Riverside University HEALTH SYSTEM

Public Health

in affiliation with

HARC

HEALTH ASSESSMENT AND RESEARCH FOR COMMUNITIES

Riverside County Public Health COVID-19 Needs Assessment 2023

Contents

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- Sandra Escobar
- Wendy Hetherington
- Kevin Meconis

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1. Ace Printing, notably Mark Lawrence and Sandy Miller, for their dedicated efforts in mailing out surveys and post-incentives. Discover more about Ace Printing at: http://www.aceprintingps.com/.
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EXECUTIVE SUMMARY

Introduction

This report summarizes a survey conducted on COVID-19 attitudes towards the virus and vaccination as well as the needs of Riverside County adults. The present report was developed by HARC, Inc. on behalf of Riverside University Health System – Public Health (hereafter referred to as RUHS – Public Health). HARC and RUHS – Public Health conducted the first Riverside County COVID-19 Needs Assessment in 2021; this second study explores changes and new questions around the topic of COVID-19 as the pandemic progresses.

Methods

HARC and RUHS – Public Health worked together to create the survey content, basing the format heavily on the first COVID-19 Needs Assessment conducted in 2021, and adapting based on lessons learned as well as new developments (e.g., long COVID). As with the first needs assessment from 2021, this survey was conducted via address-based random sampling. Specifically, paper surveys in English and Spanish were mailed out to 40,000 residential addresses across Riverside County with a $2 pre-incentive, a pre-paid return envelope, and the possibility of winning a $100 Visa gift card upon completion and return of the survey. Initial invitations were sent out in November 2022, reminders were sent to non-responders in January 2023 and February 2023.

The final sample size was 4,804 local adults, representing a 12% response rate. This data was then weighted by a statistician to better represent the demographics of the population as a whole. The demographics of the sample, once weighted, represented the actual population of the County fairly well.

Results

COVID-19 Testing

The majority of local adults have been tested for COVID-19 at least once; however, 11.2% have never been tested for COVID-19. The most common place to be tested was in the home, demonstrating how accessible the free in-home tests made COVID-19 testing. Most people tested because they had to for travel or for work.

About half of participants who tested using an at-home kit tested negative for COVID-19. Of those who tested positive, the vast majority stayed home and isolated from others. Many said they reached out to a healthcare provider via phone or internet to get instructions/prescriptions.

COVID-19 Diagnosis

A total of 58% of the participants have tested positive for COVID-19 at least once, representing a significant increase from the first study, where only 22% had ever tested positive. Perceptions have changed as well—fewer people feel that COVID-19 is a serious health issue, and more people believe it is "not at all serious" if they test positive.

Those who tested positive at least once before were asked how serious their symptoms were; 8% said "very serious" and 34% said "moderately serious". In contrast, 30% said "not at all serious". Approximately 4% of people who tested positive for COVID-19 had to stay overnight in the hospital (although this figure is slightly skewed, as it only represents those alive to complete the survey, and does not include data from people who died of COVID-19). About half of those who had to be hospitalized (50%, or approximately 20,298 people) had to be placed in the ICU.

The majority of participants who'd tested positive for COVID-19 have since recovered their previous state of health—88%. Only 14% are still in the process of recovery. Most participants who had recovered stated that their recovery took under two weeks (73%). However, about a third of people who'd been diagnosed with COVID-19 stated that they experienced symptoms that lasted three months or longer.

COVID-19 Vaccination

Approximately 80% of participants were fully vaccinated against COVID-19, while another 6% were partially vaccinated and 2% are not yet vaccinated but plan to become vaccinated in the future. The remaining 13% are not vaccinated and have no plans to become vaccinated.

More than half of vaccinated people (52%) reported experiencing no symptoms as a result of the vaccine. Most people got vaccinated to protect themselves, their friends/family, and others. About 46% believe that the vaccine protected them "very much" against COVID-19; however, 9% felt the vaccine protected them "not at all" against COVID-19. Most people who have received the vaccine (74%) have also received a booster.

The most common reasons for individuals to not get vaccinated included concern over the side effects, a belief that the vaccine does not work, and/or concerns about it being a new type of vaccine. In the open-ended question, many who are not vaccinated stated a belief that COVID-19 is very mild, like the flu, and since people who've been vaccinated against COVID-19 can still get COVID-19, it must not be worth getting vaccinated. Most people who are not vaccinated (63%) believe that the vaccine would not protect them "at all" against COVID-19.

COVID-19 Vaccine Mandates
About half of all participants—regardless of vaccination status—have experienced a vaccine mandate from some source. Most mandates came from work, family, and/or travel requirements. Not surprisingly, vaccinated people are much more likely to recommend the vaccine to others, while the majority of unvaccinated people are extremely unlikely to recommend the vaccine to others.

COVID-19 Vaccination for Children
Parents were asked if their child had received the COVID-19 vaccine; 37% have not vaccinated any of their children. When asked about the reasons why, common themes include a fear about side effects, concerns about it being a new type of vaccine, and/or a desire to wait longer to see what side effects others experience.

Those parents who had at least one vaccinated child were similarly asked to describe their motivation for vaccinating that child; as with the motivations to vaccinate oneself, the most common reasons were to protect the child/children, to protect family/friends, and/or to protect others.

Impact of COVID-19
The two most common fears related to COVID-19 included the fear of a loved one getting sick or dying and the fear of spreading it to others. Many responded that they had no fear, or that they feared government overreach, forced vaccination, or side effects/long-term effects of the vaccine.

Approximately 46% of participants say that COVID-19 currently has an impact on their economic situation “somewhat” or “to a great extent”. Comparing to the results of the prior study, overall COVID-19 now has less of an impact on all domains than it did in 2021. About a third of participants still worry about friends/family or fear getting sick; however, fear has overall decreased substantially since 2021. Similarly, the percent of locals who experience difficulties getting what they need has dropped substantially since the 2021 study.

When asked to describe in their own words how COVID-19 impacted them, participants had strong emotions about masks—both for and against. Many reported rifts in relationships with family and friends as a result of differences of opinion about COVID-19. Anger and frustration were common themes as well. Many shared how social isolation had impacted them, and how mental and physical health had been damaged over the pandemic.

While many people reporting having to delay or not get necessary healthcare in the early years of the pandemic, very few experienced those problems now.

Parents of children under 18 were asked how COVID-19 impacted them as a parent. One common theme was that it had no impact while others mentioned having a positive impact (e.g., spending more time together, etc.). Some said it made them more cautious and overprotective of their children. Many talked about how hard it was to assist their children with remote schooling, and how the need to teach disrupted their work-life balance greatly, sometimes forcing them to quit their jobs. Furthermore, many parents reported feeling that their children had fallen behind in school, both in terms of academic accomplishments and in terms of social skills.

COVID-19 Information Seeking

When asked to describe where they learned about how to get a vaccine or booster locally, many people referenced healthcare organizations, providers, and health insurance plans. Others described getting the information from friends, family, and neighbors. Local pharmacies were an invaluable source of information, including proactive outreach to customers via phone calls, emails, and text messages. Some participants felt that the information was so widely disseminated that it was impossible to avoid and that they couldn't imagine anyone not knowing how to get a vaccine due to the high media attention.

Most participants obtained information about COVID-19 from TV news, healthcare professionals, and/or health organizations such as the CDC, WHO, etc. Healthcare professionals were seen as the most trusted source of information, followed by health organizations. Despite being widely used, TV news was not widely trusted as an accurate and reliable source of information about COVID-19.

Disproportionate Impact of COVID-19 on Communities of Color

A plurality of respondents believe that COVID-19 had a disproportionate impact on communities of color than on White people; however, opinions are overall mixed on the subject and evoked some strong feelings expressed in the margins of the survey and in phone calls to HARC.

Racial Equity

Overall, about a quarter of participants said they had paid "a lot of attention" to issues of race and racial inequality over the past three months. However, another quarter said they'd paid no attention at all. Similarly, opinions were split on whether the amount of attention paid to racial issues in the U.S. was appropriate.

The majority of participants (63%) believe that it is "very important" to educate themselves about the history of racial inequality in our country. In contrast, only 18% believe it is "very important" to attend protests or rallies focused on issues related to racial inequality.

Inflation

Participants were also asked about how inflation had impacted them. Most described how inflation had affected their life (e.g., increased cost of goods and services without an increase in income). Several said that it had not affected them in any way. However, others said they were trying to fight back by working more (even coming out of retirement to go back to work) and budgeting/minimizing their spending. A common theme was how stressful living on a tight budget can be; some were forced to dip into their savings to make ends meet while others racked up credit card debt.

Great Resignation

To assess the impact of the "Great Resignation" locally, participants were asked whether they voluntarily quit a job in 2021 or 2022; approximately 11% did, equating to 172,112 adults. The most common reasons for quitting included low pay, being disrespected at work, lacking opportunities for advancement, and/or lacking flexibility in scheduling.

RUHS – Public Health Specifics

When asked whether they knew about RUHS – Public Health's various activities during the pandemic, the most well-known included vaccine sites and testing sites. Nearly all participants knew that RUHS – Public Health had operated these sites. The less well-known services that people would've liked to learn more about included providing information to support small businesses, food assistance/Great Plates program, and mask distribution.

Finally, participants were asked how much they trust RUHS – Public Health. Results showed that 80% trust RUHS – Public Health "a moderate amount" or "a lot". In contrast, 4% have no trust in RUHS – Public Health. When asked to explain their ratings, many said that they were not familiar with RUHS – Public Health and as such were unsure of their trust level. Common reasons for trusting in RUHS – Public Health included praise for the department's good work, reliable information, and effective communication. Several felt that they had no reason not to trust RUHS – Public Health. In contrast, those who expressed distrust typically felt distrust towards all forms of government.

Conclusion

The information contained in this report will be used to guide RUHS – Public Health's activities going forward, both related to the pandemic and in general.

INTRODUCTION

About RUHS – Public Health

Established in 1926, the RUHS – Public Health is the local, public agency responsible with ensuring the health and well-being of county residents and visitors. RUHS – Public Health's values of respect, integrity, service, and excellence are demonstrated through their strong partnerships with community-based organizations, academic institutions, tribal organizations, faith-based organizations, local governmental agencies and community leaders, local business, social service providers, nongovernmental organizations and other relevant partner organizations necessary to improving the health of Riverside County's community.

About HARC

HARC, Inc. (Health Assessment and Research for Communities) is a nonprofit research and evaluation organization based in Riverside County. HARC advances the quality of life by helping community leaders use objective research and analysis to turn data into action. HARC specializes in providing data that helps improve the social determinants of health. Social determinants of health are the conditions where people live, learn, work, and play. This includes factors such as the economy, education, social structures and support, neighborhoods, the built environment, and of course, healthcare. A healthy community provides residents with education, jobs that pay a living wage, safe and affordable housing, social support, accessible and affordable healthcare, safety from discrimination and injustice, and much more. HARC provides data to support these healthy communities in all aspects of health and wellness.

This report summarizes a survey conducted on COVID-19 attitudes towards the virus and vaccination as well as the needs of Riverside County adults. This project was supported by Epidemiology and Laboratory Capacity Enhancing Detection funds, which expands upon previous COVID-19 awards and is provided by the Centers for Disease Control and Prevention by way of the Paycheck Protection Program and Health Care Enhancement Act Response Activities for Cross-Cutting Emerging Issues. The present report was developed by HARC, Inc., on behalf of Riverside University Health System – Public Health (hereafter referred to as RUHS – Public Health). This is the second study on COVID-19 in Riverside County conducted by HARC and RUHS – Public Health.

METHODS

Survey Development

HARC and RUHS – Public Health conducted an initial COVID-19 needs assessment in 2021 (hereafter referred to as "2021 study" for the sake of simplicity, despite the report coming out in 2022). The initial survey developed by HARC and RUHS – Public Health in 2021 was adapted for 2022/2023, reflecting lessons learned from the first round of the survey, as well as emerging issues (e.g., long COVID). The final survey[1] included 116 questions that covered both COVID-19 and general health. The survey included questions in which respondents could select one response, check all that apply, or write in their own words. The final survey was translated into Spanish by HARC staff; it was offered in English and Spanish to all participants.

The methods used in the 2021 study were paper surveys mailed out with a $2 pre-incentive and the promise of a $25 post-incentive. However, based on funding restrictions, the methods this time around included a paper survey with a $2 pre-incentive and the opportunity to potentially win a $100 post-incentive (randomly selected from all participants). The survey and data collection methods were approved by Heartland IRB on October 10, 2022.

Ace Printing purchased (from a database of residential mailing addresses) a random sample 40,000 households in Riverside County. HARC and Ace mailed an "invitation package" to all 40,000 households, which included a cover letter (in English and Spanish), a paper survey in English, a paper survey in Spanish, a pre-paid return envelope, and a $2 bill as a pre-incentive. Each survey was printed with a unique identifier code so that each household could only participate once. The initial invitation survey package was mailed out in late November/early December 2022; residents were asked to return the completed surveys by the end of December 2022.

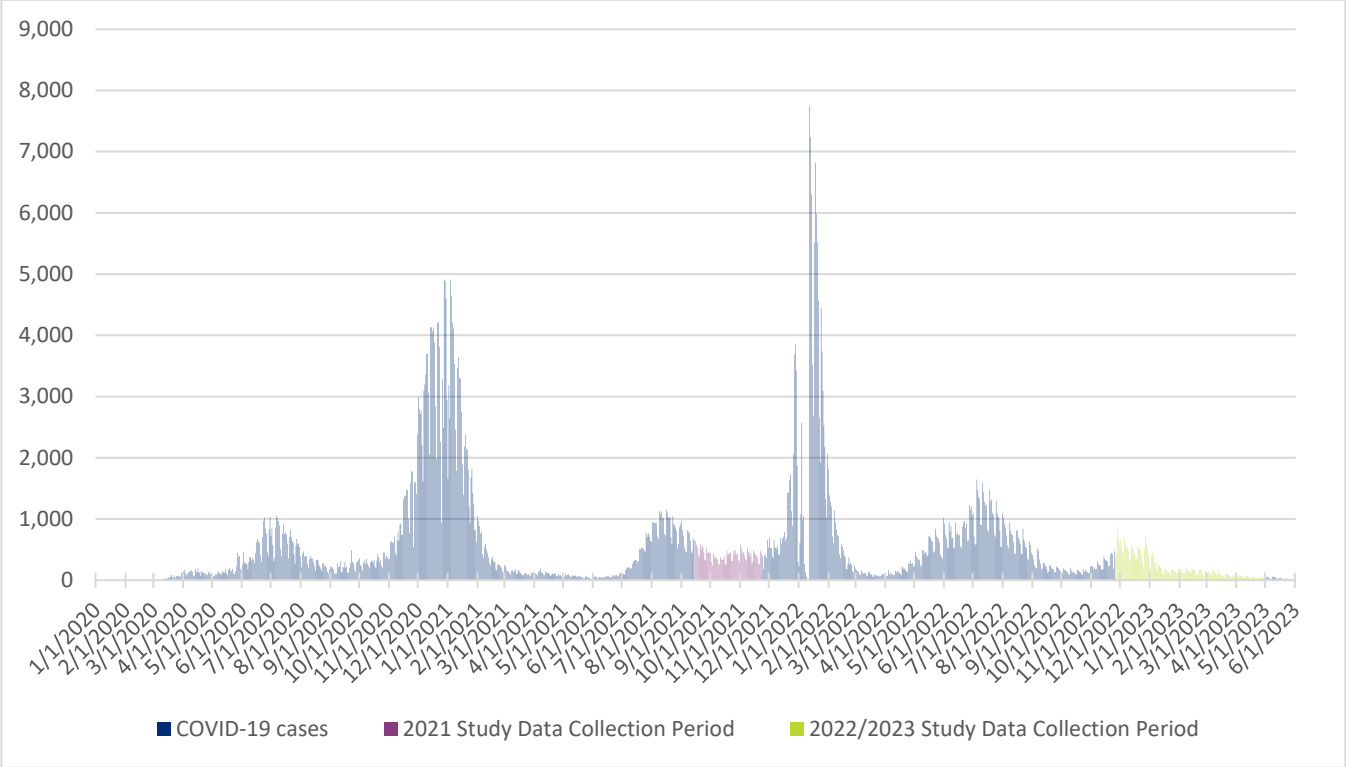
Reminder packages were mailed to non-respondents, in late January 2023. Reminder packages included the same materials with the exception of the $2 pre-incentive. The letter specified that responses should be received by mid-February 2023. A second round of reminder packages (same materials mentioned previously) were mailed to non-respondents at the end of February. The letter specified that responses should be received by the end of March 2023.

[1] See Appendix B for the full survey utilized in the 2022/2023 study (in English), as well as endnotes containing references for question sources and modifications.

HARC processed incoming surveys and entered them into an online database. Data entry was completed on May 3, 2023. Some surveys came trickling in after data entry was completed on 5/3/2023; however, due to time constraints on the reporting, these were not included in the final dataset or the final report.

Figure 1 below provides additional context to the data collection timeline for both studies (2021 study is represented in purple, the 2023 study is represented in green).

Figure 1. COVID-19 Daily Cases in Riverside County



Note: Data in chart are from RUHS - Public Health.

Next, the dataset was sent to a statistician for weighting. Weighting is important to ensure that the results of the survey appropriately represent the county. Missing data were imputed using a hot deck method. Iterative proportional fitting was used to ensure marginal distributions for age, sex, race by ethnicity, and household income aligned. Weights were rescaled to the 2021 Census population estimates (1,853,876 adults living in Riverside County). See Appendix C for the details of the weighting methodology.

The final sample size of 4,804 equates to a response rate of approximately 12.0%; this is substantially lower than the 2021 study response rate of approximately 21.5%. This decrease is likely due to the methods change from giving a $25 Visa card to *all* completers to an *opportunity* to win a $100 Visa card.

Because of the weighting of the data, the population estimates illustrated in this report are closer to 1,853,876 (the number of adults in Riverside County) rather than 4,804 (the number of completed surveys). This report may refer to "residents" a number of times, and these residents are always Riverside County residents who are ages 18 and older.

While figures/tables may include estimates such as "percentages", "frequencies", "counts", etc., these all refer to weighted estimates (i.e., estimates weighted to the population counts provided by the Census) and weighted percentages (percentages based on the weights from the Census). Lastly, many questions on the survey were open-ended and residents could provide any response they desired. These areas were qualitatively analyzed in which common responses were grouped into themes post-data-collection.

RESULTS: COVID-19 Needs Assessment

A total of 4,804 surveys from the randomly selected sample of 40,000 Riverside County households were completed and sent back to HARC by the close date of the survey. Throughout this results section, results will sometimes be compared to the first COVID-19 needs assessment conducted by HARC and RUHS – Public Health; for simplicity's sake, the first study shall be referred to as "2021 study" while the current study will be referred to as "2023 study".

Weighted Data

Overall, a diverse sample of Riverside County residents responded to the survey. However, there were some slight biases towards older and White-identifying individuals. Thus, the survey results were weighted to account for these demographic differences to provide a more representative illustration of the county.

All results that follow were weighted[2] according to the United States Census Bureau, American Community Survey, 2021 1-year estimates (Age, Sex, Race, Ethnicity, Household Income, and Education). This essentially helps to "correct" for the skewed data, although it does not match the Census data identically.

It is worth noting that the data from this second study (2022/2023) was less closely matched to the Census data than the prior study from 2021. It is likely that the lack of a post-incentive in the methods made the survey less appealing to people with limited time (e.g., younger working adults vs. older retired adults).

Finally, the survey results contain data for and are weighted for the adult population only. Thus, this report may refer to "residents" a number of times, and these residents are always Riverside County residents who are ages 18 and older.

[2] See Appendix C for more detail on the weighting procedure.

Demographics

Geography

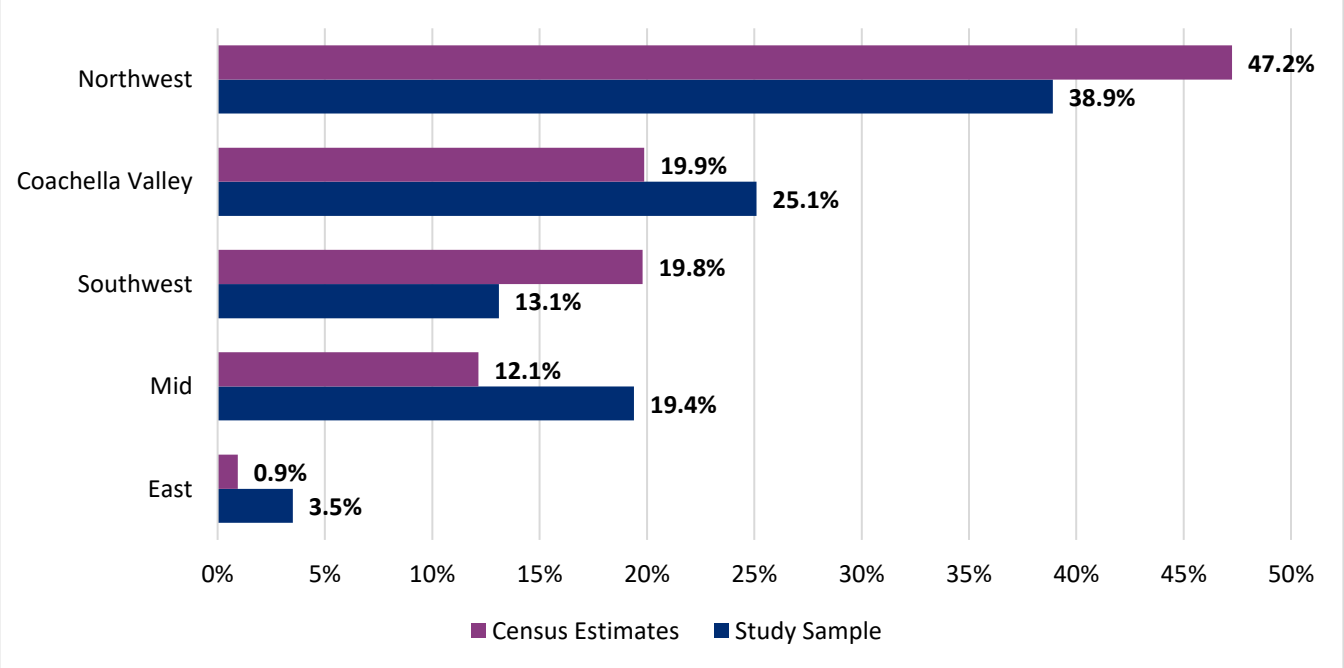
Residents were sampled from addresses across Riverside County. The most common city of residence in the sample was Riverside, accounting for 12.0% of the sample.

Each city within Riverside County is organized into Public Health Regions, which are mutually exclusive of each other. The purple bars in Figure 2 below represent the approximate population of each region (based on the Census Bureau's estimates) while the blue bars represent the study participants.

Overall, the study sample matches well with the actual population; the study sample slightly over-represents the less populous regions (East region and Mid region) while slightly under-representing the most populous region (Northwest). However, no individual region of the County was especially over-represented in the final sample and as such can be utilized with confidence that it reflects the entire geography of the county.

See the table on the following page for a list of cities by each Public Health Region.

Figure 2. Public Health Regions – Population vs. Study Sample



Note: Census estimates based on adult population (18 years and over) American Community Survey – 5-year estimates. *n* = 1,783,367 for study sample.

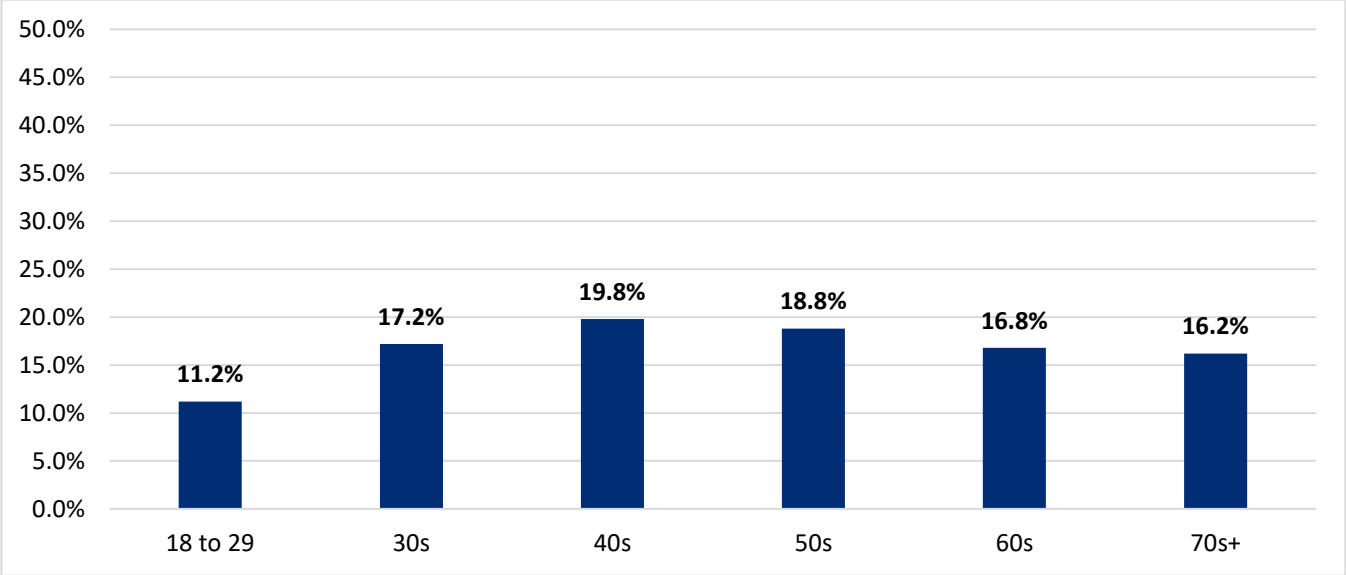
Table 1. Public Health Region by City

Northwest	Southwest	Mid	Coachella Valley	East
Corona	Canyon Lake	Aguanga	Bermuda Dunes	Blythe
Coronita	French Valley	Anza	Cathedral City	Desert Center
Eastvale	Lake Elsinore	Banning	Coachella	Mesa Verde
El Cerrito	Lakeland Village	Beaumont	Desert Edge	Ripley
El Sobrante	Meadowbrook	Cabazon	Desert Hot Springs	
Good Hope	Menifee	Calimesa	Desert Palms	
Home Gardens	Murrieta	Cherry Valley	Garnet	
Jurupa Valley	Temecula	East Hemet	Indian Wells	
Lakeview	Warm Springs	Green Acres	Indio	
Nuevo	Wildomar	Hemet	Indio Hills	
Lake Mathews		Homeland	La Quinta	
March ARB		Idyllwild-Pine Cove	Mecca	
Mead Valley		Lake Riverside	North Shore	
Moreno Valley		Mountain Center	Oasis	
Norco		San Jacinto	Palm Desert	
Perris		Valle Vista	Palm Springs	
Riverside		Winchester	Rancho Mirage	
Romoland			Sky Valley	
Temescal Valley			Thermal	
Woodcrest			Thousand Palms	
			Vista Santa Rosa	
			Whitewater	

Age

Participants ranged in age from 18 to 101. The median age of residents was 65. See Figure 3 for age groups.

