media, social media and political sources. Fear of the unknown on the vaccine has led to volatility, uncertainty and the rise of conspiracy theories.

Persistent Barriers to Vaccine Access

The resounding barrier to vaccination reported across all segments studied has been confusion as a result of inconsistent, contradictory or insufficient messaging from government and public health officials on how to navigate all aspects of life under COVID. People are hesitant and/or unwilling to get vaccinated for multiple reasons.

Systemic Economic and Socio-Cultural Barriers

- Discrimination and inequities within the healthcare and insurance systems
- Historical trauma based on the legacy of eugenics and medical experimentation
- Poverty, lack of basic access to food, housing and healthcare
- Exclusion of ethnic/racial groups from medical studies
- Marginalization of communities with less access to accurate information
- Costs of time off to vaccinate and transportation to vaccine sites

² March 1451: Asian/PI 264, AfAm 238, Latinx English/bilingual 322, Spanish-dominant 280, White non-Hispanic 412.
April 1480: Asian/PI 254, AfAm 245, Latinx English/bilingual 277, Spanish-dominant 298, White non-Hispanic 438.
May 1600: Asian/PI 304, AfAm 247, Latinx English/bilingual 406, Spanish-dominant 300, White non-Hispanic 321.

Let's get to immunity.

- Cultural-specific myths about vaccines; preferred reliance on home remedies and traditional medicine
- Language barriers

Behavioral, Emotional and Cognitive Barriers

- Distrust of science
- Distrust of government, fear of deportation and related conspiracy theories
- Misunderstanding herd immunity, failure to understand caring for the greater good
- Conflicting information, disinformation, misinformation via media and social media
- Politicization of COVID-19 and the vaccine
- Continuing belief that COVID-19 is a hoax, or not as serious as portrayed

Logistical Barriers

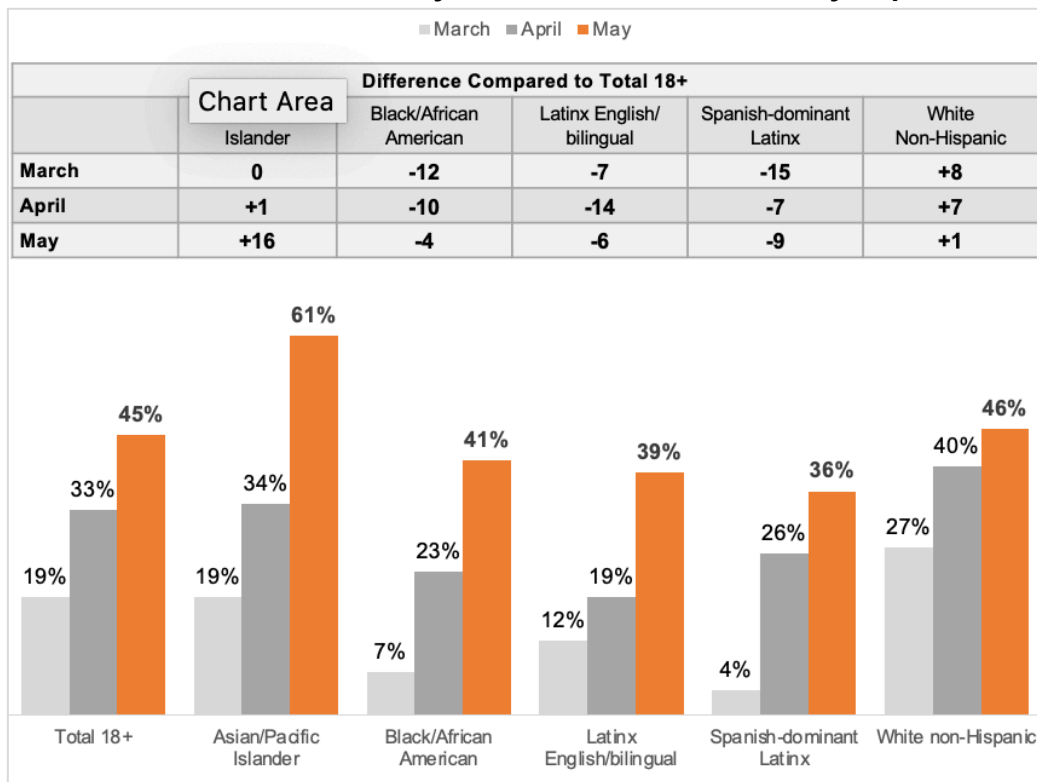
- Travel and access challenges for the homebound, aged or physically disabled
- Lack of trained staff who can educate nursing home residents
- Distribution and access challenges in rural areas
- Need for two doses and the gap time between doses