Figure 3. Age (Imputed) Categories

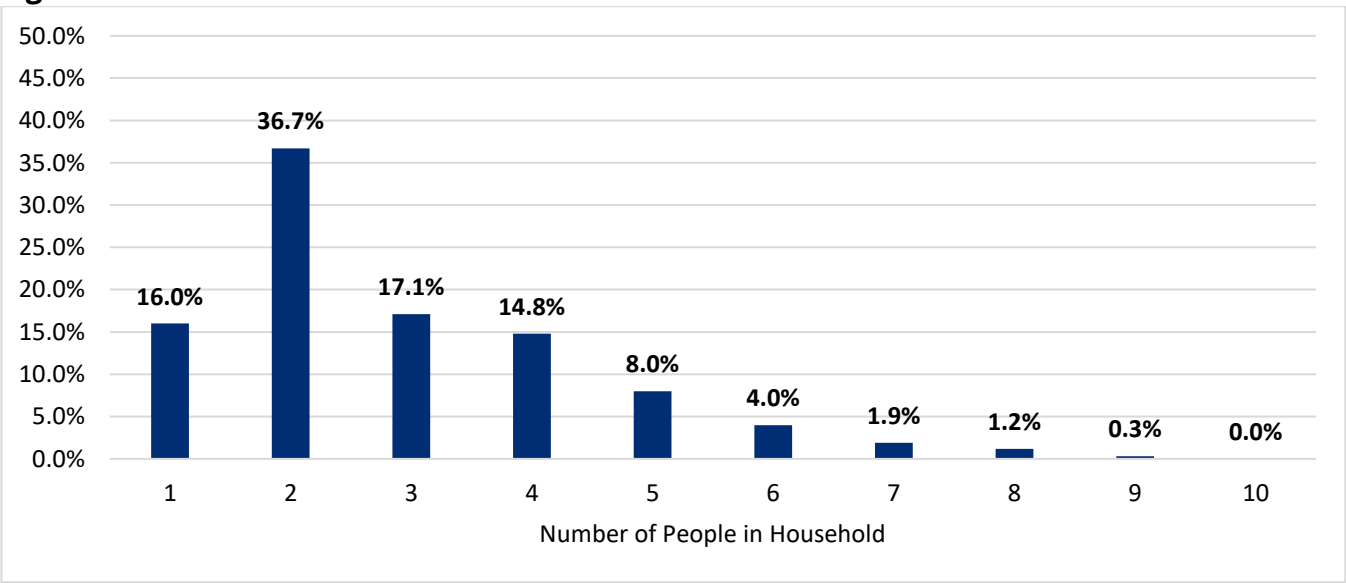


Note: *n* = 1,853,876.

Household Size

The median household size for Riverside County was two people. As illustrated in the figure below, most participants live in households with one resident (16.0%) or two residents (36.7%). See Figure 4 below for additional details.

Figure 4. Household Size

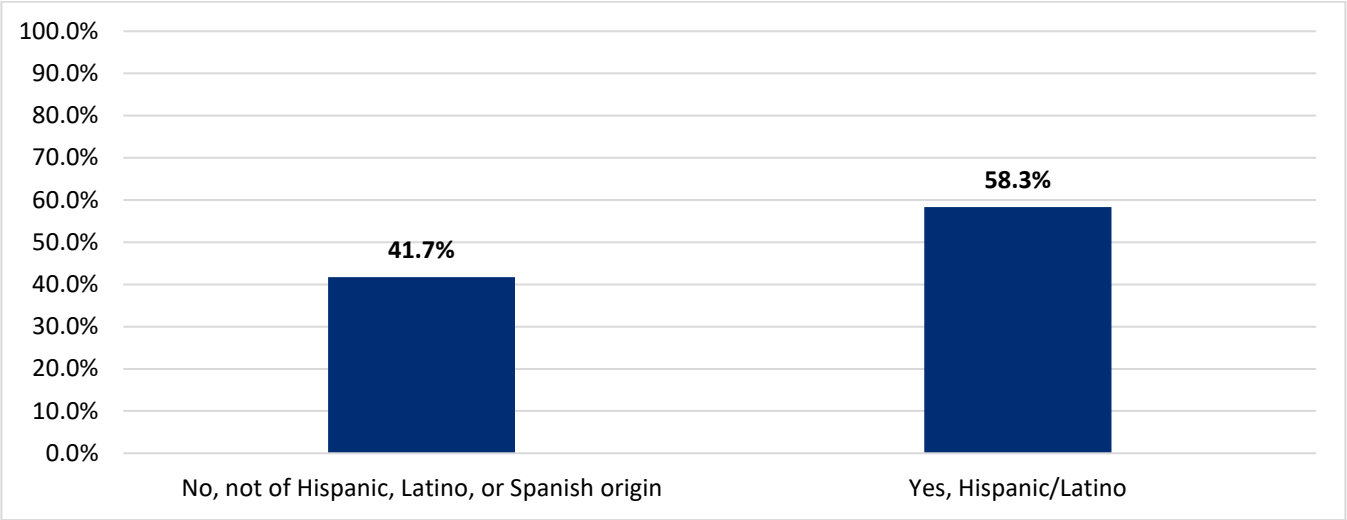


Note: *n* = 1,782,500.

Ethnicity

Slightly over half the sample identified as Hispanic/Latino (58.3%), as illustrated in Figure 5.

Figure 5. Ethnicity (Imputed)

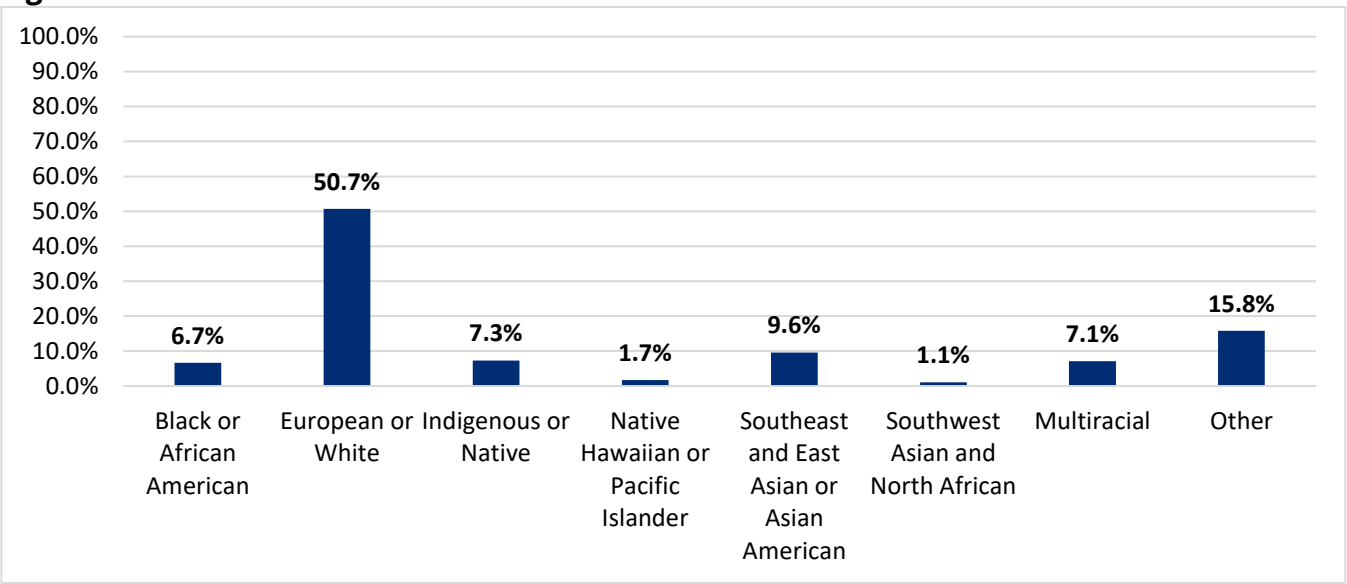


Note: *n* = 1,853,876.

Race

When measuring race per the Census Bureau (that is, where Hispanic/Latino[3] is an ethnicity and not a race), slightly more than half of participants identify their race as European/White (50.7%). See Figure 6 below for additional details.

Figure 6. Race



Note: *n* =1,572,951.

[3] Note that this is the procedure used by the U.S. Census for racial classification. Residents identifying as Hispanic/Latino typically select "Other" on this questioning.

Gender Identity

Two questions were utilized to measure gender identity, per best practices established in the field of survey research.[4] Firstly, residents were asked, "What sex were you assigned at birth, on your original birth certificate?" As illustrated in Table 2, post-weighting, females are slightly more common in the sample than males.

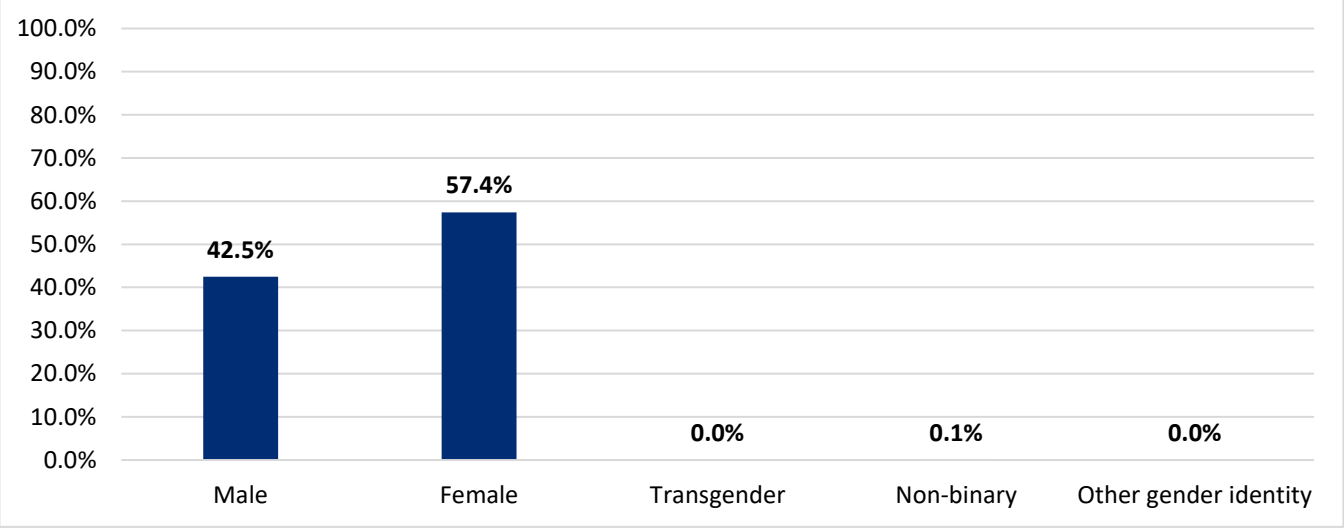
Table 2. Sex Assigned at Birth

Sex Assigned at Birth	Study Sample
Male	42.9%
Female	57.1%
Total	**100.0%**

Note: *n* = 1,817,377.

Next, residents were asked about their current gender identity: "How do you describe yourself today?" Residents could indicate male, female, transgender, or "do not identify as female, male, or transgender." As illustrated below, there were slightly more women (57.4%) than men (42.5%); some participants identified as transgender (0.0%, approximately 10 people) or nonbinary (0.1%, approximately 1,997 people) as illustrated in Figure 7 below. No respondents reported another gender identity.

Figure 7. Current Gender Identity



Note: *n* = 1,813,563.

A total of 0.5% or 9,689 residents identified with a gender that does not match their birth certificate (e.g., assigned male at birth but identify as a female now, etc.).

[4] Williams Institute (2009). Best practices for asking questions about sexual orientation on surveys (SMART). Available online at https://williamsinstitute.law.ucla.edu/publications/smart-so-survey/

Sexual Orientation

To measure sexual orientation, participants were asked, "Do you consider yourself to be…" Participants could check multiple orientations if that suited their identity. Results showed that the majority of residents (85.8%) identify as heterosexual, as illustrated in Table 3 below.

Table 3. Sexual Orientation

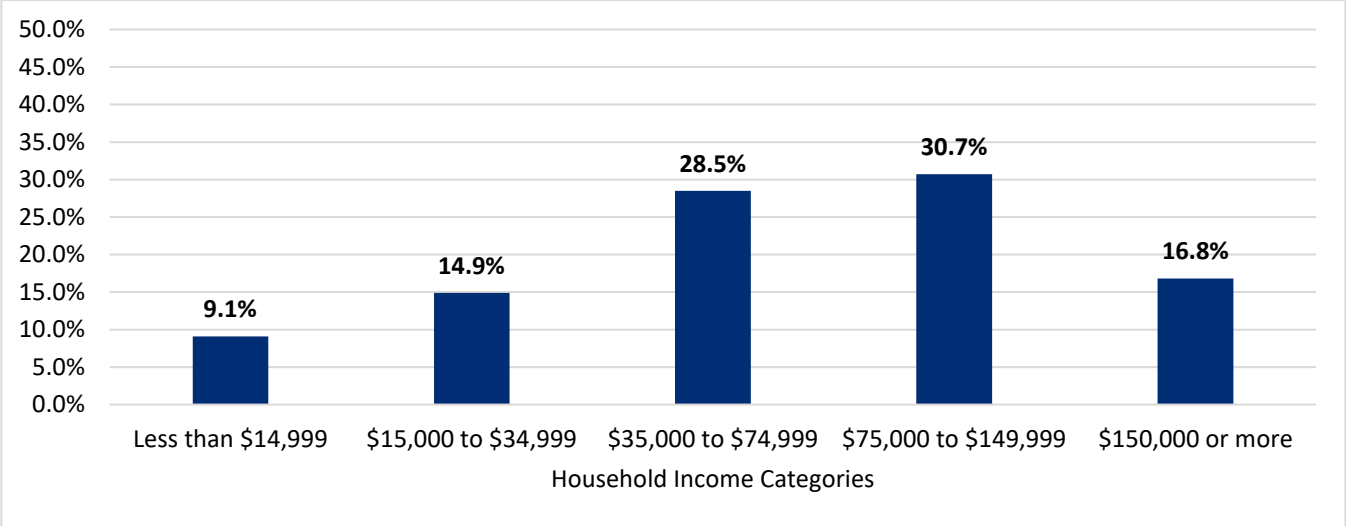
Sexual Orientation	Weighted Percent	Population Estimate
Straight/Heterosexual	85.8%	1,495,967
Gay	4.9%	85,266
Lesbian	0.8%	13,764
Bisexual	2.1%	36,029
Asexual	0.1%	1,930
Queer	0.3%	5,789
Questioning	0.1%	1,930
Choose not to respond	5.5%	95,566
Another sexual orientation	2.1%	35,852

Those who reported "another sexual orientation" (2.1%) were asked to specify the details in an open-ended format. These responses were grouped into themes post-data-collection. Other responses included being celibate by choice after widowed, demisexual, pansexual, and being a "swinger."

Income and Poverty

Participants were asked, "Last year, what was your household income from all sources before taxes?" and "Last year, what was the specific household income from all sources before taxes?" The two questions were combined to approximate income. For the study sample, the median income was $85,000 and most participants live in households that fall in the $35,000 to $149,999 categories.

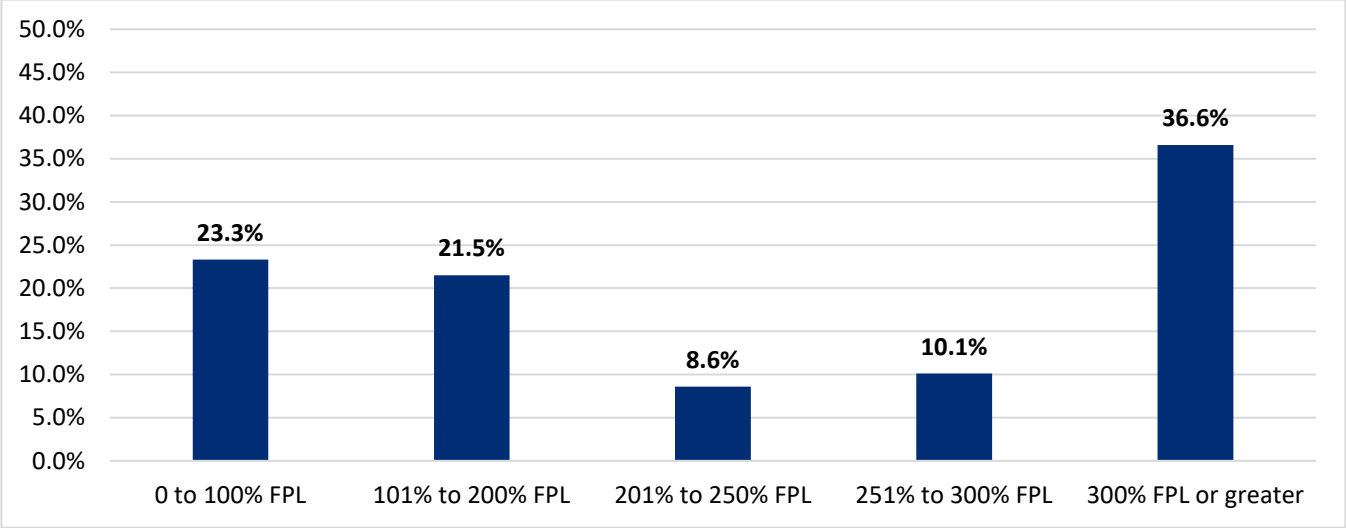
Figure 8. Household Income (Imputed)



Note: *n* = 1,853,876.

Using household income and the number of people within the household, the Federal Poverty Level (FPL) was calculated using the Department of Health and Human Service's guidelines for poverty in 2021. As illustrated in Figure 9 below, 23.3% of participants are living below the poverty line (0 to 100% FPL).

Figure 9. Federal Poverty Level (FPL)

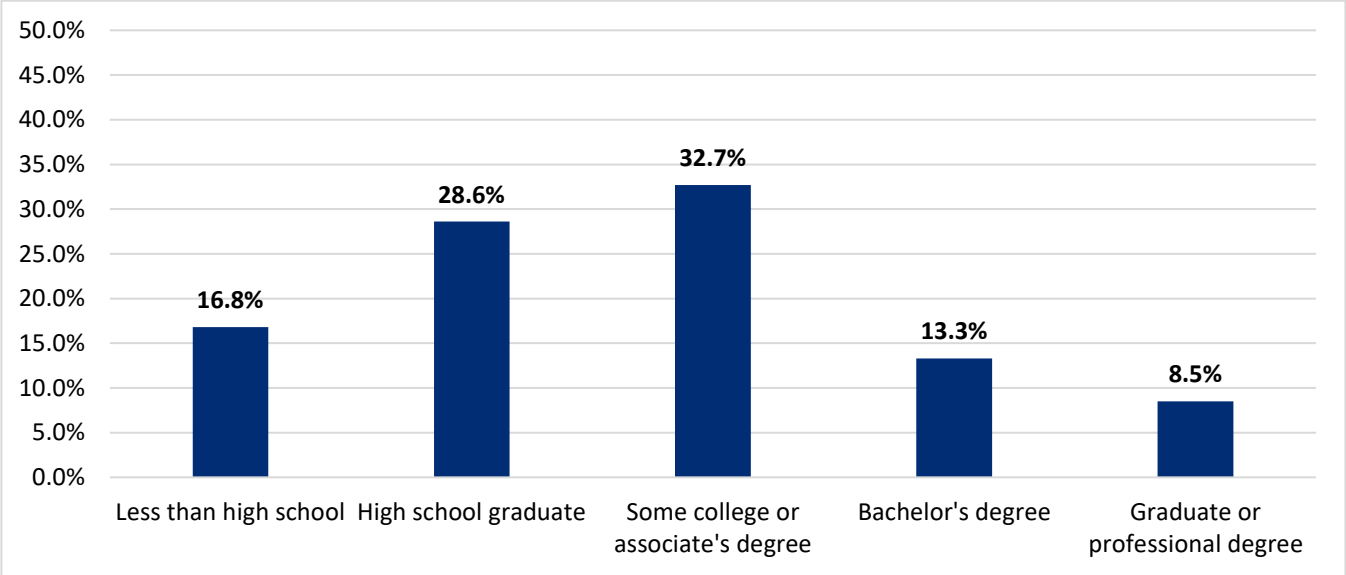


Note: *n* = 817,122

Education

Participants were asked, "What is your highest level of education?". As illustrated in Figure 10, 16.8% have not completed high school or equivalency. About one in three adults have some college or an associate degree (32.7%).

Figure 10. Education Level (Imputed)

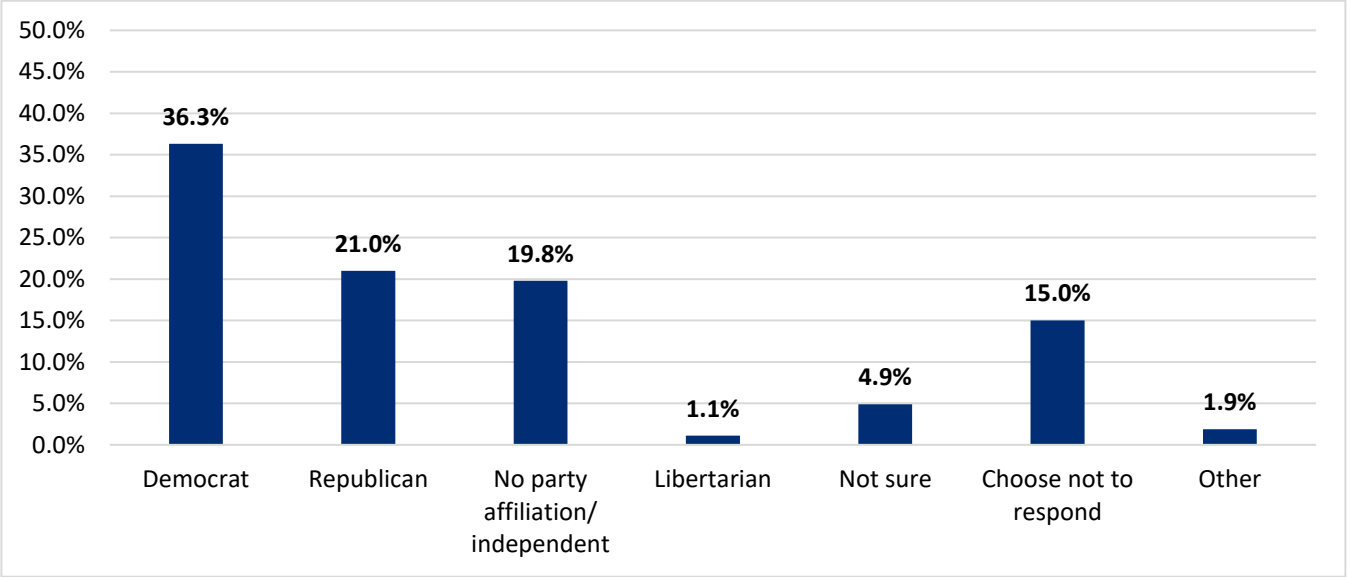


Note: *n* = 1,853,876.

Political Affiliation

Participants were asked, "Generally speaking, do you think of yourself as a…?" and could then select from a range of options. About a third of residents identified as Democrat (36.3%), 21.0% identified as Republican, and 19.8% stated that they had no party affiliation. See Figure 11 below for additional details.

Figure 11. Political Affiliation



Note: *n* = 1,774,857.

Those who reported an "other" political affiliation (1.9%) were asked to specify the details in an open-ended format. These responses were grouped into themes post-data-collection.

Most responses indicated a **mix of multiple affiliations:**

- Democrat for human issues, Republican for fiscal
- Democrat [sic] with financial conservative hint
- Green, as to political philosophy, democrat (Liberal) as to vote
- Registered Democrat but have several Republican Views
- Registered republican but have been voting democrat

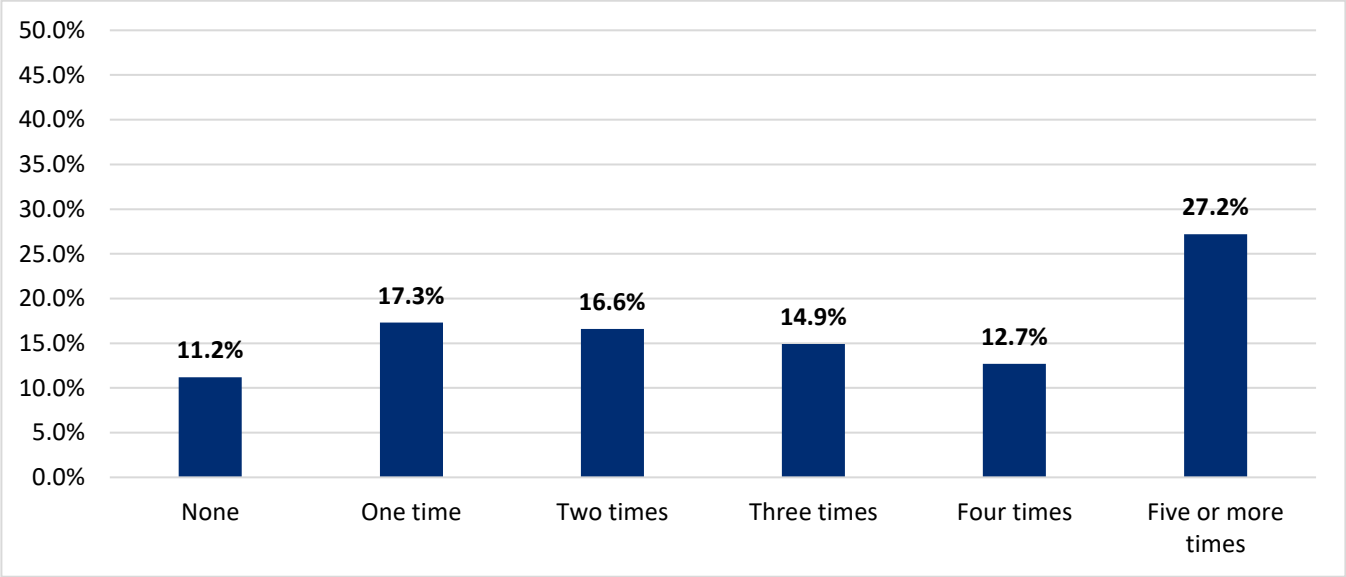
Similarly, many individuals responded that "**it depends**" on the candidate or that they **cannot vote**.

COVID-19 Testing

COVID-19 (Coronavirus disease 2019, SARS-CoV-2) is a contagious respiratory disease that rapidly spread around the world, taking the lives of hundreds of thousands of people in the United States.[5]

Participants were asked, "How many times have you been tested for COVID-19, including at-home testing kits?" As illustrated in Figure 12, about one in four adults have been tested for COVID-19 five or more times. In contrast, 11.2%, or approximately 200,581 people, have never been tested for COVID-19.

Figure 12. Number of Times Tested for COVID-19



Note. *n* = 1,784,313

[5] Basics of COVID-19 (2021). Centers for Disease Control and Prevention. https://www.cdc.gov/coronavirus/2019-ncov/your-health/about-covid-19/basics-covid-19.html

Participants were then asked, "Where did you get tested?" and encouraged to select all that apply. As illustrated in the table below, the most common testing site was at home, which is a testimonial to how accessible the free home tests made COVID-19 testing.

Table 4. Where Tested for COVID-19

Location	Weighted Percent	Population Estimate
At home	65.2%	1,038,746
Testing site	39.6%	631,597
Pharmacy	21.0%	335,109
Hospital	16.3%	259,723
Health clinic	13.1%	208,869
Urgent care	13.3%	212,197
Other site	10.8%	172,798
Doctor's office	7.6%	121,649
College campus	2.9%	46,433

Those who selected an "other" site were asked to specify; open-ended responses were grouped into themes. The two most common themes included **testing related to travel:**

- Airport for travel
- Before going on a cruise
- Hotel before returning from Mexico
- On a bus in Jordan
- On chartered yacht
- International border

and **testing at work:**

- Work (daily testing)
- En el trabajo [at work]
- Work requirement
- Place of employment
- Job had weekly tests in the parking garage (Fantasy Springs casino)

Others indicated they got tested at **specific healthcare settings:**

- Dialysis clinic
- VA [Veteran's Affairs]
- Nursing rehab
- Hospice location
- Skilled nursing facility
- Rehab

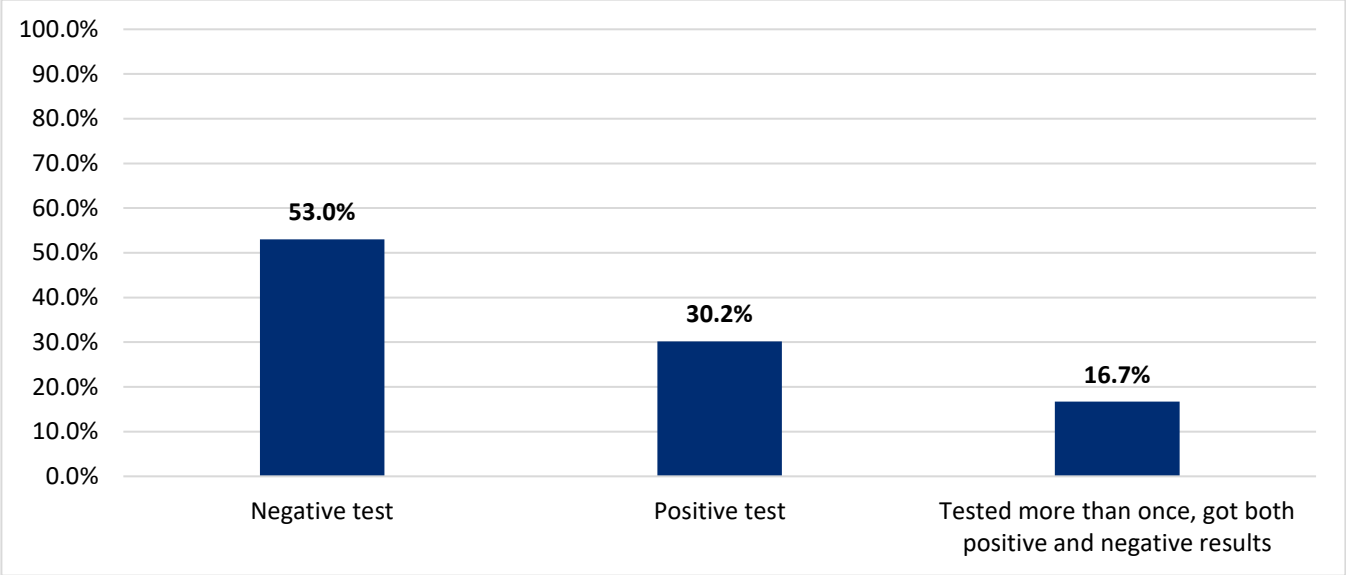
Schools were also commonly mentioned as a testing site:

- Indian school at Sage
- Jr. High School campus
- School site
- En una escuela [At a school]

Less common themes included **places of worship** (e.g., "Iglecia Catolica [sic]", "church", "temple", etc.), **prison/jail** (e.g., "Chuckwalla Valley State Prison", "Ironwood State Prison", "jail", "prison", etc.), and **event-related testing** (e.g., "Dodger stadium – sporting event", "dog show", "soccer game", etc.).

Those who indicated that they utilized at-home testing kits where then asked, “If you tested at home, what was the result?” As illustrated in Figure 13, a little over half of the at-home tests produced negative results.

Figure 13. Result of At-Home Test



Note. *n* = 1,176,877

Those who indicated that their at-home test result was either positive or mixed were then asked, “What actions did you take immediately after your test?” and encouraged to check all that apply. As illustrated in Table 5, the vast majority of those who had a positive at-home test stayed home after receiving the result, and most isolated from others.

Table 5. Actions Taken After Positive At-Home Test Results

Action	Weighted Percent	Population Estimate
Stayed home	92.1%%	503,545
Isolated from others	77.4%	422,973
Wore a mask when around others	63.2%	345,191
Took another test	42.8%	233,720
Went to the doctor/healthcare provider	14.5%	79,379
Other action	11.4%	62,123

Many people wrote in the “other, please specify” line to describe precisely what they did upon receiving positive at-home test results. By far the most common theme was to **contact healthcare providers via phone or internet**:

- Called Dr. did telehealth appt.
- Called MD & followed his instructions
- Video call with doctor
- Zoom with doctor
- Emailed my doctor
- Llame a mi medico primario para informarle y saber si podia recibir algún tratamiento [I called my primary care provider to inform him and to learn if I could receive any treatment]

Other responses described how they **isolated from others:**

- Stay away from people
- Worked my job remotely
- Stayed at home 10 days
- Stayed at a hotel

Notifying others was a common next step as well:

- Notified everyone I exposed
- Notified healthcare provider and cruise ship
- Notified people I had been around so they would get tested.
- Notified work

Many also got **retested** to confirm:

- Confirmed w/a PCR test
- Got a PCR test @ Testing Site
- Retested @ clinic to compare/confirm to home test
- Test @ Dr. office.
- Went to testing lab site
- Testing site

Regarding treatment, many participants described the **home remedies or over-the-counter treatments** they engaged in**:**

- Drank fluids took Motrin
- Drank fluids, ate chicken soup, took Advil
- Tomar té [drank tea]
- No Work. Exercise. Keep positive attitude.
- Took vitamins
- Zinc, vitamin C + EmergenC
- I was the last in the house to get it, I'm self employed so I continued to work/take care of the woman and kids, their symptoms were worse and took longer to recover. Menthol cigarettes & coffee seemed to be an effective treatment.
- Rested, ate, hydrated

Others described their use of **prescription medication, sometimes at hospitals or other healthcare facilities:**

- First time visited hospital on 3 occasions due to dehydration
- Transported to hospital
- Lost, consciousness, so fell twice, so went to ER
- 1. paxlovid 2. steroids
- Got Paxlovid & began treatment
- Had monoclonal antibiodies
- Took medication prescribed by doctor for 5 days
- 911

Some responses specified that the individual **did nothing** in response to their positive home test:

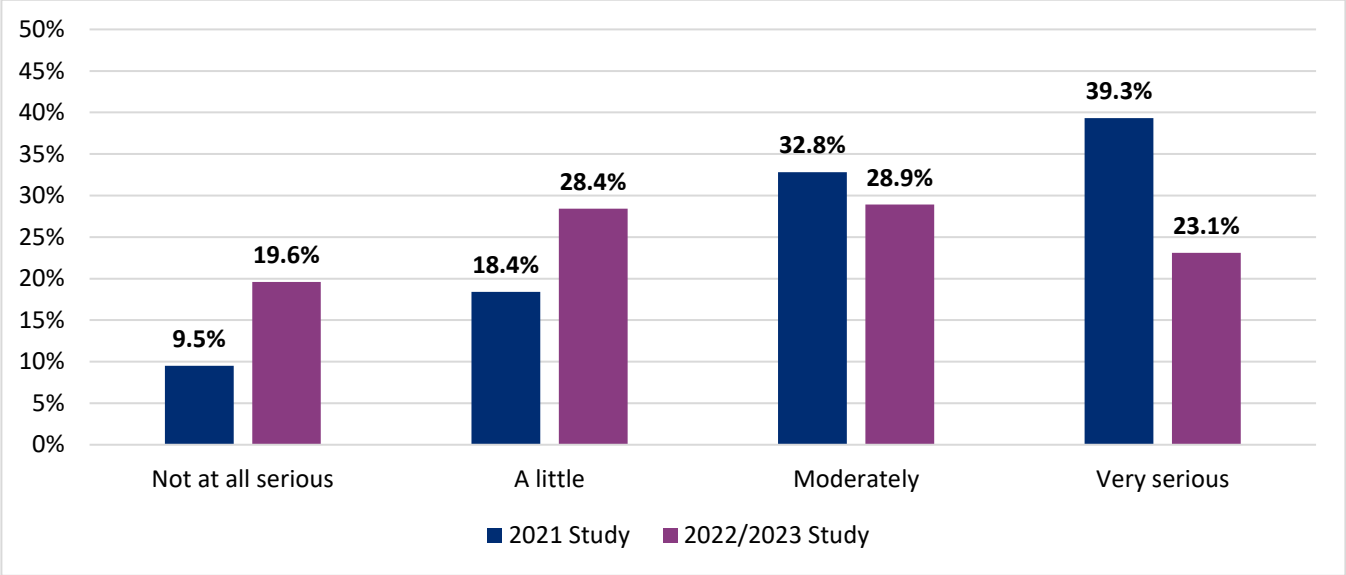
- Did nothing
- Lived life normally
- Nothing different
- Lived my life as normal & allow those around me to live their lives as normal.

COVID-19 Diagnosis

Residents were asked, "Have you ever tested positive for COVID-19?" A total of 58.0% of the sample reported having tested positive for COVID-19, while 42.0% had never tested positive for COVID-19. This equates to more than 1,058,930 people who've tested positive for COVID-19. This is a significant uptick from the first needs assessment, where only 22.3% of the sample reported having tested positive for COVID-19.

Those who selected "no" were asked, "How serious do you think it would be if you tested positive for COVID-19?" As illustrated in Figure 14 below, perceptions of the seriousness of COVID-19 among those who've never had COVID-19 have gone down; that is, they now perceive that it would be less serious than they did two years ago.

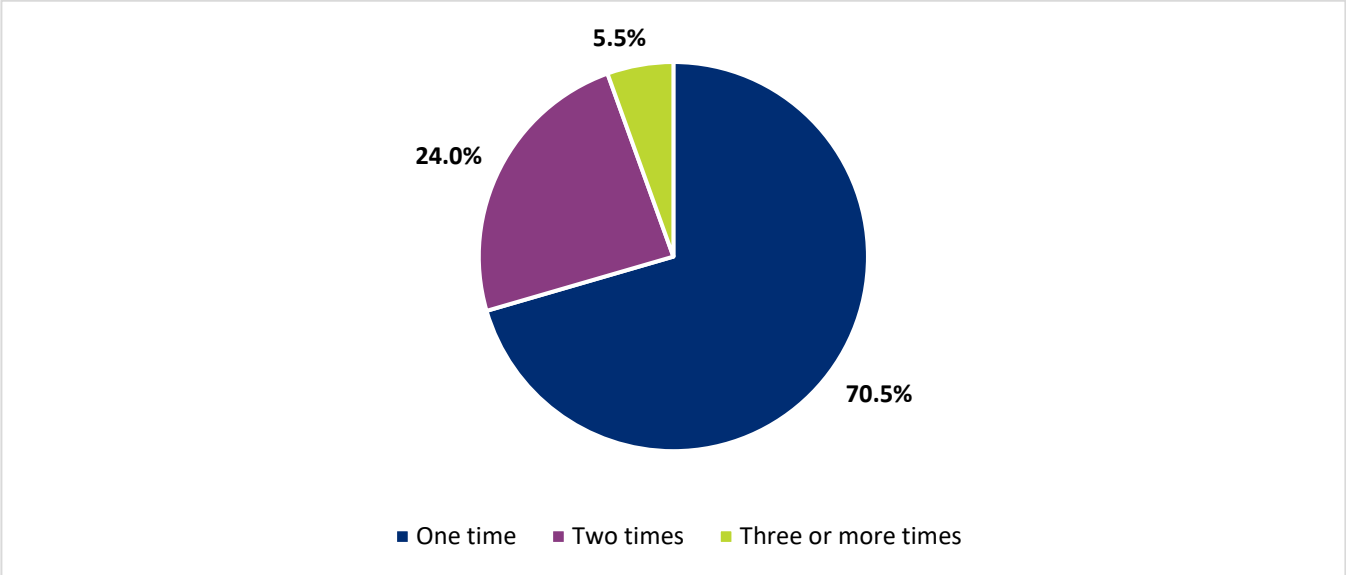
Figure 14. Perceived Seriousness of Contracting COVID-19 – Comparing Across Studies



Note: First needs assessment people who had never tested positive for COVID-19 *n* = 1,334,792. Second needs assessment people who had never tested positive for COVID-19 *n* = 721,337.

Participants who had tested positive for COVID-19 were asked, “How many times have you tested positive for COVID-19?” As illustrated in Figure 15 below, most people have only tested positive for COVID-19 once (70.5%), while 5.5% have tested positive for COVID-19 three times or more.

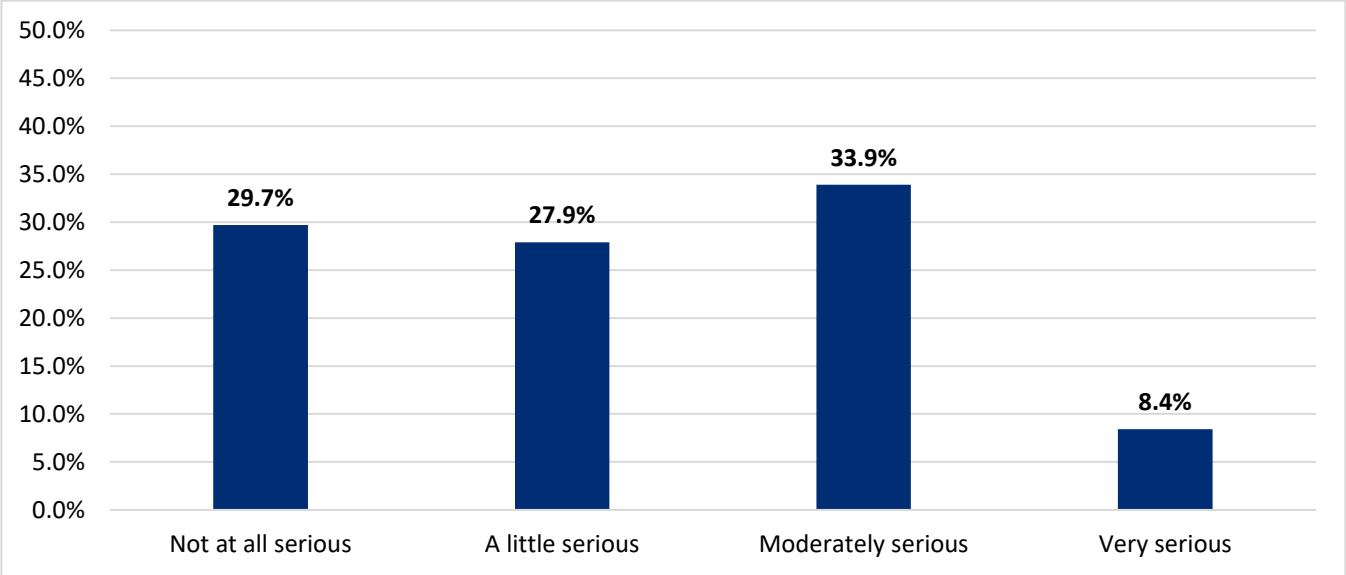
Figure 15. Number of Times Tested Positive for COVID-19



Note: *n* = 1,055,360.

Next, those who had tested positive for COVID-19 in the past were asked, “How serious were your symptoms when you first tested positive for COVID-19?” As illustrated in Figure 16, 8.4% of those who tested positive said their symptoms were “very serious”, which equates to approximately 88,618 people.

Figure 16. Seriousness of COVID-19 Symptoms



Note: *n* = 1,054,158.

COVID-19 Treatment and Recovery

Residents who stated they tested positive for COVID-19 were then asked, "Did you have an overnight stay in a hospital for suspected or diagnosed COVID-19?" As illustrated in Table 6, about 4.2% of people who had a positive COVID-19 test had an overnight stay in a hospital.

Table 6. Overnight in Hospital Due to COVID-19 - COVID-19 Positive Residents Only

Response	Weighted Percent	Population Estimate
No	95.8%	996,872
Yes	4.2%	43,236
Total	**100.0%**	**1,039,108**

Among the 4.2% who had an overnight stay in a hospital, these residents were asked, "If yes, were you put into the ICU (intensive care unit) because of suspected or diagnosed COVID-19?" A total of 50.4% (20,298 people) of residents (with a positive COVID-19 test and then an overnight stay in a hospital) were placed in the ICU. The remaining 49.6% (19,937 people) were not placed in the ICU.

Most people infected with COVID-19 recover quickly (i.e., within weeks); however, some people experience symptoms for a prolonged period (e.g., a month or more).[6]

Among those residents who tested positive for COVID-19, they were further asked, "After you first tested positive for COVID-19, have you recovered to your usual state of health?" As illustrated in Table 7, a total of 13.8% reported that "no", they have not recovered to their usual state of health and are still recovering.

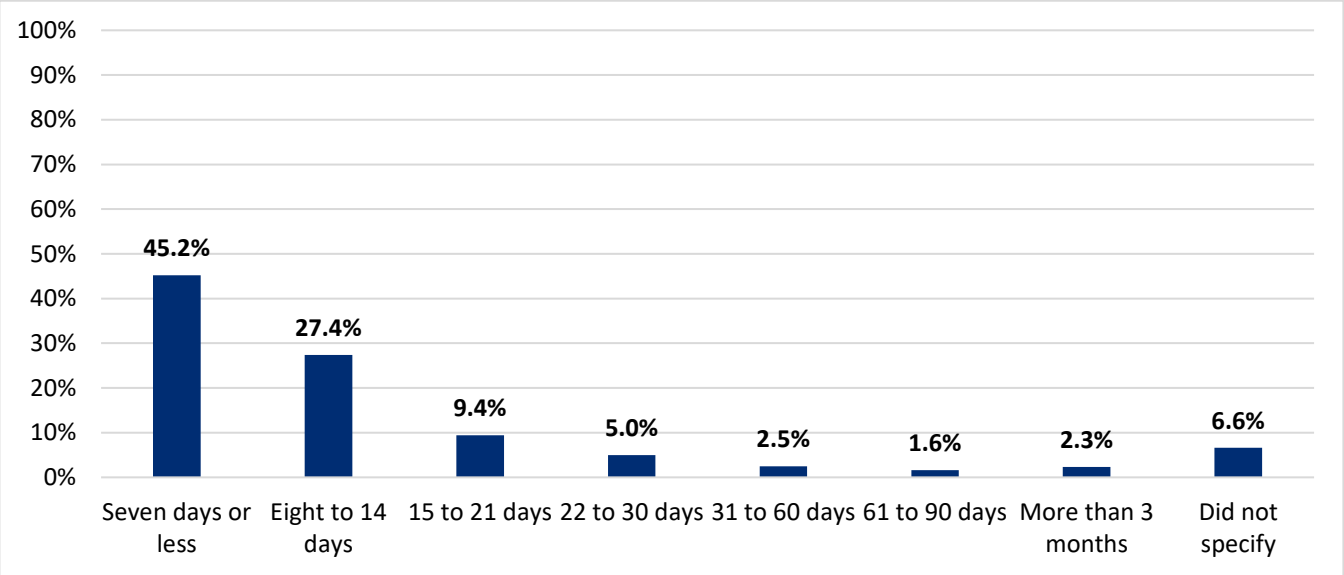
Table 7. Recovered to Usual State of Health – Positive COVID-19 Test Residents Only

Response	Weighted Percent	Population Estimate
No	13.8%	129,077
Yes	87.5%	906,395
Total	**100.0%**	**1,035,472**

[6] Post-COVID Conditions (2021). Centers for Disease Control and Prevention. https://www.cdc.gov/coronavirus/2019-ncov/long-term-effects/index.html

The 87.5% who have recovered to their usual state of health were then asked to report the number of days it took to recover. Most people who tested positive recovered within two weeks, as illustrated in the figure below. However, 2.3% of COVID-19 survivors took more than three months to recover (approximately 20,597 people), as illustrated in Figure 17.

Figure 17. Length of Time to Recover – Residents Who Report Having Recovered



Note: *n* = 906,395.

By April 2021, there were anecdotal reports that previously healthy people had not fully recovered from SARS-CoV-2, which patients referred to as "Long COVID." [7] Long COVID is a long-term condition that can last weeks, months, or years for infected individuals; individuals who are not vaccinated and get exposed to the virus may be at an increased risk of developing Long COVID.[8]

To assess "Long COVID", participants who had tested positive for COVID-19 were asked, "For any positive COVID-19 tests, did you have any symptoms lasting three months or longer that you did not have prior to COVID-19?" The survey also gave examples of potential symptoms (e.g., tiredness, fatigue, forgetfulness, memory problems, chest pain, dizziness, menstrual changes, etc.). As illustrated in Table 8, about a third of people who had had COVID-19 experienced symptoms lasting three months or longer.

Table 8. Experienced COVID-19 Symptoms Last Three Months or Longer

Response	Weighted Percent	Population Estimate
No	65.2%	684,867
Yes	34.8%	365,201
Total	**100.0%**	**1,050,068**

[7] What is Long COVID? (n.d.). The Department of Health and human Services. https://www.covid.gov/longcovid/definitions

[8] long COVID (2022). Centers for Disease Control and Prevention. https://www.cdc.gov/coronavirus/2019-ncov/long-term-effects/index.html

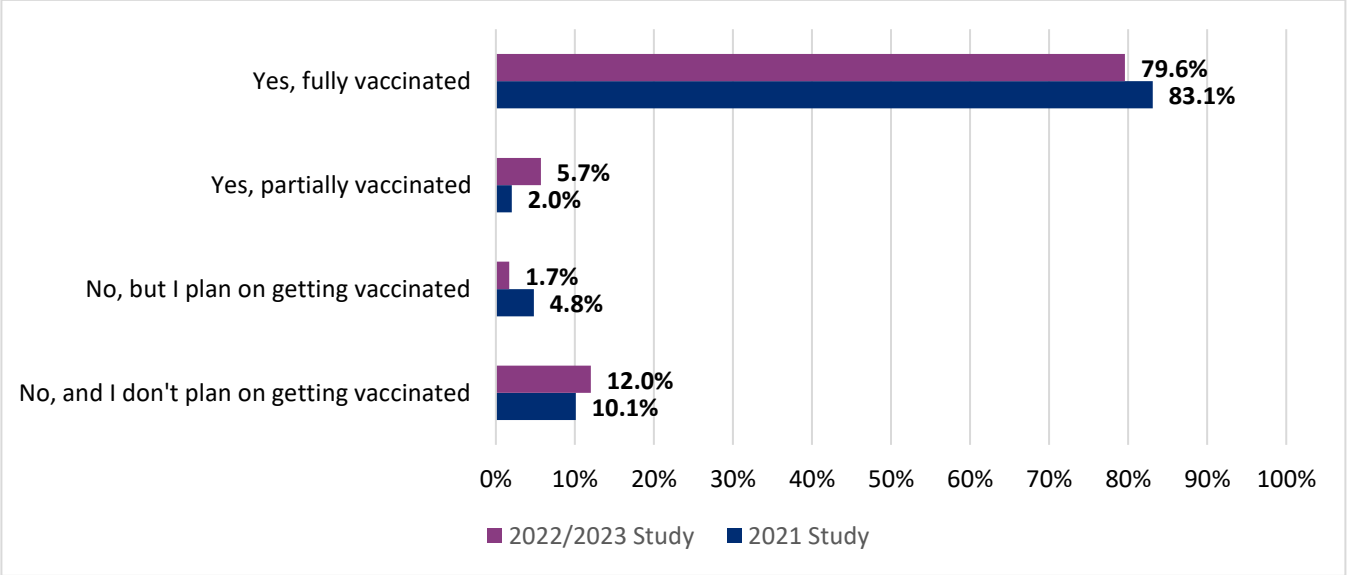
COVID-19 Vaccination

COVID-19 Vaccination Status

At the time of this 2022/2023 study, all adults were eligible for the vaccine. As such, residents were asked, “Have you had the COVID-19 vaccine?” Further clarification was provided: “The definition of fully vaccinated does not include a booster. Everyone, except those who are moderately or severely immunocompromised, is still considered fully vaccinated two weeks after their second dose in a two-dose series, such as the Pfizer-BioNTech and Moderna vaccines, or two weeks after the single-dose J&J/Janssen vaccine.”

Results show that the majority of residents (79.6%) reported that they were fully vaccinated, while another 5.7% were vaccinated (but not fully), and 1.7% plan on getting vaccinated. The remaining 13.0% of residents (approximately 234,449 people) reported that they are not vaccinated and don't plan on getting vaccinated, as illustrated in Figure 18. This is relatively similar to the rates from the 2021 study, showing slight movement from those who plan on getting vaccinated to those who are partially vaccinate.

Figure 18. COVID-19 Vaccination Status



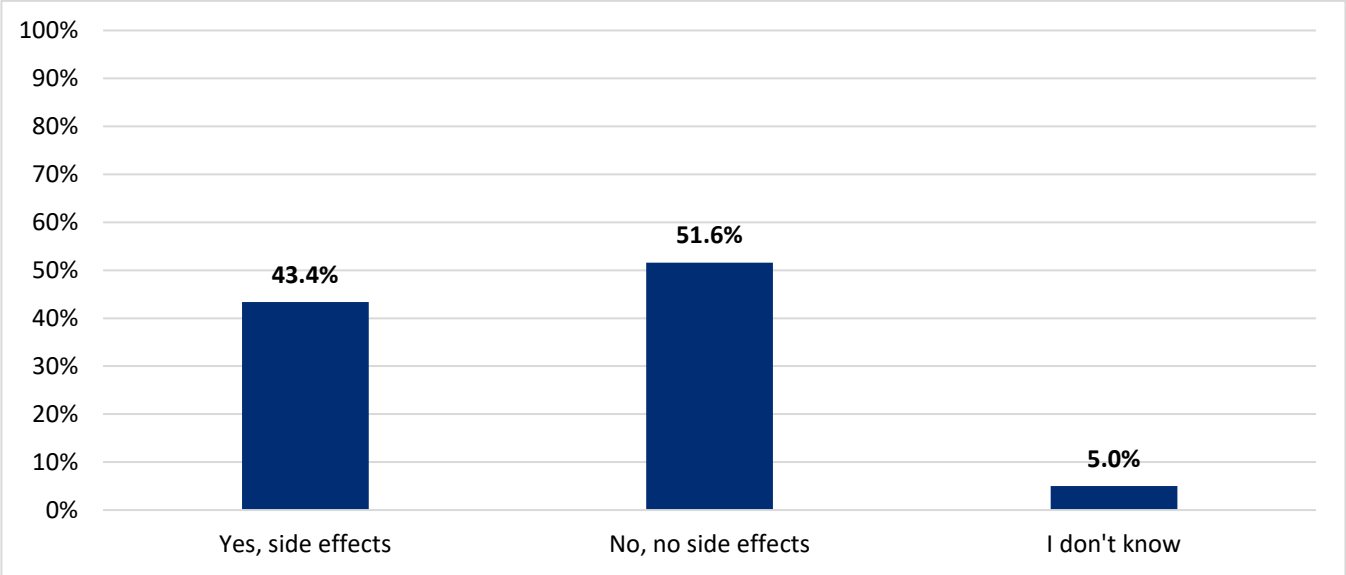
Note: 2021 *n* = 1,799,920. 2023 *n* = 1,809,669.

Vaccinated People Follow-Up

Vaccination Side Effects

Some people experienced side effects from the COVID-19 vaccines, which commonly are indications that the vaccine is developing protection.[9] Common side-effects of COVID-19 vaccination include tiredness, headaches, muscle pain, chills, fever, and nausea, in addition to pain, redness, and swelling of the arm.[10] Residents who were vaccinated were asked, "Did you have any side effects or symptoms after receiving the COVID-19 vaccination?" As illustrated in Figure 19 below, half of people who received the vaccine (51.6%) had no side effects.