Vaccine Specific Barriers

- Concern about the speed of vaccine development and accelerated FDA approval
- Fear of side effects and harm to unborn babies
- Misunderstanding mRNA and fear of DNA alteration
- Lack of data on long-term effects and vaccine efficacy and safety
- On-going research on health risks, interaction with other medications
- Potential after vaccination to still be a “spreader”

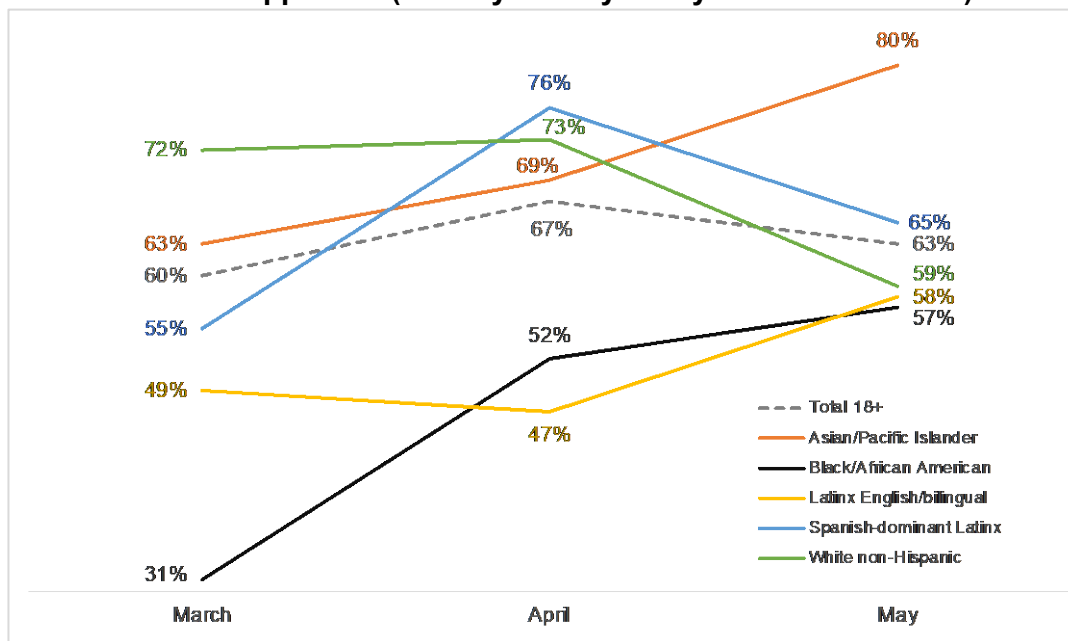
As of mid-May, 45% of adults in California say they have been vaccinated but African American, Latinx English/bilingual and Spanish-dominant Latinx continue to lag behind other populations.

Exhibit 1. Californians Already Vaccinated for COVID-19 by Population



Since March, the proportion of Supporters in the adult population increased slightly from 60% to 63%. Supporters have grown noticeably among the Asian/Pacific Islander, African American and Latinx English/bilingual populations, but declined among White non-Hispanics and Spanish-dominant Latinx.