Figure 19. Side Effects/Symptoms of COVID-19 Vaccination



Note: *n* = 1,526,493

[9] Possible Side Effects After Getting a COVID-19 Vaccine (2021). Centers for Disease Control and Prevention. https://www.cdc.gov/coronavirus/2019-ncov/vaccines/expect/after.html

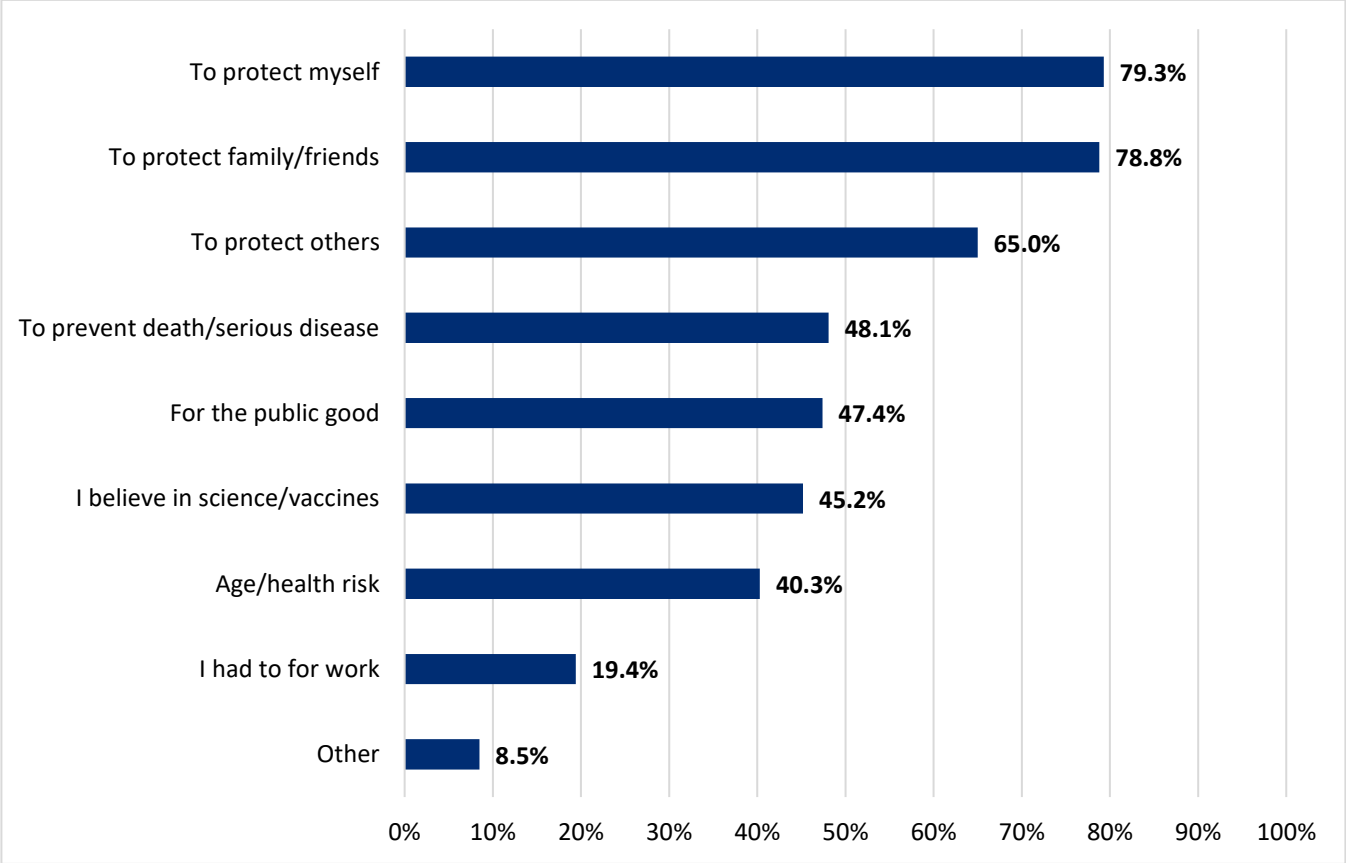
[10] Possible Side Effects After Getting a COVID-19 Vaccine (2021). Centers for Disease Control and Prevention. https://www.cdc.gov/coronavirus/2019-ncov/vaccines/expect/after.html

Reasons for Getting Vaccinated

In the 2021 study, people who had been vaccinated for COVID-19 were asked an open-ended question, "Why did you choose to get vaccinated?" The responses from that open-ended question were used to inform the creation of several response options for the 2022/2023 study, although participants could still enter other comments. Thus, in the 2022/2023 study, participants were asked, "Why did you choose to get vaccinated?" and then encouraged to select all that apply, including an "other, please specify" option.

As illustrated in Figure 20, the two most common reasons were "to protect myself" and "to protect friends and family".

Figure 20. Why Did You Get Vaccinated?



Note: Asked of everyone who indicated they were fully or partially vaccinated for COVID-19.

The open-ended responses of the 8.5% of vaccinated people who selected another reason were qualitatively analyzed for themes. By far the most common theme was that participants got vaccinated **for travel** purposes:

- Ability to travel
- Cruise ship requirement
- I like to travel
- To be able to fly on a plane—the only reason
- Obligated when I went to Hawaii

Others indicated that they became vaccinated to **gain entry to events and venues:**

- For entry to theater, etc.
- Membership tennis club
- My 12-step meeting restaurant eating
- Como requisito en mi iglesia [required in my church]
- NFL game required
- Had to for concert
- To be able to go out to restaurants, bank, etc.
- To attend some venues

Many **participants felt that they had been pressured, forced, or mandated** to get vaccinated. The source of that pressure varied. For example, some participants felt pressured into getting vaccinated by **work:**

- I was forced to or I'd be fired
- Incentives at work
- Could go without mask at work if vaccinated
- Pense que se me exigiria en el trabajo [I thought I would be required at work]
- Mandated at work

Others were required or pressured to be vaccinated by **school:**

- Forced to for school
- Required for graduation
- I had to for college class attendance in person
- School was forced to

Some were pressured by their **family** to get vaccinated:

- Son made me
- Family requested
- Family required
- Make my son happy
- My children
- My daughter insisted
- To appease the wife
- Demands of wife (full disclosure: she regrets getting vax & forcing me to)

Others felt the pressure to get vaccinated came from the **government:**

- Because it was mandated
- “powers that be” seemed to insist
- Gov't compliance
- Government

And some participants felt pressure to get vaccinated from **society** as a whole:

- Peer pressure
- Social pressure
- To shut people up!
- Media Hype
- I was harassed by all the panicky people around me. I wanted them to leave me alone so I got J&J

Some participants chose to get vaccinated because they are at **high risk for complications/have comorbidities**:

- Autoimmune disease
- I have lupus
- I have pulmonary problems - using oxygen
- Dialysis
- Was high risk pregnancy and needing to be in ICU after delivery
- We are "old"
- Por mi diabetes [for my diabetes]
- Low CD4

Some were tragically motivated to get vaccinated **because of the death of a loved one due to COVID-19:**

- [To] Attend the funeral of a 31 yr old who was anti vac. & died.
- Father-in-law passed with Covid
- Husband died of Covid before vaccines available
- My father passed away from Covid - I never want to give it to someone again
- My mother died from Covid before it was considered National Emergency

Others were inspired **to protect their high-risk family members:**

- Acompañar a mi padre a los hospitals [To accompany my father to hospitals]
- Care giver for elderly mother
- Vivo con gente de alto riesgo bajas defensas [I live with high-risk people with low defenses]
- One of my kids is diabetic T1
- To protect my disabled daughter
- To be with my wife in hospital during her cancer treatments

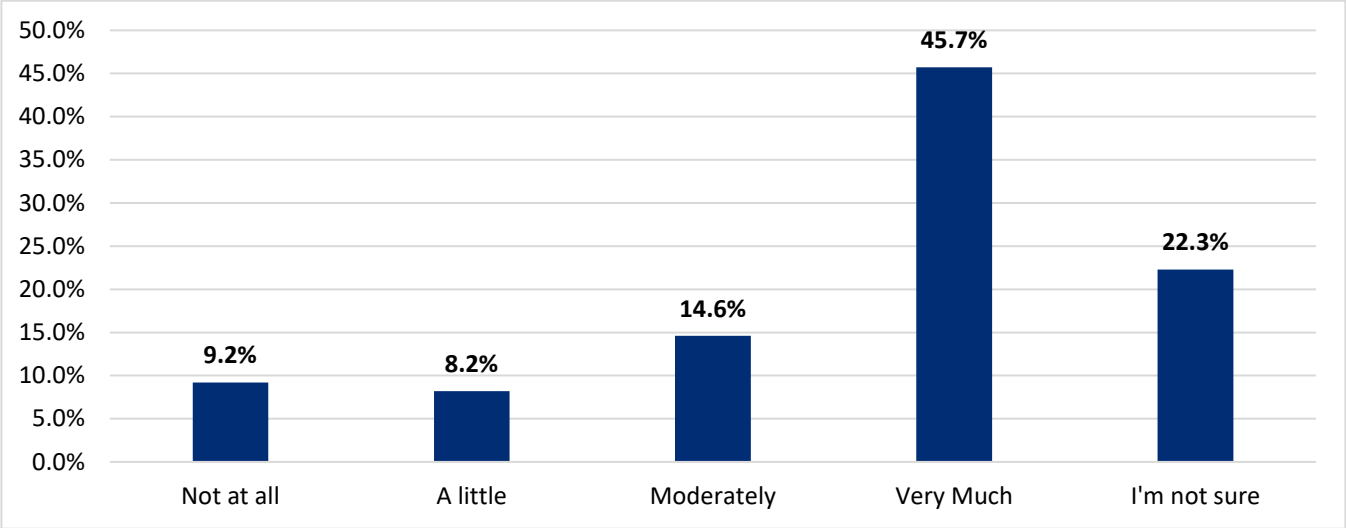
Others shared that their motivation in getting vaccinated was **to do their part to end the pandemic, out of a moral obligation**:

- Doing my part to help stop the spread
- For the sake of the world
- It was the right thing to do
- Moral obligation
- To do my part as a human

Perceptions of Protection from Vaccine

People who received the COVID-19 vaccine were asked, “How much did the COVID-19 vaccine protect you against getting COVID-19?” As illustrated in Figure 21, 9.2% or 139,567 people felt that it didn't protect them at all. However, the most common response was that the vaccine protected them "Very much" (694,654) from COVID-19.

Figure 21. How Much Did the COVID-19 Vaccine Protect You Against COVID-19?

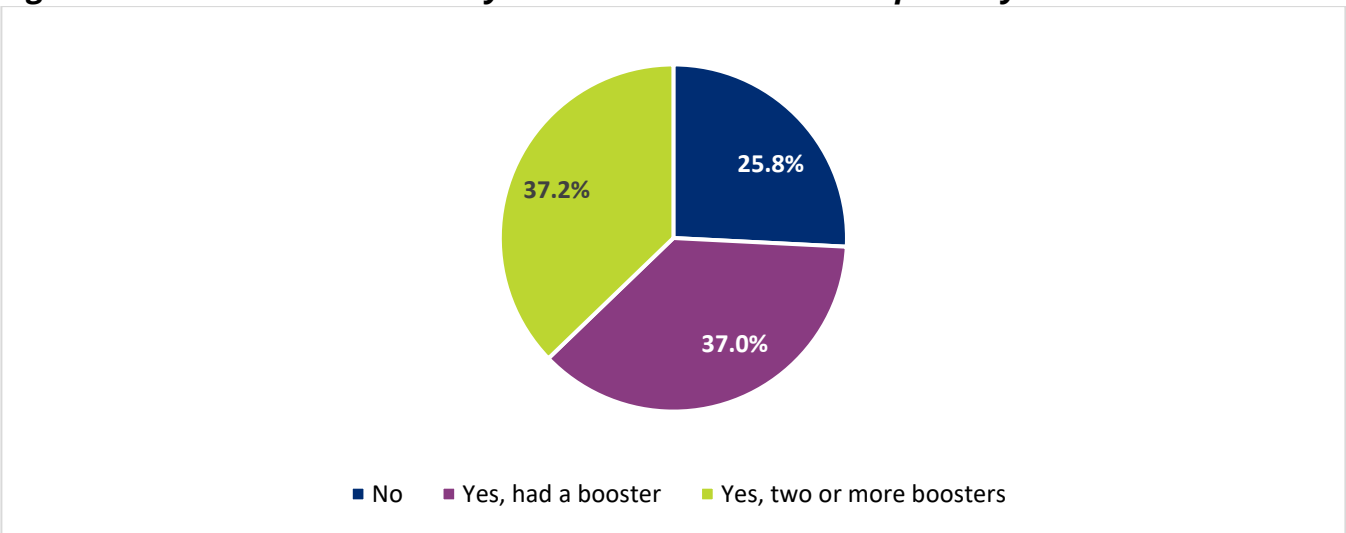


Note. *n* = 1,520,031.

Boosters

Those who reported receiving the vaccine were subsequently asked, “Have you received any boosters?” As illustrated in Figure 22, most people who received the COVID-19 vaccine have also received a booster (74.2%). In fact, 37.2% have received multiple boosters.

Figure 22. Have You Received Any Boosters? Vaccinated People Only



Note: *n* = 1,485,712.

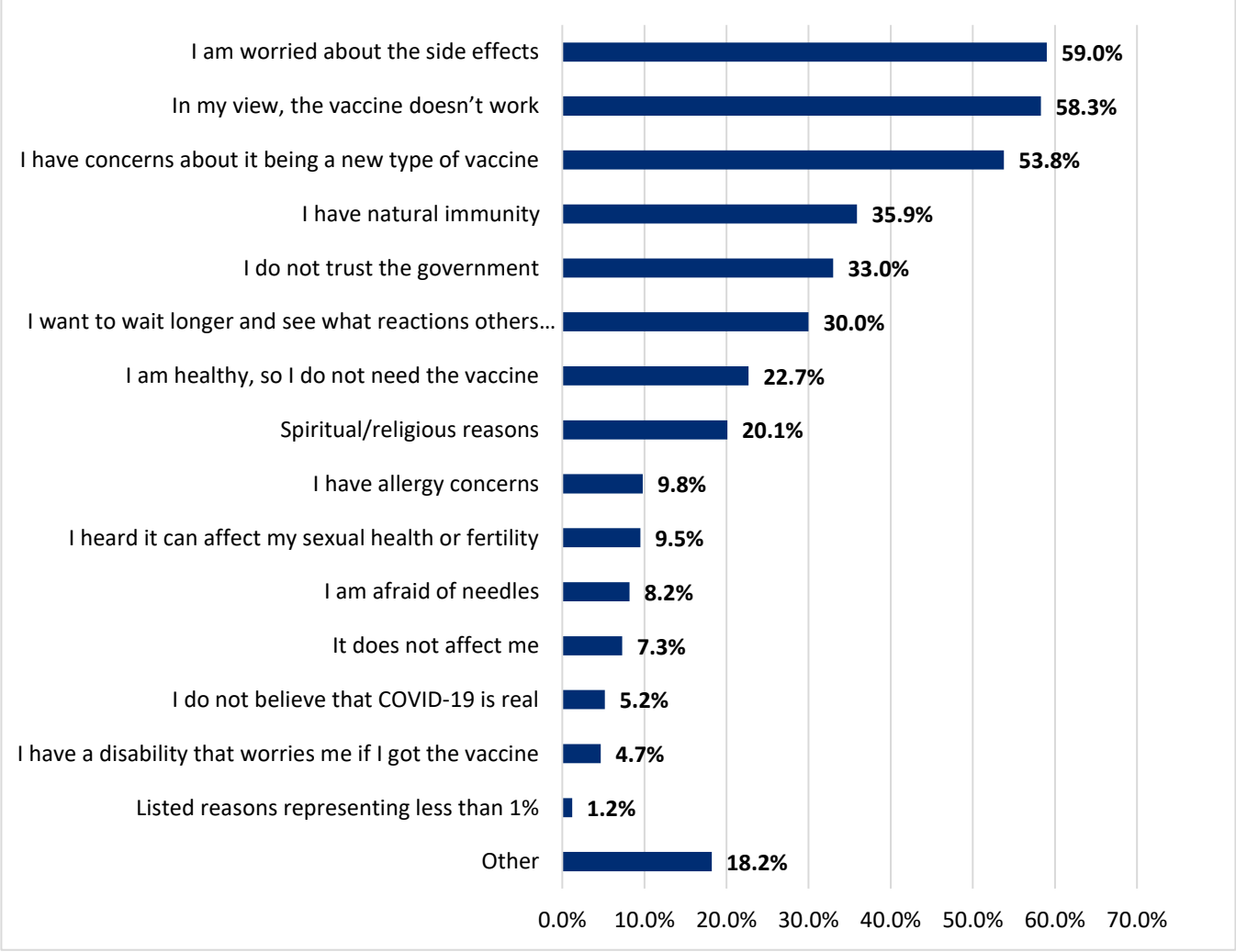
Unvaccinated People Follow-Up

Reasons for Not Being Vaccinated

In the 2021 study, participants who had not been vaccinated were then asked, "What is/are the main reason(s) you have not taken the vaccine?" and then encouraged to select all that apply, including an "other, please specify" option. The responses to this question were used to adapt the response options available for the 2023 study. The 2023 study began with the same prompt, "What is/are the main reason(s) you have not taken the vaccine?" and participants could check all that apply, including an "other, please specify" option.

As illustrated in Figure 23, results demonstrate that the most common reasons for not getting vaccinated include worry about side effects (59.0%), belief that the vaccine doesn't work (58.3%), and concerns about it being a new type of vaccine (53.8%).

Figure 23. Reasons for Not Getting the Vaccine – Residents Who Are Unvaccinated



Note: Asked of all participants who indicated they were not currently vaccinated for COVID-19. The "responses representing 1% of responses" include "I do not know if my health insurance covers it" (0.8%), "I do not have time or time off work" (0.3%), and "I do not have a car or bus I can take to get the vaccine" (0.1%).

Those who selected “other reason” (18.2%) for not getting the vaccine were asked to specify the reason in an open-ended format. These responses were grouped into themes post-data-collection.

One of the most common themes that emerged was **fear of side effects**, including death:

- I have had 2 friends die after having the vaccine - I will not have the vaccine.
- I have read studies about the negative long-term effects of vaccines
- I have seen friends have strokes, heart attacks, increased dementia in the time since being vaccinated.

Another common reason for not getting vaccinated was that **the COVID-19 vaccine is too new and there’s much we don’t know about long-term effects**:

- Not enough studies on the shot
- I'm worried about long-term effects that are not known yet
- The vaccine was never properly tested and is still experimental

Other participants stated that they haven’t been vaccinated because they **don’t need the COVID-19 vaccine as they are healthy or naturally protected:**

- Feel protected naturally.
- I eat healthy & stay fit
- I have a strong immune system

Several participants stated that their reason for not getting the COVID-19 vaccine is due to their belief that **COVID-19 is basically the flu, very survivable, and not a major concern:**

- Covid 19 is a flu period government [is] hyping it up to control us and has become very political
- It's the flu and I don't get that shot either.
- I do not normally get the flu shot either, so did not feel I needed this shot

Other participants felt that **since people who have been vaccinated can still get COVID-19, the vaccine must not be working/must not be worth getting:**

- Everyone that I know with vaccine keeps getting Covid-19
- Now I know more vaccinated and boosted people who have had Covid multiple times than unvaccinated so will never get vaccinated
- Vaccinated people are testing positive & getting Covid

Several responses indicate a **lack of trust** as the reason why they are not vaccinated against COVID-19:

- Don't trust system unvalidated paranoia
- I do not believe it is a actual vaccine
- I do not believe the public is being told the truth

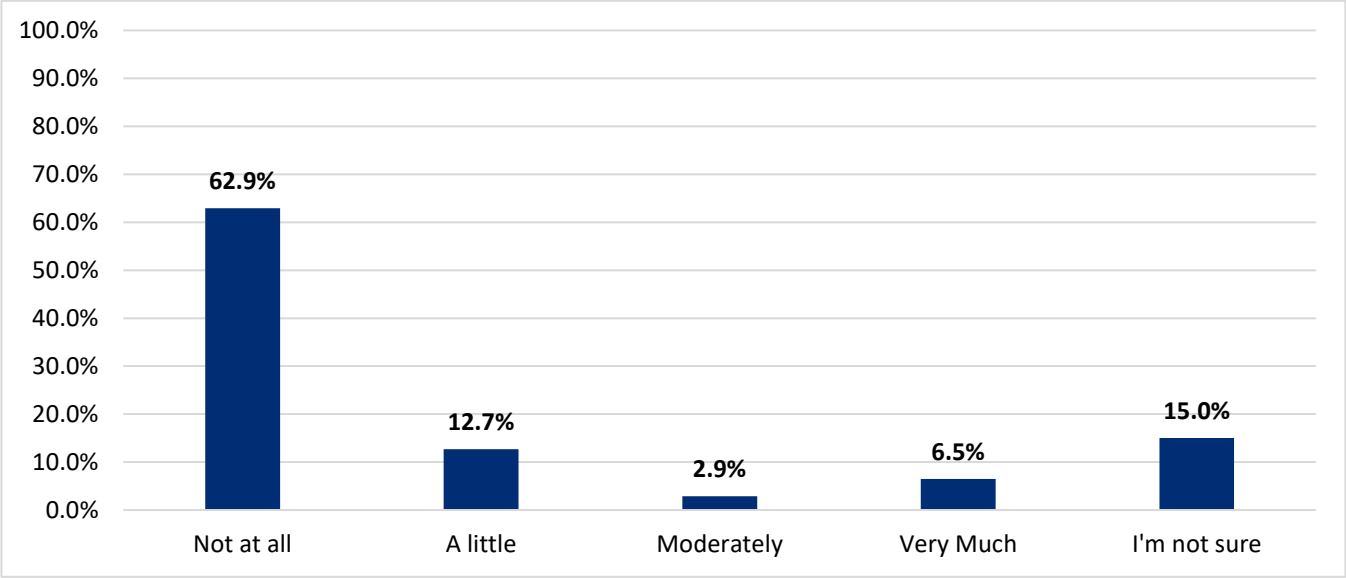
Finally, several indicated that they **do not want to be forced** to get vaccinated against COVID-19:

- I don't want to be forced to do anything
- It is a violation of my civil liberties
- I will not be bullied into taking vaccine

Perceptions of Protection from Vaccine

Participants who had not been vaccinated were asked, "In your opinion, how much would the COVID-19 vaccine protect you against getting COVID-19?" The majority of unvaccinated people (62.9%) felt that the vaccine would not help protect them against COVID-19 at all. It is interesting to note that 6.5% of unvaccinated people felt the vaccine would protect them "very much" (approximately 16,963 people). This likely represents the small proportion of people who are not currently vaccinated but plan to become vaccinated at a later date. See Figure 24 for more details.

Figure 24. How Much Would the COVID-19 Vaccine Protect You Against COVID-19?



Note. *n* = 262,721.

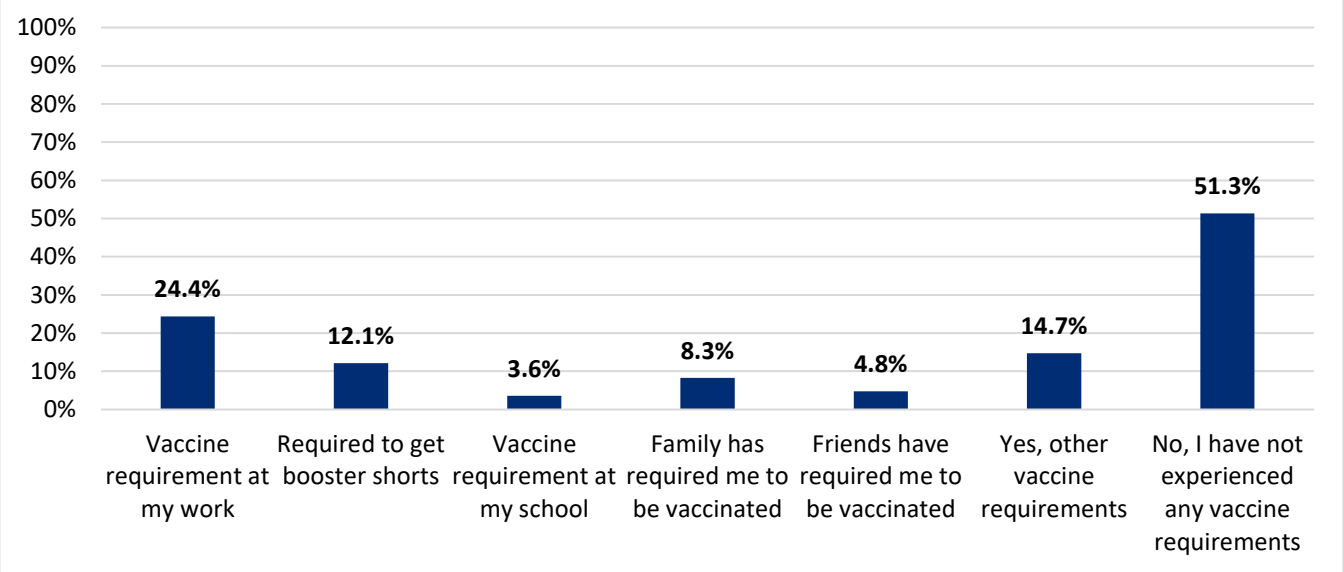
Other COVID-19 Vaccine Questions - for Everyone Regardless of Vaccination Status

COVID-19 Vaccine Mandates

Requirements regarding COVID-19 vaccination and testing have proliferated since the inception of the COVID-19 vaccine. For example, in the latter half of 2021, the California Department of Public Health required all workers in healthcare facilities to be vaccinated.[11]

To assess where residents have experienced vaccine mandates/requirements, residents were asked, "Have you experienced any COVID-19 vaccine requirements?" and were encouraged to select all that apply. About half (51.3%) have not experienced any vaccine requirements. However, others have experienced vaccine requirements, most commonly imposed at their work (24.4%). See Figure 25 for more details.

Figure 25. COVID-19 Vaccine Mandate Experiences



Note: *n* = 1,662,018.

[11] State Public Health Officer Order of August 5, 2021. California Department of Public Health. (2021). https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/COVID-19/Order-of-the-State-Public-Health-Officer-Health-Care-Worker-Vaccine-Requirement.aspx

Those who cited “other” vaccine requirements increased substantially from 2021 (3.6%) to 2023 (14.7%). The most common theme, as in 2021, was **travel:**

- Travel to another country
- Vacation cruise
- To fly in US and in Europe

Many other responses showed a **lack of understanding of the question**, as they mentioned situations that are not vaccine requirements, but rather, are reasons why people get vaccinated. For example:

- I thought it was the right thing to do
- I wanted the vaccine
- For my own health

Others vaccine requirements included **those imposed at social events and venues:**

- Public venues, museum and concert hall
- Concerts
- Entertainment venues personal parties

Several people mentioned vaccine requirements put in place for **various health procedures and/or in order to visit a hospital:**

- Before my operation for knee surgery
- Hospital, sub-acute unit to visit and touch my brother in a coma
- I own a mortuary transport company and the hospital required for pick ups

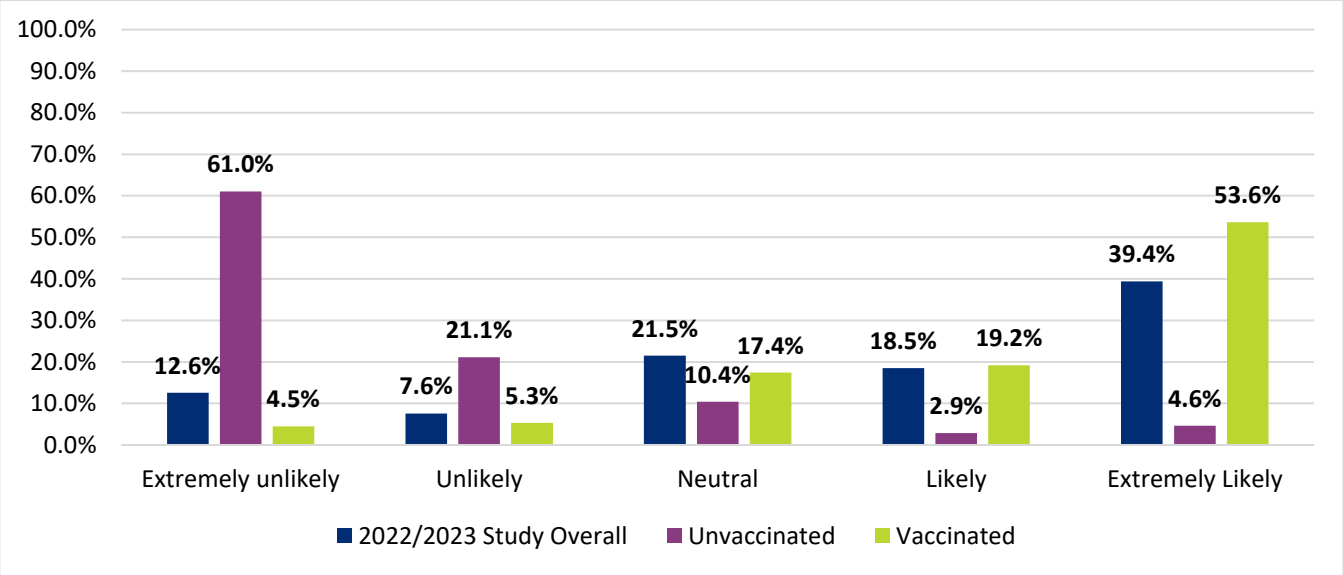
Recommending the COVID-19 Vaccine to Others

In the 2021 study, only residents who were vaccinated were asked the question, "How likely are you to recommend the vaccine to someone else?" In the 2023 study, this was expanded to cover all participants, regardless of their vaccine status.

For the purposes of Figure 26, "No, not vaccinated and I don't plan to get vaccinated" and "No, not vaccinated but I plan to get vaccinated" were grouped together to create the "unvaccinated" category, while "Yes, partially vaccinated" and "Yes, fully vaccinated" were grouped together to create the "vaccinated" category.

The likelihood of recommending the vaccine to others differs drastically between those who are vaccinated and those who are unvaccinated. Overall, 57.9% were "likely" or "extremely likely" to recommend the vaccine to others. In contrast, only 7.5% of unvaccinated adults fell into that group compared to 72.8% of vaccinated adults.

Figure 26. Likelihood of Recommending Vaccine to Others



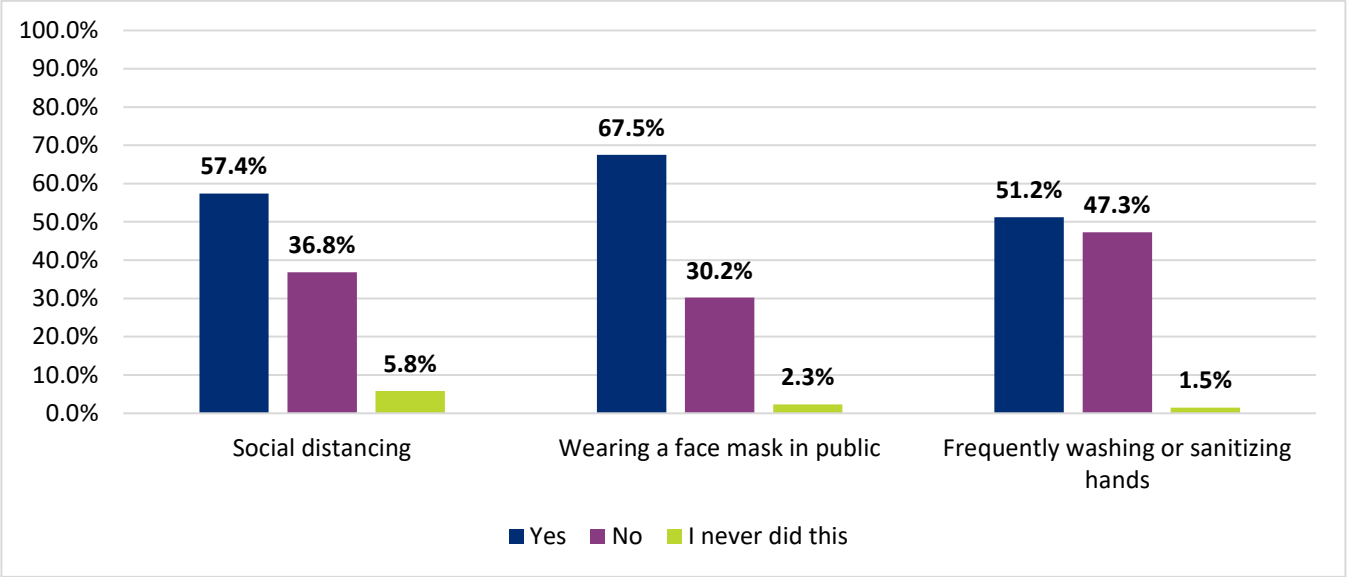
Note: *n* = 1,791,282.

Preventative Measures Post-Vaccination

While COVID-19 had immediate impacts on people, the effects on people's behavior are likely to be long-lasting. To assess post-COVID-19 vaccination behaviors, residents who are currently vaccinated or who plan to be vaccinated in the future were asked, "Upon receiving the COVID-19 vaccine (if you have or if you choose to in the future), do you plan to stop…" and were presented with a selection of behaviors.

As illustrated in Figure 27, most people plan to cease preventative health measures upon getting the vaccine.

Figure 27. Plan to Stop Preventive Measures Post-Vaccination



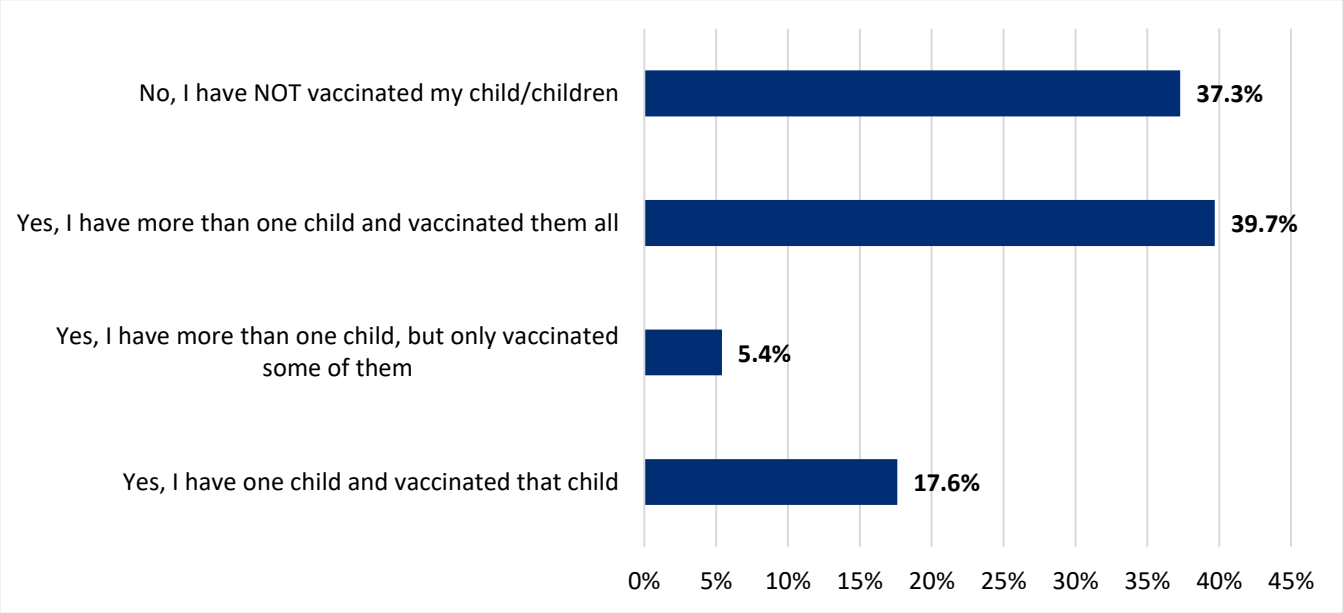
Note: Social distancing *n* = 1,565,955. Wearing a face mask *n* = 1,585,109. Frequently washing or sanitizing hands *n* = 1,601,826.

COVID-19 Vaccination for Children

On May 10, 2021, the Pfizer vaccine was made available under the FDA's Emergency Use Authorization (EUA) for children ages 12 and up.[12] On April 18, 2023, the FDA allowed the COVID vaccines (Moderna and Pfizer) to be given to anyone 6 months of age or older. [13] At the time of data collection for this study, the CDC recommended that everyone age 6 months or older be vaccinated against COVID-19.[14]

Participants were asked, "Has your child/children received the COVID-19 vaccine?" Approximately 45.0% of participants responded that they did not have children, and thus, are excluded from Figure 28 below. Of the participants who have children, 37.3% have not vaccinated any of their children, as illustrated in Figure 28 below.

Figure 28. Has Child Received the COVID-19 Vaccine? – Those With Children Only



Note: *n* = 934,596.

Some of the comments written in the margins of the paper survey indicated that the question should have specified children under the age of 18 (when they are legally able to make their own decisions about the vaccine). As such, these results may have slightly limited utility, as some responses may be in reference to their adult children.

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[12] FDA Approves First COVID-19 Vaccine (2021). Food and Drug Administration. https://www.fda.gov/news-events/press-announcements/fda-approves-first-covid-19-vaccine

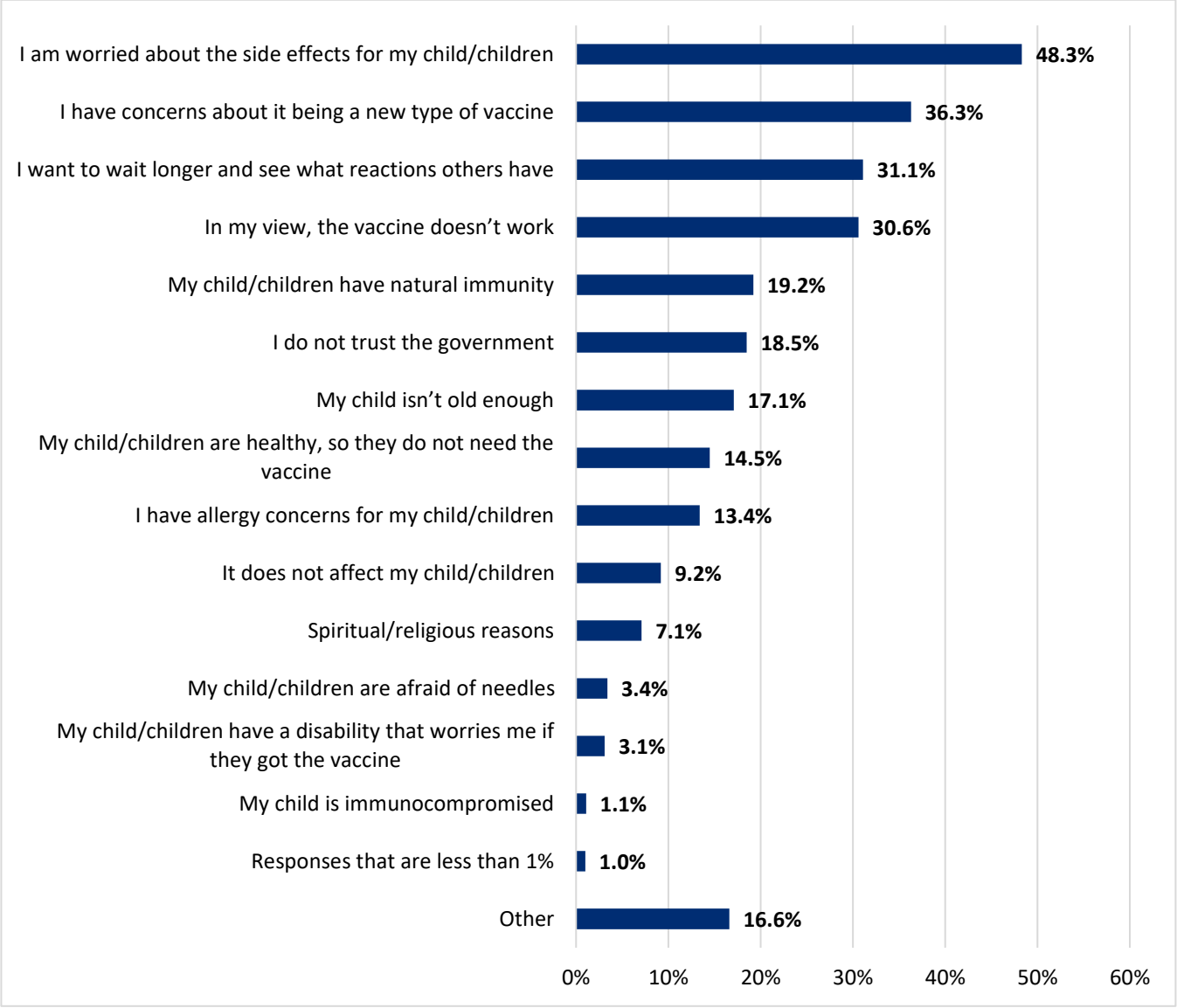
[13] Vaccines and variants (2023). The Department of Public Health? California All? https://covid19.ca.gov/vaccines/#:~:text=As%20of%20April%2018%2C%202023,months%20of%20age%20and%20older

[14] Centers for Disease Control and Prevention (2023). COVId-19 Vaccination for Children. https://www.cdc.gov/vaccines/covid-19/planning/children.html

Participants who indicated that they had not vaccinated their child/children were subsequently asked, "Why did you choose NOT to vaccinate your child/children?" and encouraged to check all that apply.

As illustrated in Figure 29, the most common reasons were worry about side effects (48.3%), concerns about being a new type of vaccine (mRNA; 36.3%), and the wish to wait longer to see the reactions of others (31.1%).

Figure 29. Why Child/Children Are Unvaccinated



Note: This question was asked of all who indicated they had not vaccinated their child/children in the previous question. Responses that reflect less than 1% include "I do not have time or time off work" (0.9%) and "I do not know if health insurance covers it" (0.1%). No one selected the response option "I do not have a car or bus I can take to get my child/children the vaccine".

The 16.6% who indicated “other” reason for not vaccinating their child/children were then qualitatively analyzed and grouped into themes. By far the most common theme was that **the children were adults and made their own decisions** (further reinforcing the need to be specific with this question’s phrasing in the future). For example:

- My child is an adult
- Only one and she’s adult who received vaccine
- I’m not sure if they did, they’re grown
- 24 and his decision

Beyond that theme, the most common response was that **the child didn’t want to get vaccinated and the parents respected that decision:**

- Children did not want it.
- Children refused
- They are young adults and chose not to get vaccinated
- My children declined the vaccine.
- My children were teens and I let them make the choice
- My child doesn’t want it

Several indicated lingering **concerns about vaccine side effects and unknown long-term effects of vaccination:**

- I worry about long term effects.
- Not an approved vaccine
- Side effects in male population from vaccine and 1 child with heart conduction already
- Not safe
- Worried about long-term effects on their young bodies
- Two of my nieces and my neighbor's daughter are now having menstrual cycle issues after getting vaccine.

A few were **not concerned about their child catching COVID-19:**

- Children aren't in school or day care so I'm not very concerned
- Children stayed in house
- My children have gotten Covid-19 twice and had symptoms milder than the common cold
- It didn't make kids real sick

A few mentioned **disagreements between parents of the child:**

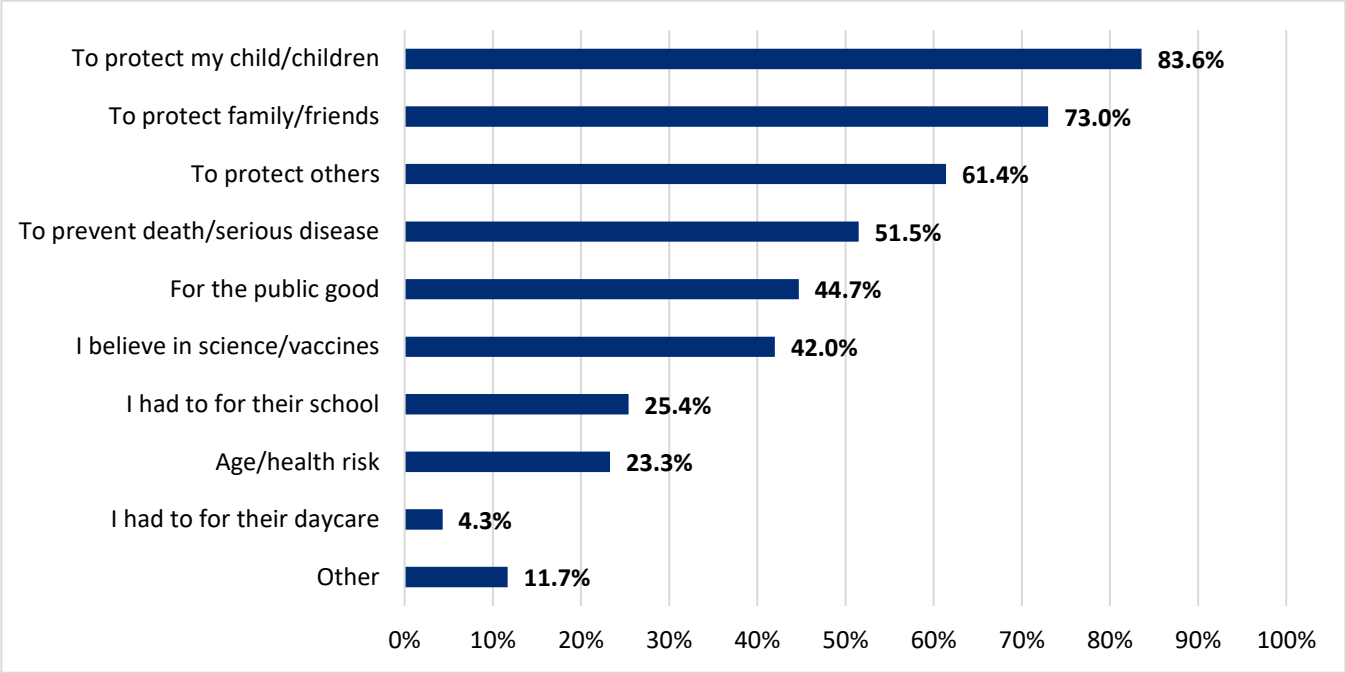
- My spouse is against vaccinating my children
- I split custody and the other parent hasn't been receptive about Covid stuff
- Their mom doesn't want them vaccinated nor do they

Several felt that their child **was too young:**

- Ages 1 & 2 seem [too] young
- He's younger
- This is crazy. Child is 18 months. This Eisenhower pediatrician said [it] was more hassle than it was worth to get a baby vaccinated. We will wait until baby is older.

Those who indicated that they *had* vaccinated at least one of their children were asked, "Why did you choose to vaccinate your child/children?" and encouraged to check all that apply. As illustrated in Figure 30, the most common reasons are to protect the child/children (83.6%) and to protect friends and family (73.0%).

Figure 30. Why Child/Children Are Vaccinated



Note: This question was asked of anyone who vaccinated at least one child.

The responses from the 11.7% who indicated "other" reason for vaccinating their child/children were then qualitatively analyzed. As with the reasons for not vaccinating their children, the most common response was that **the child was an adult**, further indicating the need to be specific to minor children with this question.

Another common theme was that **it was the child's decision:**

- I let them decide but encouraged it
- It was their choice. They believed it would prevent getting covid-19. It did not
- She asked to be vaccinated
- She chose and wanted to be vaccinated. Her father is a strong believer in the vaccine and boosters
- They chose to be vaccinated

Another reason for vaccinating children was because of **comorbidities/being high risk**:

- Diabetic Type 1
- Disability
- Child has asthma
- She has immunoglobulin deficiency

Travel was also given as a reason for vaccinating children.

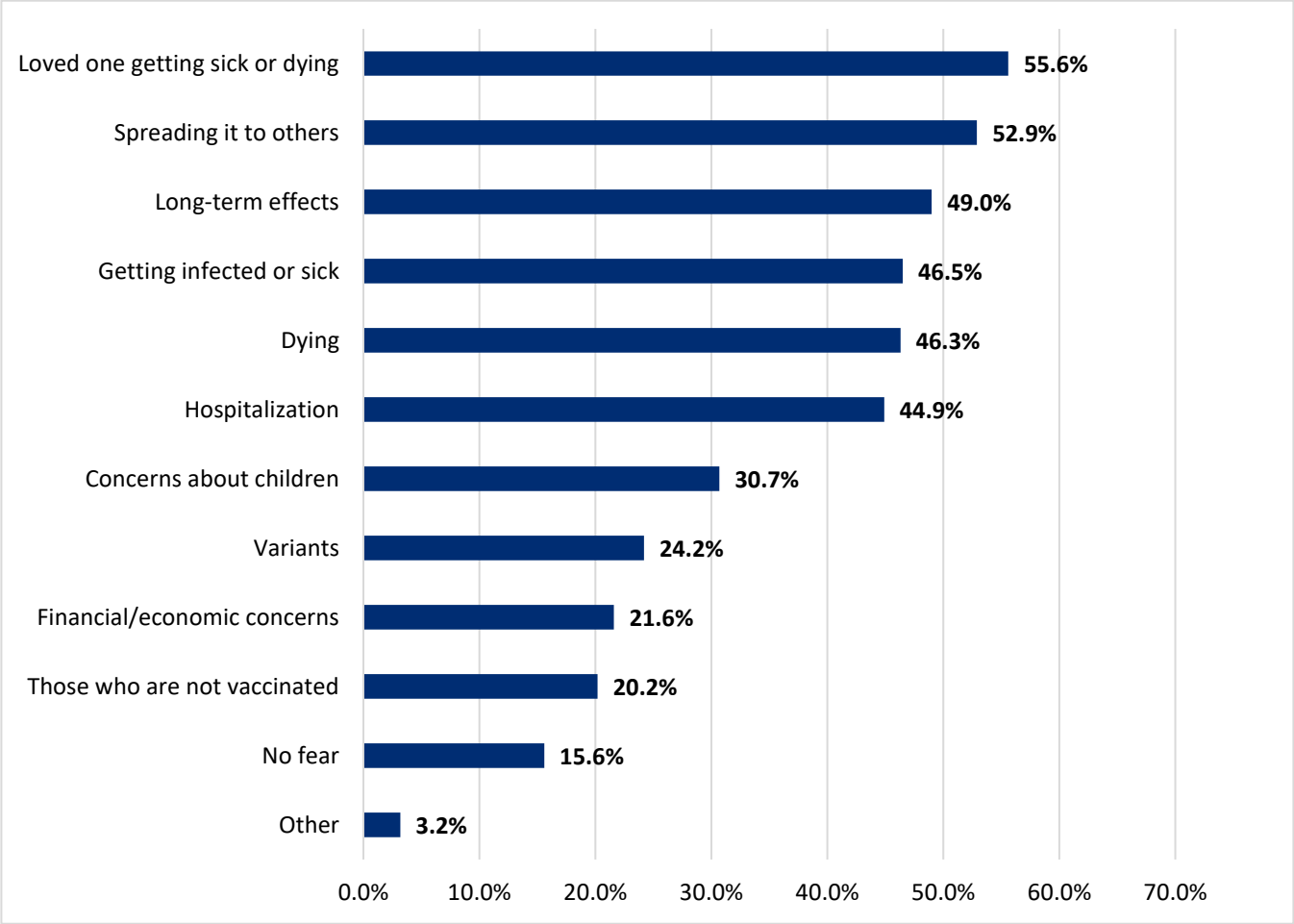
Impact of COVID-19

Biggest Fear About COVID-19

In the 2021 study, all residents were asked to describe their biggest fear of COVID-19 in an open-ended format. These responses were utilized to create response options for the 2023 study, such that this question now invited participants to check all that apply, with an "other, please specify" field as well.

As illustrated in Figure 31, the most common fears were having a loved one getting sick or dying (55.6%) and spreading the disease to others (52.9%).

Figure 31. Biggest Fear About COVID-19



Note: This question was asked of all participants.

The open-ended "other fear" responses were qualitatively analyzed. One common theme was to elaborate on the **"no fear"** response option:

- I don't think about it
- Not concerned
- No fear it's a virus!

Another common theme was the **fear of government overreach and the fear of another shutdown**:

- Government shutdown mandate
- Government overreach
- Closing down again

Fear of long-term health impacts was also a common response for participants' biggest fear related to COVID-19:

- Getting blood clots & hospital again
- Long Covid
- Never recuperating from Covid side-effects

Other participants seemed to conflate COVID-19 and the COVID-19 vaccination, as many responses were **fear of the vaccine's side effects, long-term effects, and/or forced vaccination:**

- Damage done to body by the vaccine
- Safety/reliability of vaccine
- The effects of vaccine long term

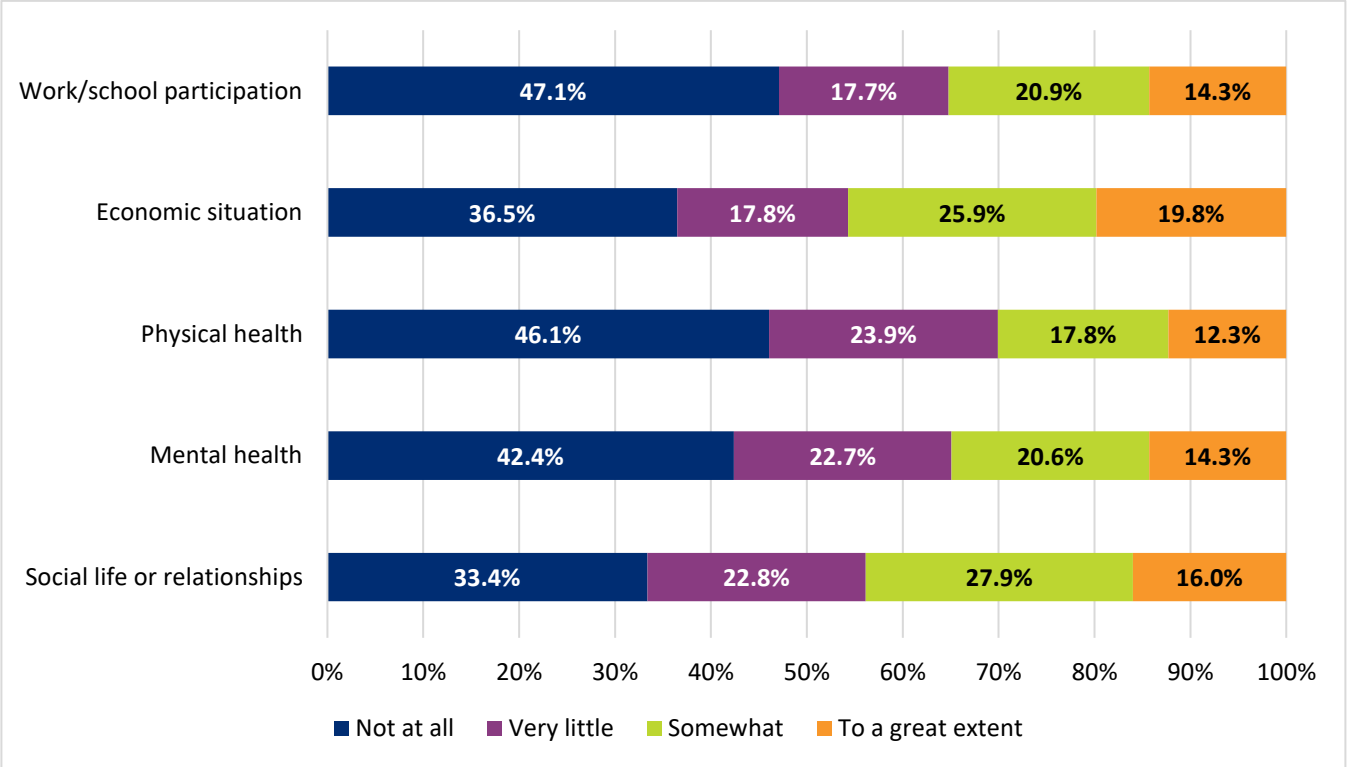
Other less common themes included listing high risk comorbidities, concern for vulnerable populations (especially the elderly), and fear of travel restrictions.