Exhibit 2. Supporters (Already or Very Likely to Get Vaccinated)



Since March 2021, the demographic profile of Undecided and Rejectors has shifted somewhat. Rejectors have consistently been lower income, politically conservative, not worried about

getting COVID-19, and Latinx English/bilingual; in May, Rejectors became more likely to be White non-Hispanic. Undecideds have consistently been younger, lower income, and align with the Democratic party; in May, Undecideds shifted from being more African American and Asian/Pacific Islander to being more Spanish-dominant Latinx.

Exhibit 3. Profile of Supporters, Undecideds and Rejectors

3 LEVELS OF VACCINE ACCEPTANCE	REJECTORS (19%)	UNDECIDEDS (18%)	SUPPORTERS (63%)
	Very Unlikely or Somewhat Unlikely to get vaccinated	Undecided or Somewhat Likely to get vaccinated	Very Likely to or Already Vaccinated
% BY REGION:			
NORTHERN	17%	17%	66%
CENTRAL	23%	22%	55%
SOUTHERN	17%	15%	68%
PERSONAS	<ul style="list-style-type: none"> ✓ Younger ✓ Female ✓ White non-Hispanic or Latinx English/bilingual ✓ Income <\$50K ✓ Align Republican ✓ Not worried about getting COVID-19 ✓ Not seen CDPH campaign 	<ul style="list-style-type: none"> ✓ Younger ✓ Spanish-dominant Latinx ✓ Income <\$50K ✓ Live in rural area ✓ Align Democrat 	<ul style="list-style-type: none"> ✓ Older ✓ Male ✓ Asian/Pacific Islander or Spanish-dominant Latinx ✓ Align Democrat ✓ Friend/family had COVID-19

*Central counties: Colusa, Fresno, Glenn, Inyo, Kern, Kings, Lake, Madera, Merced, San Joaquin, Stanislaus, Tulare, Yuba

*Southern counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Ventura

*Northern counties: All other counties not listed among Central and Southern

Partial correlation models indicate vaccine acceptance is motivated by messages communicating the vaccines 1) are considered safe for most people by scientists and doctors, 2) were tested in different ethnicities/races, 3) are >95% effective, and 4) help end the pandemic and get you back to seeing friends and family in person and going to restaurants, movies and travel.

The models further indicate the greatest barriers we need to address: 1) fear of side effects, 2) mistrust of government and vaccine makers, 3) belief that vaccines are not needed for persons in good health or persons who already had COVID-19; and 4) insistence on a person's right not to be vaccinated. While most Rejectors trust only their personal physicians and friends/family for advice on COVID-19 vaccines, Undecideds trust these entities for COVID-19 vaccine advice and additionally trust CDC, CDPH, and local health departments. These messengers are key to reaching the unvaccinated and increasing vaccination uptake.

PUBLIC HEALTH BEST PRACTICE RECOMMENDATIONS

To achieve universal acceptance and action toward mass immunization, a bold new narrative is needed, delivered with compelling and consistent content anchored in validated facts and delivered by trusted messengers. Positive outcomes will only be achieved with repeated exposure to messages that target knowledge, attitudes and beliefs. Inclusivity of all populations requires the microtargeting of messages that are culturally congruent and designed with an understanding of the barriers inherent in each targeted population segment. The research findings have implications that lead to the vaccine delivery, messaging and public health policy recommendations that follow.