Current Impact of COVID-19

The world has forever changed since the first case of COVID-19. To understand some areas of impact, residents were asked, "How is the COVID-19 pandemic currently impacting your personal daily life with regards to:" and were then given a list of options.

As illustrated in Figure 32, the results show that that the two areas where COVID-19 had the biggest impact were economic situation (45.7% were "somewhat" or "to a great extent" impacted) and social life/relationships (43.9% were "somewhat" or "to a great extent" impacted).

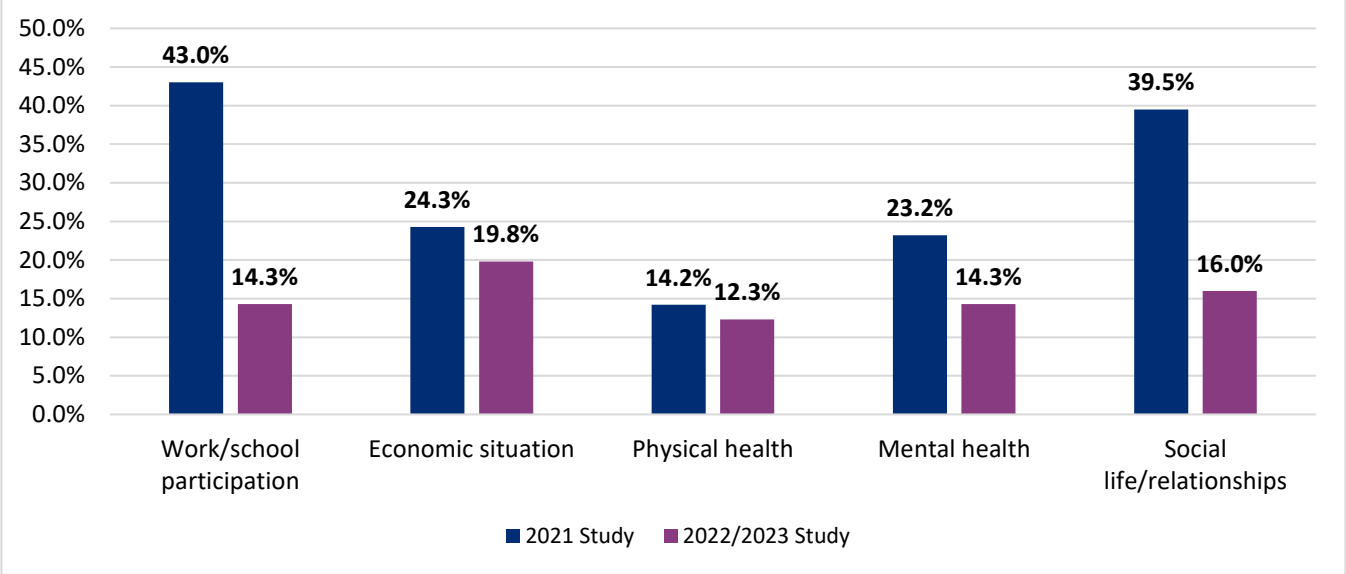
Figure 32. Current COVID-19 Impact on Personal Daily Life



Note: Work/school participation *n* = 1,650,911. Economic situation *n* = 1,724,712. Physical health *n* = 1,702,459. Mental health *n* = 1,704,705. Social life or relationships *n* = 1,749,355.

When comparing the 2021 study to the current 2022/2023 study, the impact of COVID-19 has significantly decreased over time. Figure 33 below shows the percent of participants in each study who indicated they were currently impacted "to a great extent", the highest category. Work/school participation in particular has decreased significantly (43.0% said their work/school participation was impacted "to a great extent" in the 2021 study, compared to only 14.3% in the 2022/2023 study).

Figure 33. Current COVID-19 Impact – Comparing 2021 Study to 2023 Study

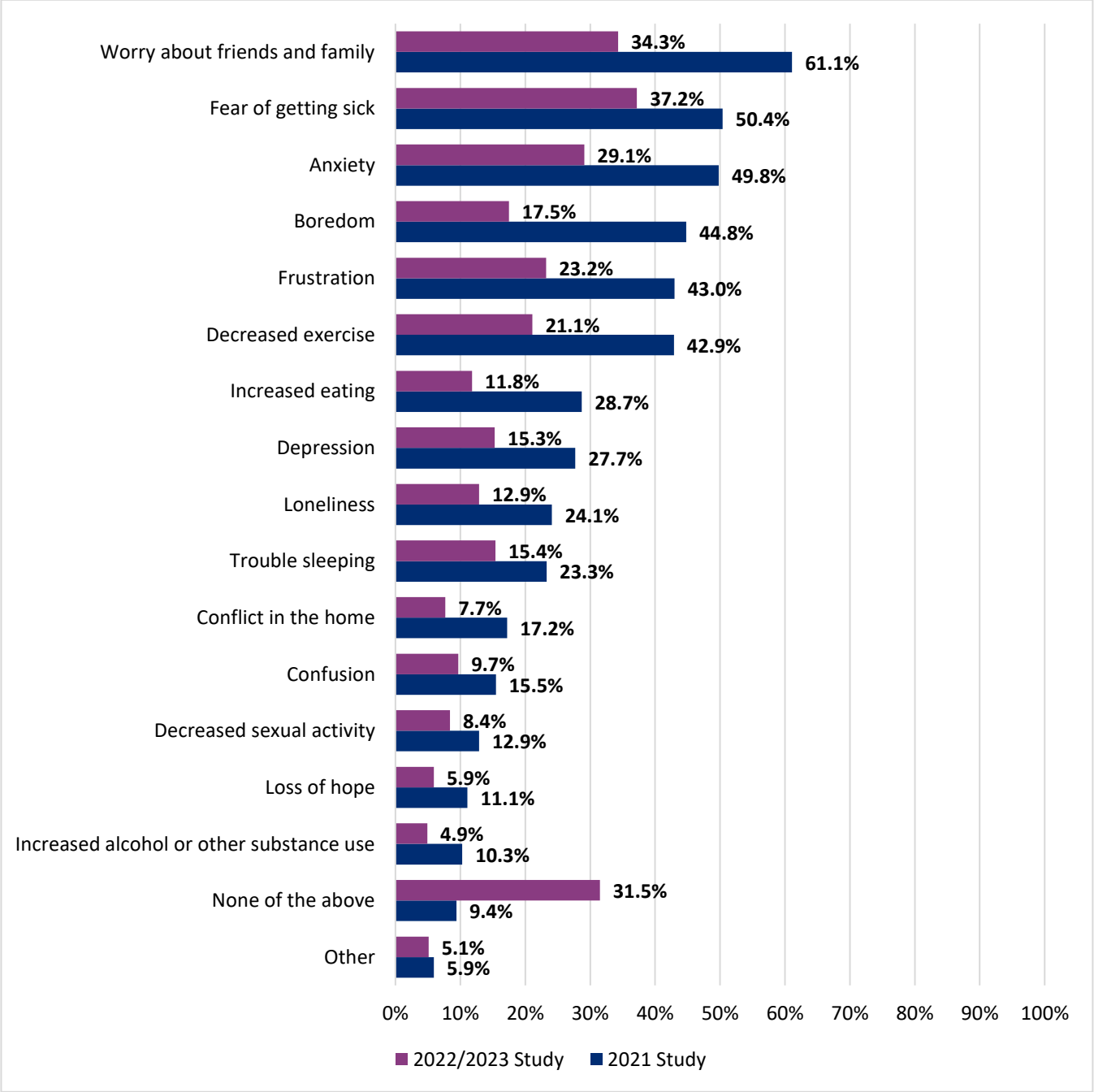


Note: The columns in this chart represent the percent of respondents who stated that they were impacted "to a great extent" in each category.

Residents were asked, "COVID-19 has also affected how people feel and act. Which of the following are you experiencing now due to COVID-19? Please select all that apply."

As illustrated in Figure 34 below, every single one of these experiences has decreased substantially from the 2021 study to the 2022/2023 study. In the 2023 study, nearly a third of participants (31.5%) said they were not currently experiencing any of these issues. Fear of getting sick and worry about friends and family remain the top issues in 2022/2023.

Figure 34. Negative COVID-19 Experiences – Comparing 2021 to 2022/2023



Note: 2021 study *n* = 1,795,688; 2022/2023 study *n* = 1,792,951.

Some residents (5.1%) stated they were impacted in other ways. Those who said “other” were asked to specify in an open-ended format. These responses were grouped into themes post-data-collection.

The most common theme was **anger**. Sometimes, this was explicitly stated:

- Anger & irritation
- Anger over unnecessary lockdowns
- Anger with bureaucrats
- Annoyed that we're still talking about it

Another common theme was how people have changed their **socialization habits and avoid crowds out of fear:**

- Concern for social gathering
- Decreased social activity
- Don't use gym anymore too crowded for comfort
- Don’t like going places
- Go out less
- Less patient/understanding with people not respecting my space/concerns
- Less social
- Limit large gathering
- Much more of a homebody

Several participants mentioned **mental health issues:**

- Dealing w/grief
- Grief loss of my husband age 89 due to complications of Covid
- Guilt over mother's death of Covid could not be there
- Tried to kill myself
- Worn down from counseling others to reduce their anxiety
- Stress, political push to vaccine your children

Others mentioned **physical health issues:**

- Brain fog
- Coughing
- Fatigue joint pain and anxiety
- Increased arthritis and heart symptoms
- Had major surgery due to blood clots.
- Inflammation and pain in my ovaries
- Olfato debil [weak sense of smell]

Several participants mentioned **conflict in relationships due to differences of opinions regarding the COVID-19 vaccine:**

- Difference of opinion about vax. Conflict w/ friends
- Embarrassed to ask if others have been vaccinated
- Lost of friends who are against vacs
- Lost relationships antivaxers
- Relationship ended due to different approach to covid
- Relatives are not vaccinated vaccine hesitant [sic]

Financial pressures were another common theme in the comments, especially as it pertains to inflation:

- Perdida de trabajo [loss of work]
- Estrés financiero [financial stress]
- Finances
- Inflation $$
- It has affected my business. Decrease revenue
- Preocupacciones económicas [economic concerns]
- Was initially overworked but now stressed due to economic drop & inflation

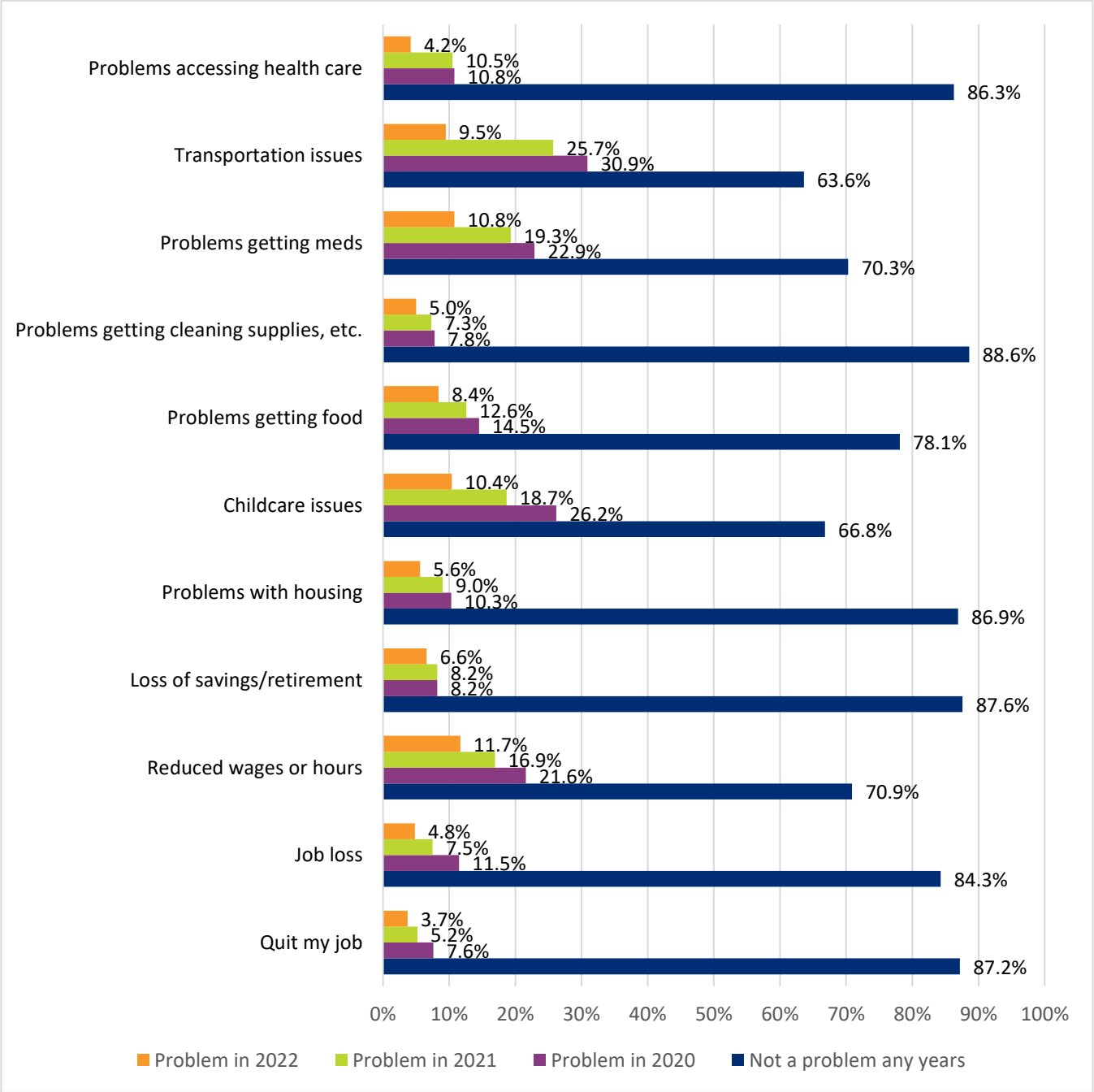
Stress at work was another common theme:

- Conflict in the workplace
- Increased workload
- Work stress increase
- Stress @ work
- PTSD, I am an ICU nurse for Covid unit

Other less common themes included travel restrictions, confusion over misinformation, and fear for vulnerable populations.

To assess how residents' day-to-day activities have been affected, participants were asked, "COVID-19 has impacted people's day-to-day life in many different ways. Have you experienced any of these difficulties due to COVID-19?" and were then provided with a list of options to choose from: whether it impacted them in 2020, 2021, 2022, or none of those years. Participants could select multiple options if relevant. As illustrated in Figure 35, every one of these issues has gotten less common since the pandemic's start in 2020. The most common remaining issue is reduced wages or work hours (impacting 11.7% of people in 2022), followed by problems getting medications (10.8%) and childcare issues (10.4%).

Figure 35. Difficult Experiences Due to COVID-19



Residents were also asked to respond in an open-ended format if there were any other ways in which COVID-19 impacted their day-to-day life. These responses were grouped into themes post-data-collection. By far the most common theme was “no”, “none”, or “N/A”.

There were many responses that evoked **strong emotions about masks—both for and against**.

- Dealing with people who refuse to wear masks
- Mask mandates were STUPID! Social distancing was STUPID!
- Now, feelings of bias when masking in public. I do not care. This is not over.
- The shame we felt for not wearing a mask
- People that continue to wear masks is ridiculous and ineffective

Several described how **differences in opinions about the COVID-19 vaccine had caused rifts in personal relationships**.

- Covid vaccine pitted friends against friends. People would not associate with the vaccinated
- Friends are still scared to come out. Lost a few because we choose not to get vaccinate because of government lies.
- Frustration with friends/family who don't "believe" in Covid or vaccines/science

Similarly, many comments mentioned **how rude people have become**, and how society has been suffering.

- People are distant and negative daily. Before the pandemic people had hope and were pleasant. now it is hard to go places and enjoy life
- People treated the un-vaccinated like a sub-class of human beings
- Seclusion because I haven't had people being rude and mean
- Very depressing. People have become very rude in general.

From a practical standpoint, many participants mentioned how COVID-19 **prevented them from traveling**.

- It did cause me to cancel international travel for two years. This year I'm going.
- Ruin Traveling
- Business and personal travel was severely curtailed

Issues of **social isolation** were commonly described. Some indicated how much they had missed socializing when forced to isolate; others seemed very content to never go back to the pre-pandemic level of socialization for fear of being infected.

- 2020 was difficult due to limited interaction with other people.

- Less social, mild fear of crowds, limit any indoor activity; stores
- Not being able to see family or have family/social events. Not being able to eat inside a restaurant.
- I will not go to any crowded event. No movies, concerts, fair, bars, parties, airplanes, cruise.

Mental health impacts for self and family were also frequently mentioned.

- When schools closed. My daughter (in high school) lost her mind Depression, cutting, anger issues, physical violence.
- My daughter experienced anxiety and depression, which also affected me
- Conflicto, en casa, deprecion aciedad [sic; conflict in my home, depression, anxiety]

Physical health issues, especially stemming from COVID-19 side effects, were another common theme.

- Had to retire due to Long Covid health issues. I've still not 100% recovered
- Lingering cough
- Increase in migraines, arthritis and heart problems
- I have a cough that's not lessening

Many responses shared stories of the **death of loved ones**.

- Both my parents got Covid. I spent 3 months with them caring for them. My dad died after a 4 month struggle from complications. I am still devastated from the loss
- Muertes en mi familia [deaths in my family]
- My son died in Michigan because he chose not to get vaccinated

Financial issues, especially those relating to inflation and/or COVID-19 related job loss, were another common theme. Many are struggling financially.

- Prices for everything has gone sky high but my income has not gone up to match
- My owners closed my place of employment in 3/20
- My rental property house income cut by 50% over 18 months due to tenants inability to work during covid shut down
- We own self-employed businesses that severely suffered

Many who were still employed were **experiencing severe burnout at work, especially for those working in healthcare**.

- Extreme mental strain at work, in hospital as a nurse
- I am a mental health provider - worked 2x much as previous extreme compassion fatigue - vicarious traumatization. numerous suicidal clients & deaths
- I developed burn out from overwork as an essential worker

- Working in health care has felt traumatic

A few comments addressed the issue of **access to healthcare; specifically, how COVID-19 made it difficult to access other types of care during the pandemic**.

- Access to physical therapy in 2020. I broke my shoulder in Jan 2020 and couldn't get proper care due to closures and without access
- Biggest problem still is accessing healthcare-non Covid related
- The impact on health system, harder to get appts, longer wait for prescriptions
- Lockdowns caused autistic son to miss out on therapy during the crucial years up till 5 & he regressed severely socially

A minority of comments described **good things** that had occurred as a result of the pandemic:

- All the people who stayed home erased my traffic for my commute to work! It was great!
- Not to take life for granted. Living life one day at a time for tomorrow never promised.
- Brought me closer to my family

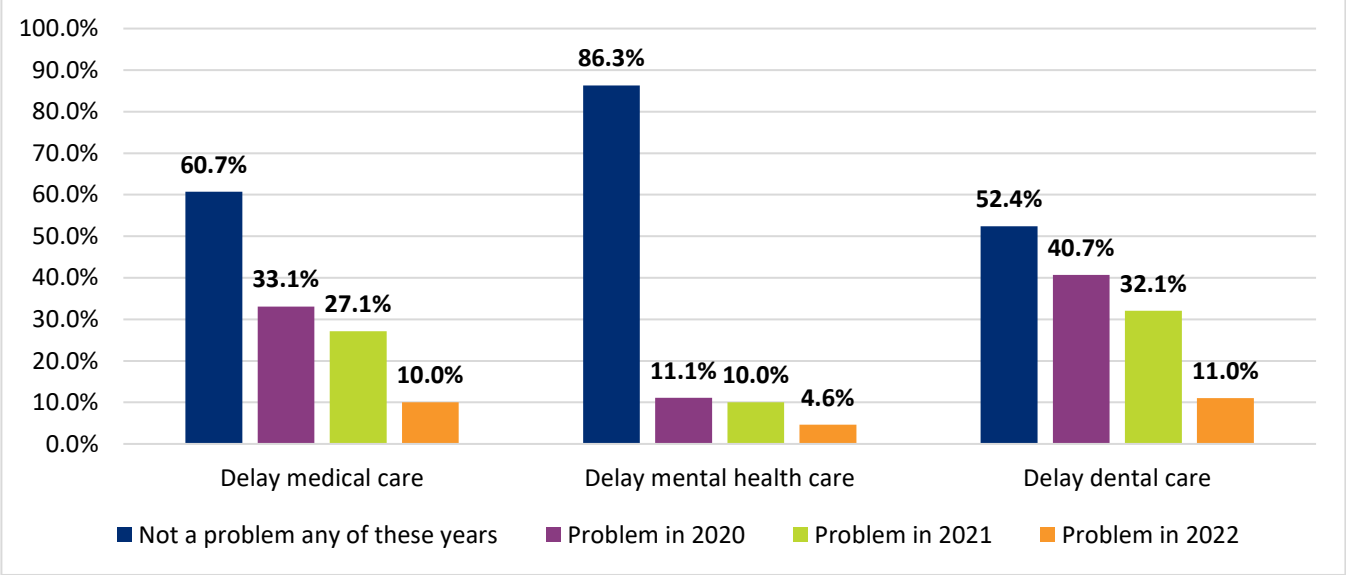
Delay/Absence of Healthcare During COVID-19

Access to regular, affordable healthcare is critical to the overall health and well-being of an individual. However, as a result of COVID-19, many day-to-day activities were either delayed or canceled. These activities included access to healthcare, which is dangerous as a disruption in care can increase the risk for life-threatening medical emergencies.[15]

To assess the delay of healthcare, residents were asked, "Did you DELAY getting any of the following because of the COVID-19 pandemic?" and could indicate whether they had issues accessing care in 2020, 2021, 2022, or none of these years.

As illustrated in Figure 36 below, in the beginning of the pandemic, many had to delay getting medical or dental care. However, this has substantially improved; in 2022 relatively few had to delay any type of care.

Figure 36. Delays in Healthcare Due to COVID-19



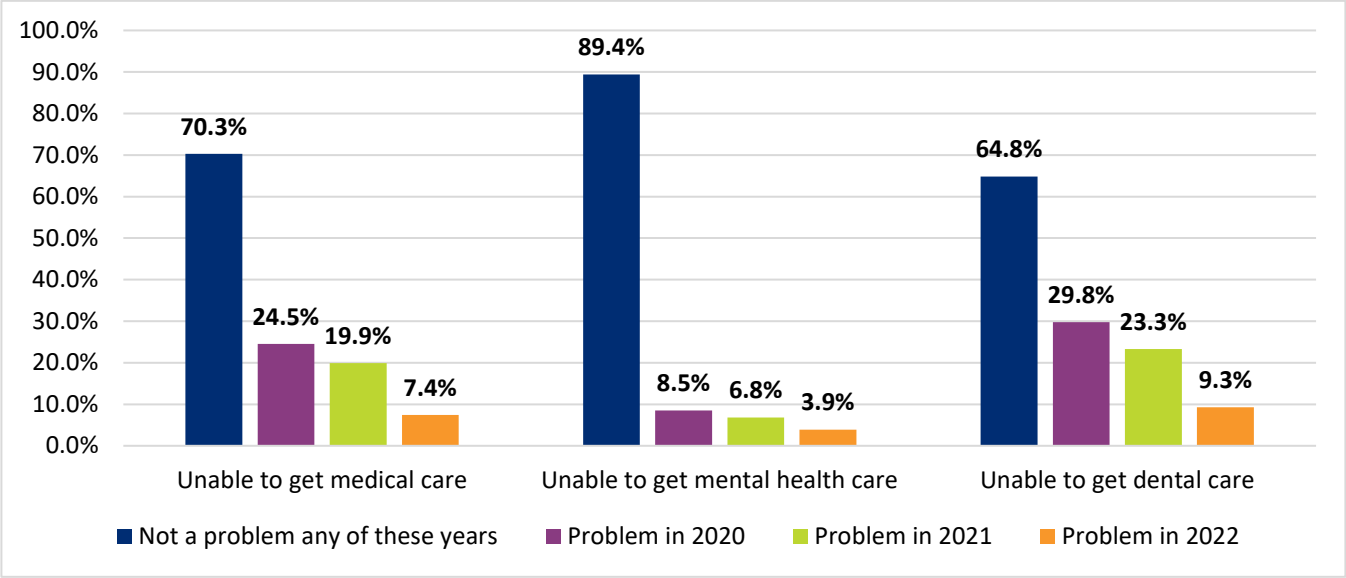
Note: Medical care *n* = 1,738,640. Mental health care *n* = 1,571,491. Dental care *n* = 1,728,445.

[15] Czeisler MÉ, Marynak K, Clarke KE, et al. Delay or Avoidance of Medical Care Because of COVID-19-Related Concerns – United States, June 2020. MMWR Morb Mortal Wkly Rep 2020;69:1250-1257. DOI: http://dx.doi.org/10.15585/mmwr.mm6936a4external icon

Next, participants were asked, “Did you need any of the following for reasons other than COVID-19, but DID NOT GET IT because of the COVID-19 pandemic?” Once again, participants could indicate whether they had issues accessing care in 2020, 2021, 2022, or none of these years.

As illustrated in Figure 37, at the start of the pandemic, many participants had to completely forgo necessary medical and dental care. That problem has since been substantially reduced.

Figure 37. Completely Unable to Obtain Healthcare Due to COVID-19



Note: Medical care *n* = 1,662,685. Mental health care *n* = 1,529,743. Dental care *n* = 1,672,618.

Impacts on Parents

Participants were asked, “Do you have any children under age 18?” Results show that 25.0%, or 421,464 residents had underage children in the home. These parents were then asked, “In what ways has COVID-19 impacted you as a parent?”

One common theme was that there was **no impact**.

- We were already doing independent study so it hasn't done much
- De ninguna [none]
- Not much besides mild concern about my children's health
- Not much of an impact

Several participants mentioned that the pandemic actually had a **positive impact** on their parenting.

- Actually, I have had the chance to spend more time with my child.
- Spent more time together teaching about compassion & empathy
- Got to be with my child more, teach him to trust God
- Helped me and my wife spend more time with our child. In short, Covid helped us become better parents

Another common theme was that the pandemic had made them a **more cautious** parent, sometimes to the point of being paranoid or overprotective.

- Covid-19 has made me fear to let them go to day care & school & question if it’s safe. Sometimes I think it's better to stay inside but that's not healthy for my kids
- Exceedingly cautious of kids interaction and routine with peers
- Traumatized Me for at 1 year I didn't let the kids out of the house
- Preoccupation, angustia cada ves que mis hijos salen de casa [Concern, anguish every time my children leave the house]

Many parents mentioned how **difficult remote schooling** was for them and for their children.

- I know for certain that homeschooling is NOT a good fit for me or my child
- Learning to homeschool for months impacting physical/mental health. I am a nurse, not a teacher
- Distance learning was terrible
- Distance school was not effective

Many parents **struggled to balance their need to work with the need to be home with their children**, especially as it related to distance learning.

- Cuando empezó la pandemia se cerraron las escuelsas tuve que dejar mi trabajo para cuidar mis hijos [When the pandemic started, the schools were closed. I had to quit my job to take care of my children]
- Had to stay home with kids for home schooling. Lost some "footage" in my practice because I wasn't available due to being home
- I had to use FMLA [Family and Medical Leave Act] and homeschool them
- Mucha por q si está en la escuela tiene mucho riesgo de contagio y en casa no tendría quien me lo cuide y a q tengo q ir a trabajar [A lot because if he is at school he has a high risk of contagion and at home I would have no one to take care of him and I have to go to work]

Several felt that their **child/children fell behind academically**.

- Not enough school activities academically they are way behind
- Had to teach them when schools shutdown and they are behind in reading writing now
- It has severely took a toll on their math grades

Social skills also suffered due to the isolation required during the pandemic.

- Children are socially anxious and a bit awkward
- Lack of social interactions for kids
- Children were home on distant learning for 1 1/2 years I feel socially they struggled going back to in person
- I don't socialize with others as much. I isolated my oldest child (3 yrs of age now) during the first year of his life. I kept him healthy but I believe it has impacted his social skills.

Children's mental health was negatively impacted during the pandemic.

- A lot they are autistic and suffer of anxiety and panic attacks
- Child has depression and social anxiety. Poor school attendance and engagement.
- Huge issues with mental health effects and school achievement in both children
- It was a nightmare. Between the loss of their education and the regression of social skills, and the mental health setbacks, my kids will never be ok.

Parental mental health was also hit hard, with high levels of stress, depression, anxiety, and grief for many parents.

- Children was so difficult in 2021, 2022. Work life/ balance. Super stressful when child would have to stay home
- I suffered mental health and substance abuse issues losing custody of her
- Quarantine drove me to suicide attempt
- My adult son died from Covid-19 and my family hasn't recovered from the pain

COVID-19 Information Seeking

While there is a plethora of critically needed information regarding nearly anything associated with COVID-19, there is also false information being proliferated. That said, information seeking is important to understand because false information has the potential to increase adverse health effects and divisiveness, while accurate information can help mitigate the effects of COVID-19.

Participants were asked, "Where did you learn about how to get a vaccine/booster locally?" The open-ended responses were then categorized into major themes.

One of the most common themes was that participants learned about the booster from **healthcare organizations, healthcare providers, and health insurance plans.**

- Health clinic in town
- Mi doctora [my doctor]
- Healthcare facility
- My GP
- Clinica Medica [medical clinic]
- Hospital network
- My PCP
- My health ins. [insurance] Kaiser
- Por mi aseguranza [for my insurance]

Some participants cited their specific healthcare provider; by far the most common was **Kaiser Permanente**, with more than 300 mentions. Other common healthcare providers/sources of information included the **Veterans' Administration** (mentioned about 50 times), **Eisenhower Health** (36 mentions), and **Desert Oasis Healthcare** (17 mentions), among others.

Another common source of information about the vaccine/boosters was from **friends, family, and neighbors**.

- Family told me
- Friends and hearsay
- con amigos/familia [with friends/family]
- Mi hija me ayudo [my daughter helped me]
- My neighbor told me
- My parents told me about it

Hundreds of participants learned about the vaccine/boosters at a **pharmacy**. While some sought out information about boosters and vaccines from the pharmacy, others received information from proactive outreach by pharmacies.

- Went to Walgreens
- Drug store
- Farmacia [pharmacy]
- Called Rite-Aid
- CVS/Walgreens emails
- Pharmacy store signage
- Walgreens local ads
- CVS text us!

Some participants specified the specific pharmacy. Of these, **CVS** was by far the most commonly mentioned, with 75 mentions. **Walgreens** was mentioned 27 times and **Rite-Aid** 25 times.

Most participants responded to the question to specify how they accessed specific types of media to learn about the vaccine/boosters. For example, more than 440 participants mentioned "**television**" or "**TV**". Similarly, more than 400 said "**news**" or "**noticias**". Much less common types of media included **radio** (mentioned more than 80 times), **newspaper/papers** (mentioned more than 70 times), **signs** (23 mentions), **flyers** (6 mentions), and **billboards** (3 mentions).

Many participants used various terms to indicate that they found information **online**, although very few specified the exact site.

- Website
- Facebook
- Computer
- Online
- On tablet
- Online – website
- Online search
- Internet
- Social media
- Google website
- Por la redes sociales [social media]
- Looked online

It is worth noting that the "MyTurn" website was cited 17 times.

Riverside County (and often, specifically RUHS – Public Health) was cited as a source of information about the vaccine/booster for more than 125 participants.

- At rivcoph.org
- County health info. Phone #
- Riv. Co. Health website
- Riverside Univ Public Health
- You guys & internet pharmacy sites
- Riverside Medical Ctr.
- Rivhealth.net
- Riverside university hospital
- Riverside County Help Line
- Riverside CA.gov
- County web site
- Public health dept.

Many participants learned about the vaccine/boosters through their **work**, especially those who work in healthcare.

- I'm an RN, so through work
- In my work
- A coworker
- En el trabajo [at work]
- Work - mandated
- Work for school
- Employer - UC System

Others learned about the vaccine/boosters from **schools**.

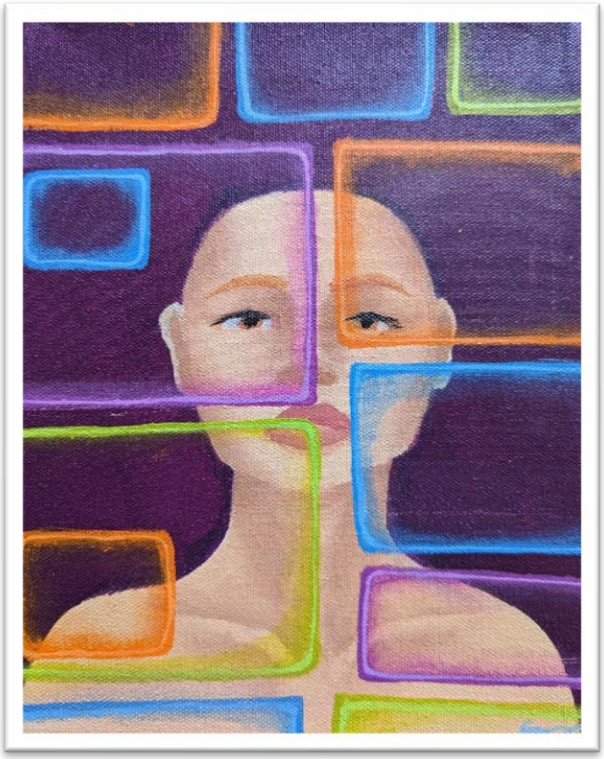
- My child's school
- High School
- From school district where I work
- CVUSD
- University of Redlands
- Unified school district

Some participants, especially seniors, learned about vaccines/boosters **where they live**.

- Where I am living (assisted living)
- where I live. Sun lakes in Banning
- 55+ community
- HOA where we live
- My apartment complex
- Retirement community where I live
- Our Assisted Living Complex

Some participants felt that the messaging was so thorough that **information about the vaccine/booster was everywhere and couldn't be avoided**.

- Bombarded everywhere!
- Could escape the ways to get poked - it was EVERYWHERE
- You can't not hear about it. It's the most paid advertisement propaganda out there.
- What a stupid question. It's advertised literally everywhere.
- We were inundated with info from radio, tv, news
- How could you miss it. Stores, TV, Internet, Hospitals
- Everywhere? Not sure how anyone could not know how to get a vaccine.



Usual Sources of Information About COVID-19

In the 2021 study, participants were asked, "Where do you usually get information on COVID-19?" in an open-ended format. The responses to this open-ended question were used to create response options for the 2023 study, along with a space to detail the specific source.

As illustrated in Table 9, the top places where people get information on COVID-19 are television news (64.7%), healthcare professionals (55.9%), and health organizations (52.1%)

Table 9. Usual Sources of Information on COVID-19

Source	Weighted Percent	Population Estimate
Television news (e.g., CNN, FOX, MSNBC, etc.)	64.7%	1,164,851
Healthcare professionals (e.g., doctor, nurse, etc.)	55.9%	1,006,253
Health organizations (e.g., CDC, WHO, etc.)	52.1%	938,653
Online/internet sources	47.4%	854,754
Government (e.g., local, state, U.S.)	45.5%	819,481
Friends and family	40.7%	732,466
Social media	28.5%	512,708
Print news (e.g., newspapers, magazines, etc.)	26.0%	468,683
Research articles (e.g., scientific findings, published articles, peer-reviewed)	24.5%	440,890
Work	19.3%	348,117
Place of worship (e.g., church, temple, etc.)	11.0%	198,245
Academic settings (e.g., class, lab, library)	10.3%	185,473
Other	4.4%	79,057
Total	**100.00%**	**1,801,646**

Participants were asked to write in specific sources; those specific sources for the top three most common "usual sources of information on COVID-19" are presented here (that is, those "usual sources" checked by more than 50% of participants).

Television

The most commonly selected "usual source of COVID-19 information" was television. Specifically, the two most common sources that were written in included **NBC** (which includes MSNBC, Palm Springs NBC affiliate, Nightly News with Lester Holt, NBC news, etc.) as well as **CNN**—both of which were mentioned by over 350 participants. Over 200 individuals mentioned using **FOX.**

More than 150 mentioned **ABC** while another 100 cited **CBS**. Other less common sources with less than 50 mentioned included PBS, KTLA, BBC, Telemundo, KESQ, NPR, and Univision.

Healthcare Professionals

By far the most healthcare professionals that were specified were **general listings for nurses and doctors.**

- Primary physician
- Primary NP
- Nurses & doctors
- My general practitioner
- My doctor
- Family physician
- Doctora de cabecera [Family doctor]

Occasionally, **specialists** were also included as the usual source of COVID-19 information.

- My allergy doctor, my cardiologist
- My doctor - an internist and pulmonary specialist and heart doctor
- My hospice nurse
- My neurologist, Daniel Bandari
- My infectious disease doctor

Colleagues were a valued source of information for people who work in healthcare.

- Colleagues I am MP
- Doctors who I work for
- My work, I work in a pharmacy
- MDs at work

Some responses specified the individual source; of these, **Kaiser Permanente** was by far the most common; other included **Eisenhower Health**, **Desert Oasis Healthcare, Riverside Medical Clinic, and Scripps**, among others. **Clinics** were also mentioned, both in general and specific Federally Qualified Health Centers (e.g., Beaver Medical Clinic, Borrego Health, Indian Health clinic, Inner-care, MoVal CHC, Neighborhood Health, etc.). The VA was also mentioned by more than a dozen participants.

Health Organizations

By far, the most commonly cited health organization where participants usually get their COVID-19 information was from the **Centers for Disease Control and Prevention** (CDC), with over 570 listing this agency. The **World Health Organization** (WHO) was next; more than 130 mentioned using this source to find COVID-19 information.

Other less common themes included **Kaiser Permanente, Dr. Fauci, the California Department of Public Health** (CDPH), **Department of Public and Social Services** (DPSS), **Johns Hopkins**, and the **Food and Drug Administration** (FDA), among others.

Many instead wrote in how they accessed information from these organizations, for example "**TV**" was listed more than 70 times, and "**internet**" or "**online**" came up more than 60 times. A total of 77 participants stated "**news**".

Several participants used this space to describe **who they do ***not*** trust**. For example:

- CDC
- WHO
- Dr. Fauci
- Kaiser

Finally, nearly 30 participants cited **Riverside County** as a usual source of COVID-19 information, using various names/terms to do so.

- You guys; CDC
- CDC & County Health
- CDC & FDA, Riverside Health Dept.
- CDC, WHO, RivCo Pub Health Site
- CDC, Riverside County page
- CDC, health dept, WHO
- County Health Dept, State Health Dept, CDC
- County website (RivCo)
- RUHS

Trusted Sources of Information About COVID-19

To better understand how much residents trust the information they are receiving, they were asked the following open-ended question," What people or groups do you trust to give you accurate COVID-19 information? (e.g., the news, the government, religious leaders, family members, etc.)". As with the previous question, this was initially fully open-ended on the 2021 study, which was transformed into a "check all that apply" format in the 2023 survey, where participants could also elaborate on the details of each item.

As illustrated in Table 10, the most trusted sources of COVID-19 information were healthcare professionals (60.0%) and health organizations (55.1%).

Table 10. Trusted Sources of Information on COVID-19

Source	Weighted Percent	Population Estimate
Healthcare professionals (e.g., doctor, nurse, etc.)	60.0%	1,040,293
Health organizations (e.g., CDC, WHO, etc.)	55.1%	954,771
Television news (e.g., CNN, FOX, MSNBC, etc.)	39.3%	680,373
Government (e.g., local, state, U.S.)	36.1%	626,182
Research articles (e.g., scientific findings, published articles, peer-reviewed)	27.9%	483,086
Friends and family	19.9%	345,368
Online/internet sources	17.5%	302,751
Academic settings (e.g., class, lab, library)	14.8%	256,217
Print news (e.g., newspapers, magazines, etc.)	14.7%	254,761
Place of worship (e.g., church, temple, etc.)	9.4%	162,722
Social media	9.0%	156,403
Work	8.8%	152,831
Other	7.8%	135,305
Total	**100.0%**	**1,733,333**

As with the previous question, participants were asked to write in specific sources; those specific sources for the top two most common "trusted sources of information on COVID-19" are presented here (that is, the two sources that were trusted by more than 50% of participants).

Healthcare Professionals

Very similar to the question on "usual sources of information about COVID-19", the most common theme by far was a **generic doctor or nurse**.

- Doctor
- Doctors & nurses
- Family doctor
- MD & nurse
- My PCP
- Personal doctor

Once again, some listed the specific agency where they have trusted healthcare professionals; **Kaiser** was once more at the top of the list. **Specialists** were also mentioned once more, as were **colleagues**.

Some comments made it clear that **only specific providers were to be trusted** (those with a personal relationship, usually), not a blanket trust in all healthcare providers.

- Those I trust
- Specific Doctors only
- Some of the Dr.'s
- Professionals I know
- My Dr's office only
- Medical professionals I know personally
- Maybe--they are all different
- Certain healthcare professionals

Health Organizations

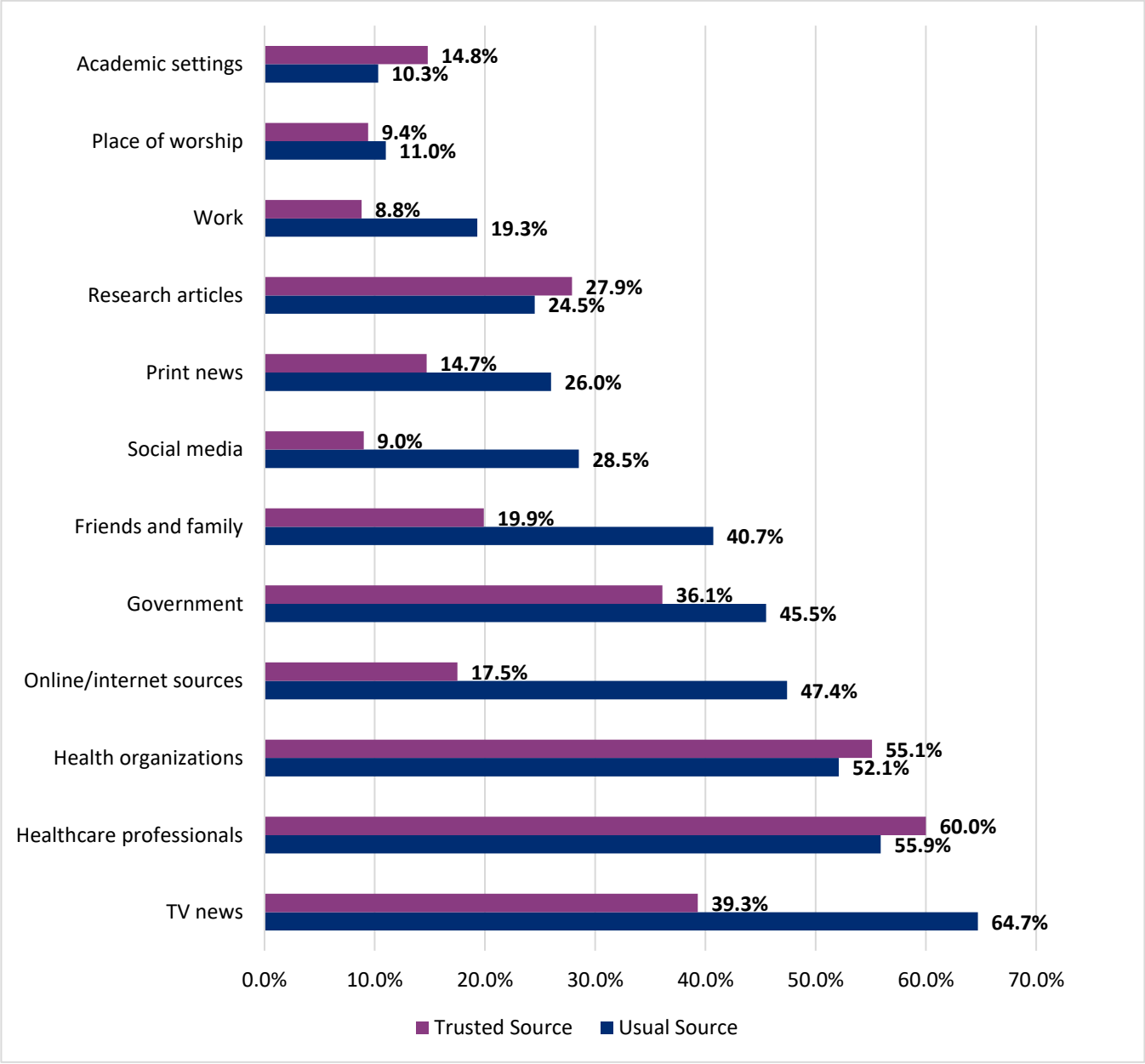
As with the question on "usual sources of information about COVID-19", by far the most common "trusted organization" was the **CDC,** followed by the **WHO**. Other agencies that received multiple mentions included **Kaiser, NIH, Dr. Fauci, and CDPH** once again.

Many once again wrote in how they accessed information from these organizations, for example **TV, news, online, and internet.**

When comparing the usual source of COVID-19 information to the trusted sources of COVID-19 information, there are some interesting differences, as illustrated in Figure 38.

For example, while 64.7% of people usually get their COVID-19 information from the TV news, only 39.3% trust that source. Similarly, while 47.4% usually get their COVID-19 information from the internet, only 17.5% trust the internet as a source of COVID-19 information. In contrast, healthcare professionals, health organizations, and research articles are more trusted than they are used.

Figure 38. Comparing Usual Source of Info to Trusted Source of Info



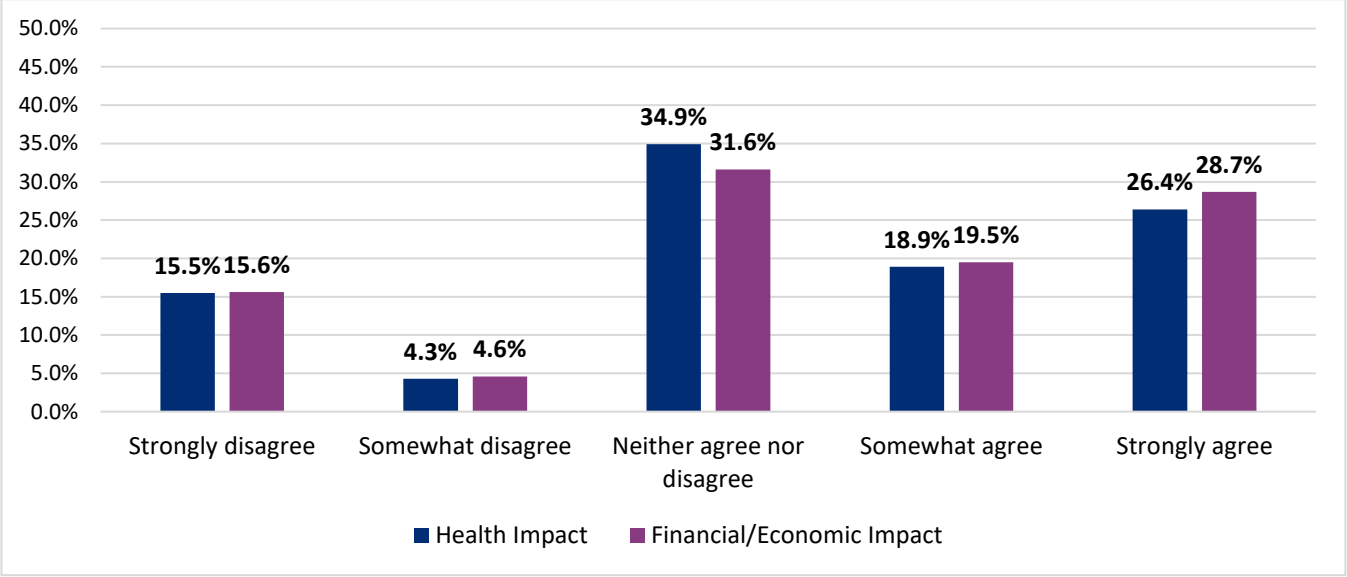
Disproportionate Impact of COVID-19 on Communities of Color

The COVID-19 pandemic exacerbated a variety of health, social, and economic problems. Among these areas, health inequities were highlighted among communities of color as racial and ethnic minorities were disproportionally at risk of becoming ill or dying from COVID-19.[16]

To understand perceptions of these health inequities, residents were provided with statements to rate their agreement/disagreement. Specifically, they rated, "People of color are facing more of the health impact of COVID-19 than White people" and "People of color are facing more of the financial/economic impact of COVID-19 than White people". Additionally, clarification was provided: "By people of color, we mean African American, Black, Indigenous, Southwest and East Asian, Latino/Latina/Latinx, etc.".

As illustrated in Figure 39, over a quarter of participants strongly believe that people of color are disproportionately impacted by COVID-19 than White peoples in terms of both health impacts and financial/economic impacts.

Figure 39. Disproportionate Impact of COVID-19 on Communities of Color



Note: Financial/economic impact *n* = 1,750,024. Health impact *n* = 1,751,339.

[16] Health Equity Considerations and Racial and Ethnic Minority Groups (2021). Centers for Disease Control and Prevention. https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html

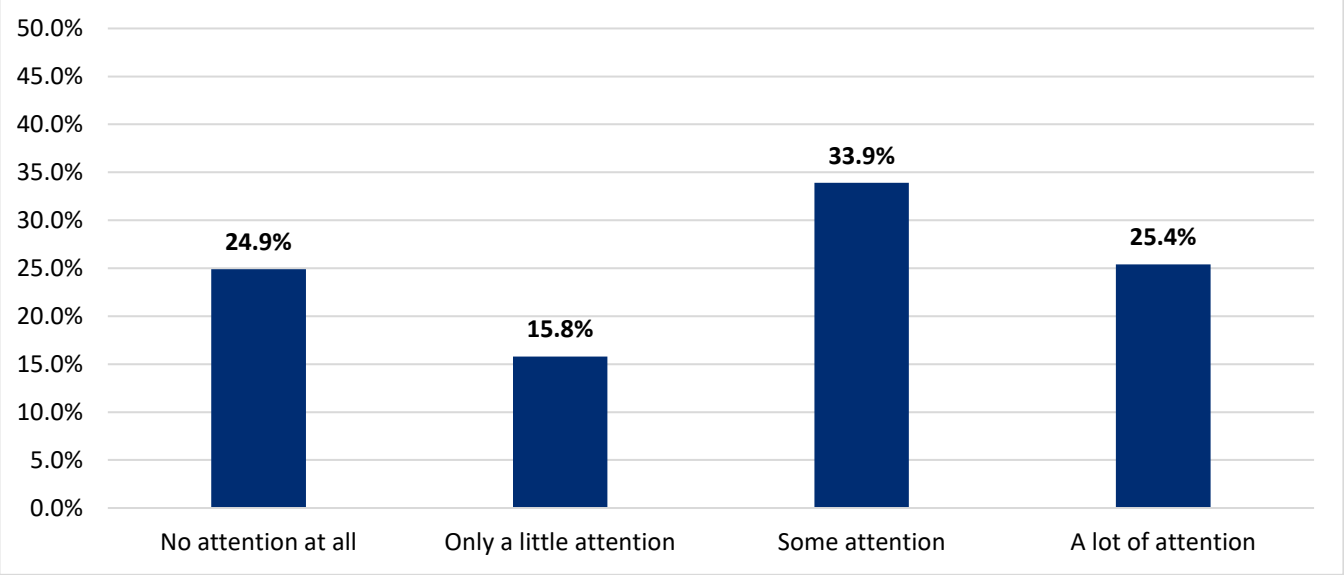
Racial Inequality

Historically, racism has detrimentally impacted many individuals' lives physically, financially, and mentally. To combat racism, the Riverside County Board of Supervisors collectively agreed to take action against racism by declaring it a public health crisis in August of 2020. The Supervisors agreed to take steps to increase diversity in the county's workforce and improve public education to raise awareness of systemic inequality and its effects.[17]

Participants were asked, “In the past three months, how much attention have you been paying to issues of race and racial inequality?”

As illustrated in Figure 40, a little over half of local adults have been paying “some attention” or “a lot of attention” to the issues of race and racial inequality over the course of the past three months.

Figure 40. Amount of Attention Paid to Issues of Race in Past Three Months



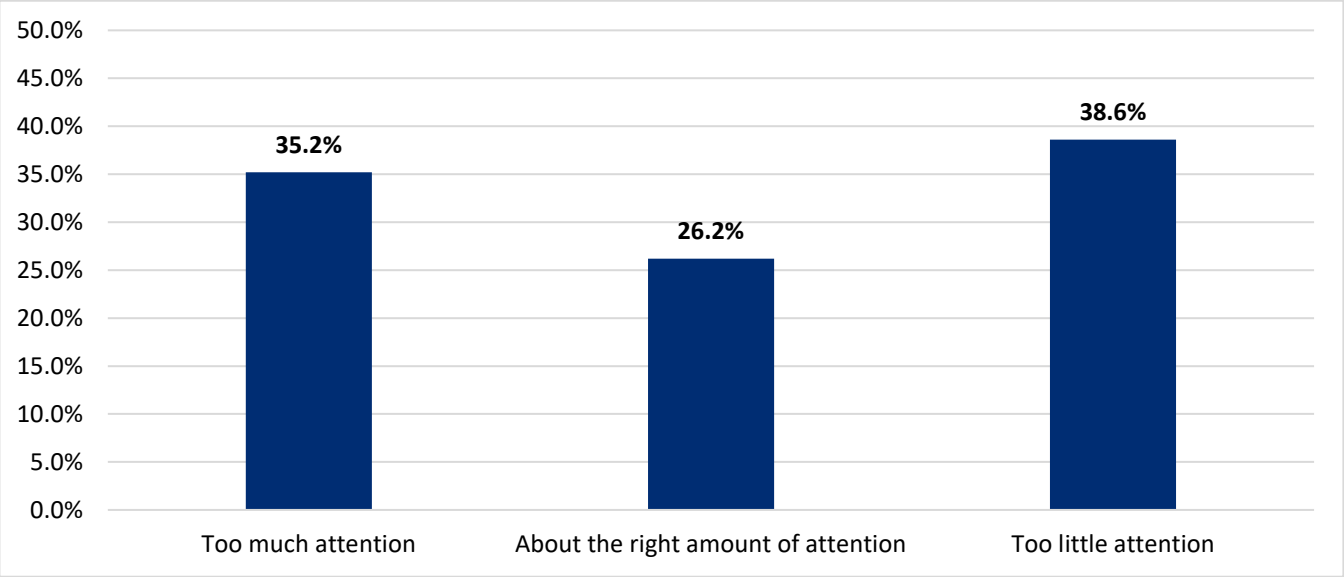
Note: *n* = 1,798,316.