1. **Provide timely, culturally congruent and accessible public awareness campaign information from credible, trusted sources to actively combat misinformation, and increase trust in vaccines.** Present information with transparency. Engage the medical and scientific community in efforts to rebuild trust in science, including acknowledging historical mistrust and promoting sensitivity and empathy in outreach. Ensure that medical research and data collection related to the vaccine are inclusive across all demographics. Focus the message on the individual but also on how the vaccine can help to protect the entire family. Talk transparently about possible side effects and risks based on the data.
2. **Invest in community-based information delivery by trusted community leaders and organizations serving all underserved and overlooked communities.** Leverage trusted influencers in delivering positive, micro-targeted messaging about vaccines on the local level. Provide opportunities for town hall or roundtable Q&A formats. Highlight successes and data transparency to increase relatability and build trust. Doctors and other medical professionals who are vaccine adopters can effectively communicate the benefits of the vaccine. *Promotoras*, health navigators and trusted community members who are culturally and linguistically adept can help break down myths in hard-to-reach communities, such as farm workers and indigenous populations. Religious leaders, community health workers, advocacy leaders and staff in cultural centers are also trusted messengers. Legal and community activists and advocates are effective in some communities, while family members and caregivers are also positive influencers.
3. **Disseminate information so that marginalized communities see themselves in relation to the vaccine.** Mitigate disinformation locally, involving local news outlets, especially ethnic media, to disseminate facts to inform and educate. Employ journalists from those media outlets who have a stake in promoting validated information among their own audiences. Team with community leaders and CBOs to collaborate in message delivery. Employ testimonials of real people in various population segments who can share their experience with COVID-19 and the vaccine, why it's important, how it will impact the individual and their families, and its effect on quality of life.
4. **Engage with local community leaders to plan and institute vaccine delivery methods for hard-to-reach populations that eliminate financial, transportation and structural barriers.** Leverage faith-based organizations, CBOs, county health centers, mobile clinics and other innovative vaccine delivery systems that reach people of diverse cultures, people in rural areas, and people who don't have health insurance. Provide transportation to and from vaccine sites where travel is a barrier. Consider home visits for elderly or other confined at home. Ensure that sites are ADA accessible for people with disabilities. Provide for the communication challenges of people who speak other languages, and people who are deaf or hard of hearing. Reach farmworkers where they live or work and employ people they trust for scheduling and completing vaccination appointments.
5. **Employ research-based “best practices” in a public awareness campaign that reduces fear, misinformation and mythology and generates proactive self-care and commitment to vaccine protection for family, friends and the common good.** Use images of medical professional, especially of women doctors, are appreciated

across all populations. Validation from “top experts” builds confidence. Some key messages include: vaccine safety; clarification of side effects; vaccines are free; vaccines cannot give one COVID-19; vaccination means the possibility of families being together while protecting those we love the most. Use a strong call-to-action and convey information in a straightforward and concise manner. Be concise and avoid dense text.

LOOKING AHEAD

Statewide California Department of Public Health campaigns will continue be monitored monthly via surveys to track shifts in vaccination motivators, barriers, and performance of campaign messaging.

REFERENCES

- (1) COVID-19 VACCINE STUDY: Literature Review on Vaccine Acceptance and Uptake, SocialQuest for California Department of Public Health. January, 2021.
- (2) COVID-19 VACCINE STUDY: Stakeholders In-Depth Interviews; *SocialQuest* for California Department of Public Health, January, 2021.
- (3) COVID-19 VACCINE STUDY: Qualitative: Dyads & Triads, *SocialQuest* for California Department of Public Health. January, 2021. The study was conducted amongst 12 families (33 respondents) of diverse backgrounds (Chinese, Filipino, African American, farmworkers, parents with school aged children, older Californians, and adults with underlying health conditions), gender, ages, and inclusive of youth ages 15+.
- (4) COVID-19 VACCINE STUDY: Qualitative Online Boards, *SocialQuest* for California Department of Public Health. February, 2021. The study consisted of 8 diverse segments (LatinX Spanish Dominant, African American, Asian, Middle Eastern and North African, Native American, older Californians, adults with underlying health conditions, essential workers, and parents with school aged children) with a total of 105 respondents participating from a range of ages, gender, and income levels.
- (5) COVID-19 VACCINE STUDY: Multi-ethnic Focus Groups, *SocialQuest* for California Department of Public Health. March, 2021. The groups were conducted amongst 7 diverse populations (Bilingual LatinX, Native American, African American, Asian Indian (mix of Hindi and Punjabi speakers), a mix of Asian participants, Chinese (in-language) consistent of a total of 51 participants from a range of ages, gender, and income levels.
- (6) COVID-19 Vaccine Campaign Quantitative Tracking Study: Benchmark Wave, SocialQuest for California Department of Public Health, March 2021.