[17] Board of Supervisors vote 5-0 to declare racism as a public health crisis (2022). RivCoNow. https://rivco.org/news/board-supervisors-vote-5-0-declare-racism-public-health-crisis

Participants were asked, “In general, do you think there is too much, too little, or about the right amount of attention paid to race and racial issues in our country these days?”

As illustrated in Figure 41, opinions about the appropriateness of the level of attention that is being paid to race and racial issues in the country are split.

Figure 41. Opinion About Amount of Attention Paid to Racial Issues in the U.S.

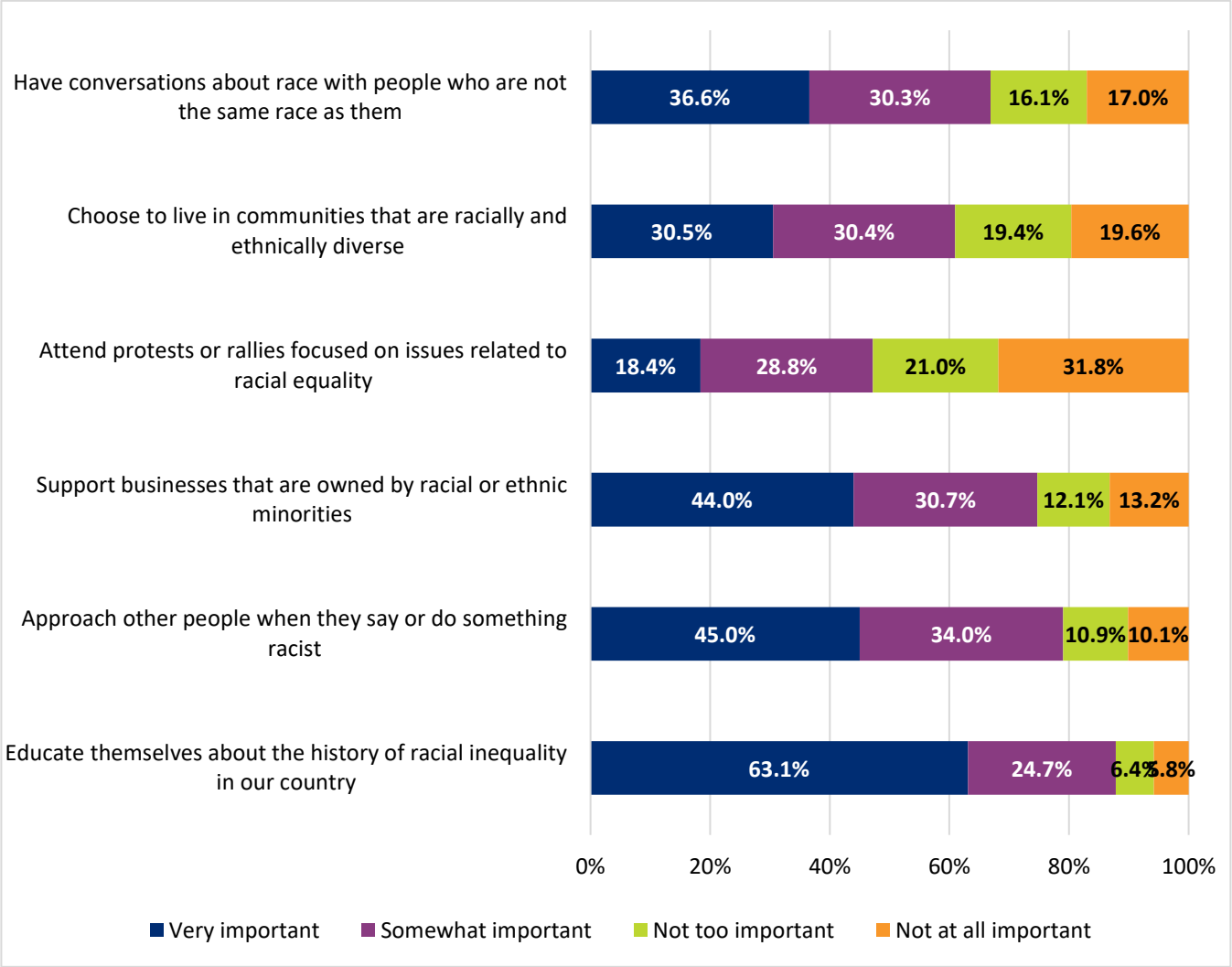


Note: *n* = 1,748,491.

Participants were asked, “How important, if at all, do you think it is for people in our country to do each of the following?” with a scale that ranged from “very important” to “not at all important”.

As illustrated in Figure 42, majority of residents (63.1%) agree that it is “very important” to educate themselves about the history of racial inequality in our country. In contrast, very few people felt that it was “very important” to attend protests or rallies focused on issues related to racial equality.

Figure 42. Perceived Importance of Efforts to Address Racial Inequality



Note: Conversations *n* = 1,698,289. Diverse communities *n* = 1,691,590. Attend protests *n* = 1,685,227. Support businesses *n* = 1,696,124. Confront racism *n* = 1,679,017. Educate themselves *n* = 1,735,967.

Impact of Inflation

The rate of price growth during a specific period is known as inflation.[18] Between 1914 and 2023, the United States inflation rate averaged 3.3% per year.[19] Low inflation rates (at or below 2%) can drive economic growth.[20] In contrast, high inflation levels hurt the economy, but also disproportionately impact low-income individuals due to the necessity of spending more on basic necessities.[21] In 2022, inflation hit 9.1%, the highest rate in over 25 years.[22]

Participants were asked the following open-ended question: "COVID-19 has also affected the economy in various ways. How has inflation impacted you, or your household?"

The vast majority of responses to this question (over 3,000 comments) simply described the **definition of inflation** and how it had impacted their life.

- Increased cost of goods/services without a commensurate increase in pay
- Our income went down and our household expenses went up. Too many expenses, not enough money
- Mucho aumento en precio de alimentos básicos y servicios de gas y electricidad [Much increase in the price of basic food and gas and electricity services]

Some participants reported that **inflation did not impact them**.

- Aware of it but am financially healthy!
- Blessed we/I have not been impacted other than the cost of fuel and some food items
- EVERYTHING is more expensive, but I have not "done without"
- Fortunately not at all. We are both retired and have a good retirement income. We are frugal people and invested wisely.
- No me afectó de ninguna manera [It did not affect me in any way]

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[18] Inflation: What it is, How It Can Be Controlled, and Extreme Examples (2023). Investopedia. https://www.investopedia.com/terms/i/inflation.asp#:~:text=Inflation%20is%20the%20rate%20at,and%20the%20Wholesale%20Price%20Index.

[19] Untied States Inflation Rate. Trade Economics. https://tradingeconomics.com/united-states/inflation-cpi

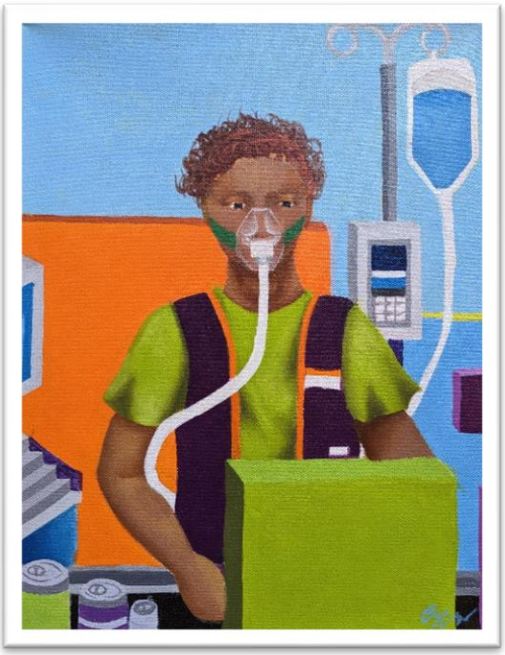
[20] What is an acceptable level of inflation? (2011). Governors of the Federal Reserve System. https://www.federalreserve.gov/faqs/5D58E72F066A4DBDA80BBA659C55F774.htm#:~:text=The%20Federal%20Reserve%20has%20not,percent%20or%20a%20bit%20below.

[21] How inflation disproportionately hurts low-income households (2023). Federal Reserve Bank of Dallas. https://www.dallasfed.org/research/economics/2023/0110#:~:text=Low%2Dincome%20households%20most%20stressed,few%20ways%20to%20reduce%20spending%20.

[22] Untied States Inflation Rate. Trade Economics. https://tradingeconomics.com/united-states/inflation-cpi

Some people coped with inflation by **working more**, delaying retirement, or going back to work after retiring.

- Absolutely - I will now have to delay my retirement
- Because of inflation and high taxes I have to use my savings and drive for Uber just to live and pay my property taxes
- Cost of food, gas, utilities made me go back to work part time after retiring in 2020
- Needs to continue working post retirement age to make ends meet
- Yes, it has impacted us a lot. I had to do 2 jobs to make ends meet



Others coped with inflation by **minimizing spending** and tightening their budgets.

- Can not afford same amounts $ in groceries etc. Limited social life. Forced to cut down on expenses overall.
- Limited travel due to gas prices. changed eating habits due to cost of groceries.
- Impacted the amount of spending done on nonessential items to minimal spending

Several mentioned **how stressful living on a tight budget can be**.

- We can no longer afford to do anything fun as a family and can only afford the bare necessities to get by. It has created an enormous amount of stress.
- Retirement income does not cover cost for food, vehicle, repairs, gasoline. Extremely stressful on limited budget.
- We can't afford the "fun extras" grocery shopping makes me feel stressed & sad. We can't afford trips because of gas cost & hotel increases, etc.
- It has gotten crazy. I have to be careful in spending. Our savings are almost gone despite being careful. It's depressing

Many were **forced to dip into their savings** in order to make ends meet.

- Dip into savings
- Have to use 401k for food & bills
- We have had to dip into our savings to keep up with our monthly expenses

Others **went into debt** in order to deal with inflation.

- Due to loss of income, I have used up all of my savings and maxed out my credit cards
- Hard to pay all household bills. Ended up using credit cards and went into debt
- Can be very difficult at times to make ends meet. Credit card bill is high as a result.
- Gasoline and food costs have limited travel and work opportunities we are having to utilize credit cards more

Some described **relying on family (or providing support for family) as a safety net**.

- All 3 children were unable to live on own & moved back home (my house) which in turn has made all my utilities/water & cost of living much higher
- Affected my retirement savings and I've had to help family members with finances
- It has caused my family to lose their home and move in with me and my wife
- We combined households & moved in with family

Several participants listed ways that they have **changed their behavior** to save money.

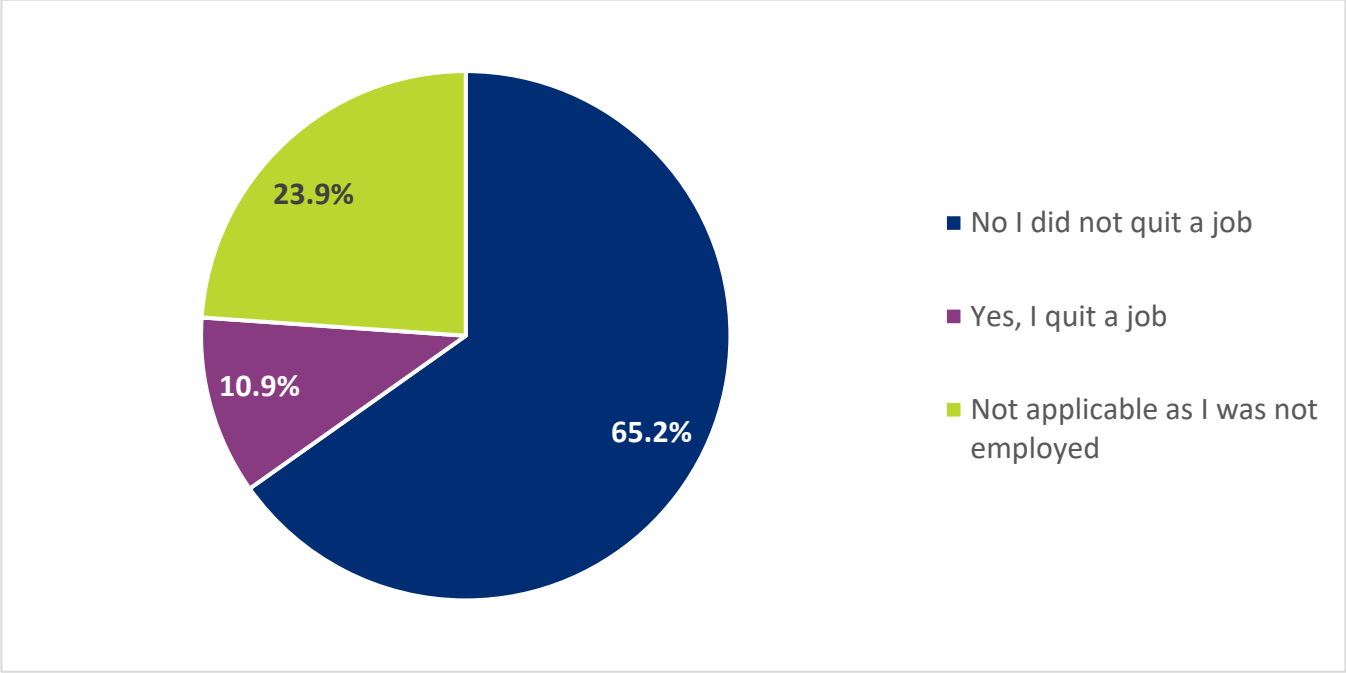
- Common things like eggs and even food has increased in price. I learned to cook for myself rather than going out to eat, also fix things rather than replace for example
- Gas & food mostly - I used to buy whatever I wanted now I look at prices also I bought a hybrid due to gas
- Makes me eat less, with prices going up on food grow my own, raise animals
- Yes. I exist on Social Security. I coped by getting a roommate.

Great Resignation

In 2021, more than 47 million American workers chose to quit their jobs, representing a remarkable mass exodus from the labor force now being called "The Great Resignation".[23] This has led to labor shortages and a shift in the power dynamic between employers and employees.[24]

To assess resignations locally, participants were asked, "Did you quit a job at any point in 2021 or 2022? By this we mean you left a job by choice and not because you were fired or laid off or because a temporary job ended." As illustrated in Figure 43, approximately 10.9% voluntarily quit during 2021 or 2022; this equates to 172,112 adults.

Figure 43. Voluntary Quitting in 2021 or 2022



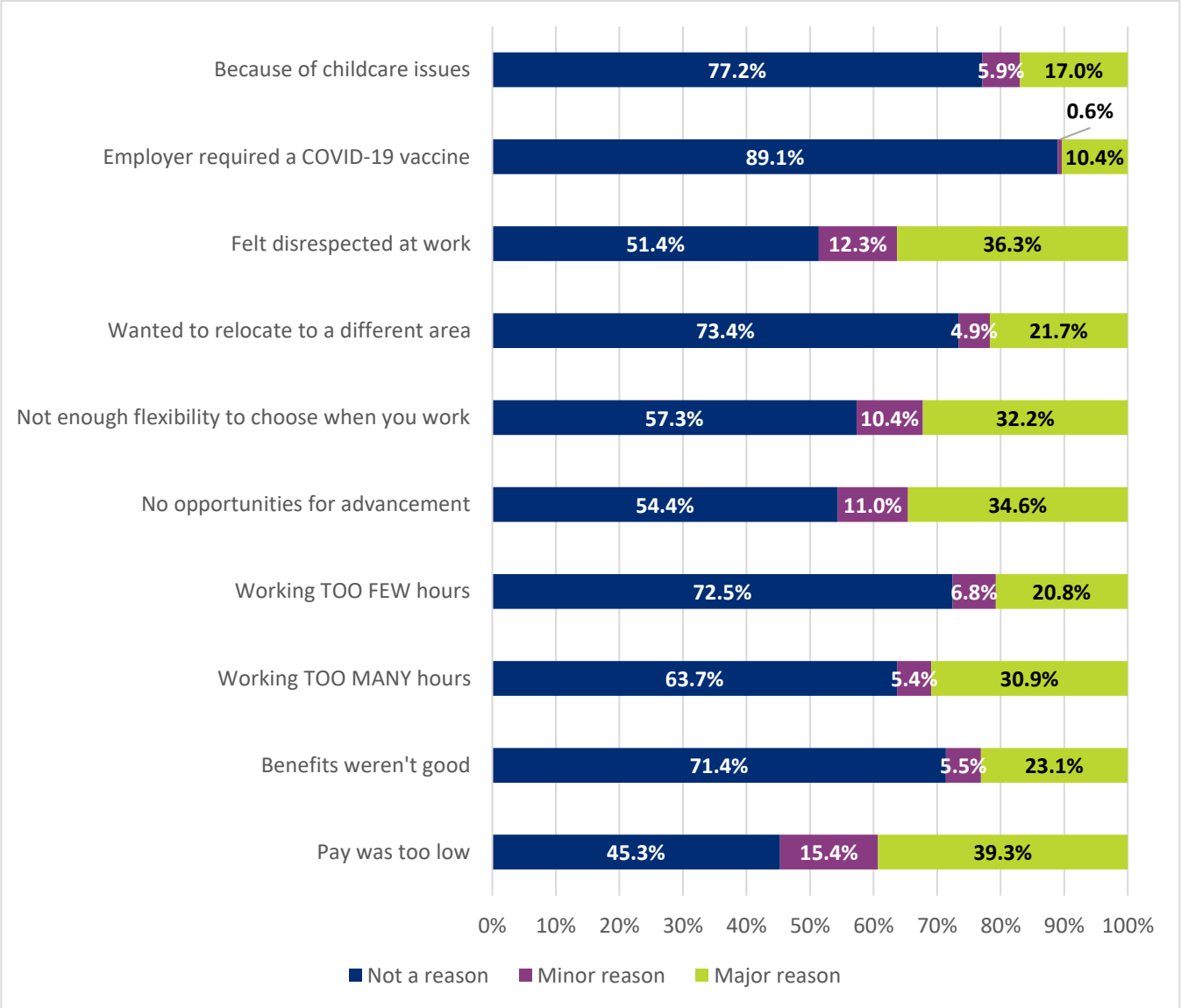
Note: *n* = 1,583,686.

[23] Fuller, J. & Kerr, W. (2022). The Great Resignation didn't start with the pandemic. Harvard Business Review, https://hbr.org/2022/03/the-great-resignation-didnt-start-with-the-pandemic
[24] Ibid.

Those who quit a job voluntarily in 2021 or 2022 were then asked to "Indicate which of the following is a reason why you quit a job in 2021 or 2022" with the response options of "a major reason," "a minor reason," and "not a reason."

As illustrated in Figure 44, the most common reason for quitting was because the pay was too low (39.3% major reason, 15.4% a minor reason). Other common reasons for quitting include feeling disrespected at work, no opportunities for advancement, and not enough flexibility to choose when to put in hours.

Figure 44. Reasons for Voluntary Resignation – Those Who Quit a Job



Note: This question was asked of everyone who voluntarily quit a job during 2021 or 2022.

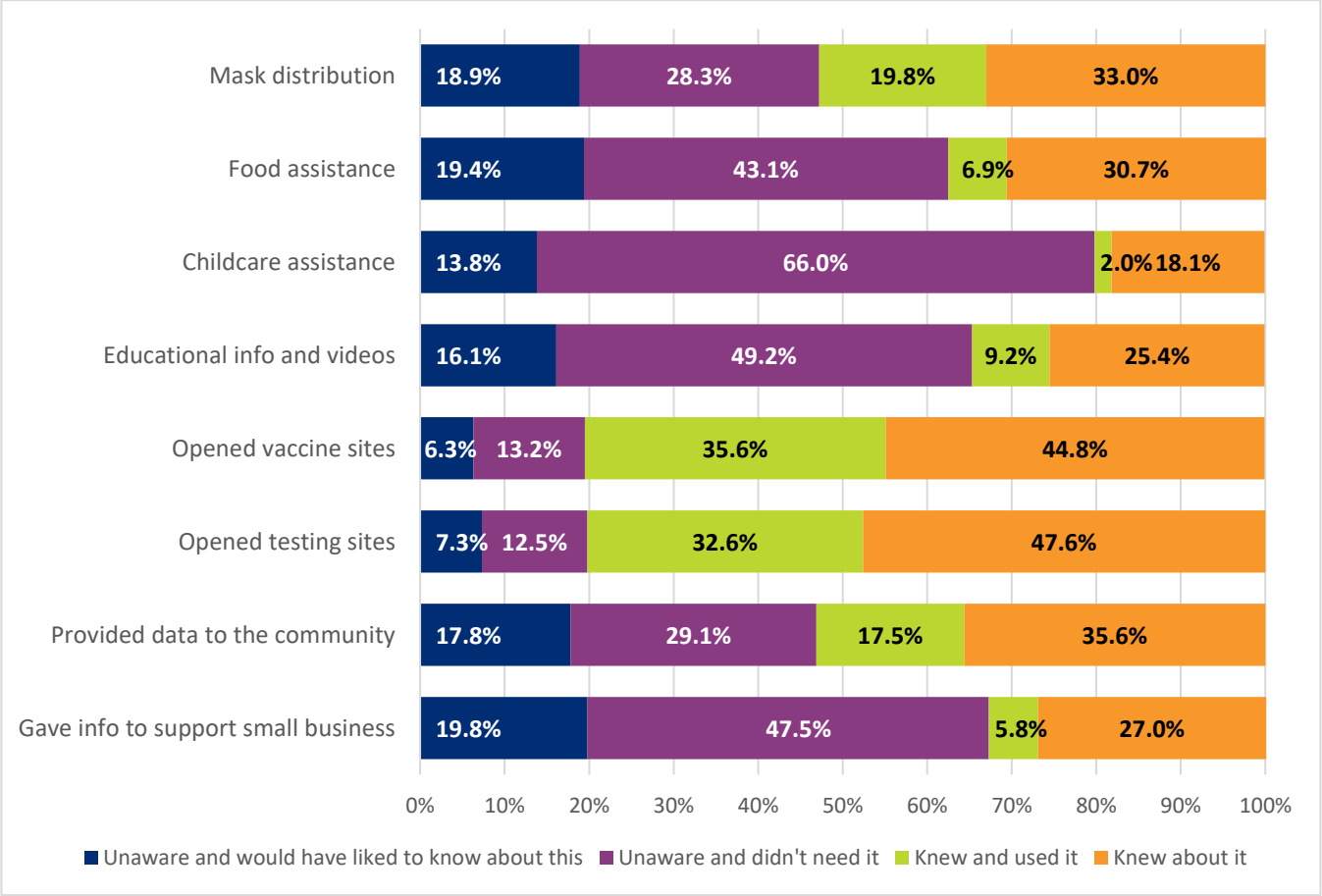
RUHS – Public Health Specific

Knowledge of Public Health Efforts During COVID-19

RUHS - Public Health has worked relentlessly to mitigate the effects of COVID-19 in our communities. To evaluate efforts and understand local perception, residents were given the following prompt, "The Department of Public Health within Riverside County has worked to reduce the impact of COVID-19 throughout the community. Please indicate whether you were aware of Public Health's following activities" and could then rate their knowledge of each activity.

As illustrated in Figure 45, most participants knew about RUHS – Public Health's vaccine sites and testing sites. Services that were less well-known (and more desired) included providing information to support small businesses (19.8% would've liked to have known about this), food assistance/Great Plates Program (19.4% would've liked to have known about this), and mask distribution (18.9% would've liked to have known about this).

Figure 45. Knowledge of Public Health Efforts during COVID-19



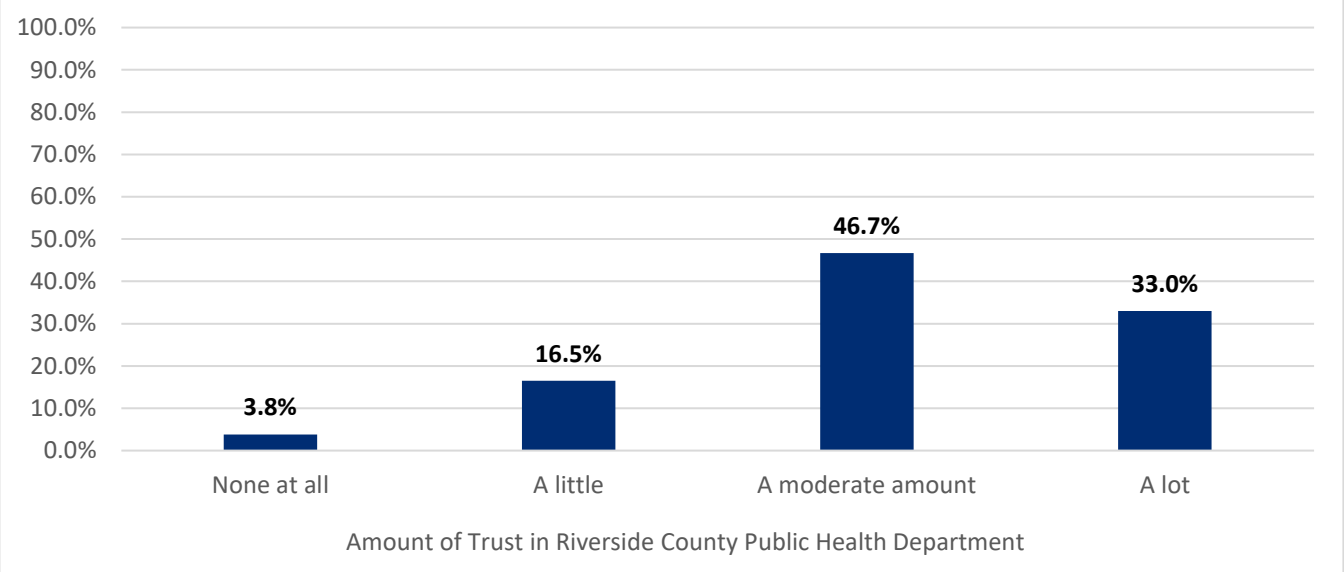
Note: Mask distribution *n* = 1,6,94,990, Food assistance/Great Plates Program *n* = 1,663,791, Childcare assistance *n* = 1,609,429, Educational info and videos *n* = 1,606,096, Vaccine sites *n* = 1,683,487, Testing sites *n* = 1,667,408, Provided data to the community *n* = 1,619,208, Gave information to support small business *n* = 1,603,478.

Trust in Riverside County Public Health

Given that RUHS – Public Health is a vital entity to helping the community thrive and recover from COVID-19, trust is a key aspect of effective support. In the 2021 study, residents were asked, "How much do you trust local government such as County Public Health departments?" Responses were mixed, and some written in comments indicated differences by department (e.g., a participant might trust Public Health but not the County Sheriff's Department). Thus, in the 2023 study, this was rephrased to be more specific: "How much do you trust the Riverside County Public Health Department?"

As illustrated in Figure 46, trust levels are quite high; nearly 80% trust the department at least "a moderate amount". Only 3.8% have no trust at all in Riverside County Public Health (approximately 66,841 people).

Figure 46. Trust in Local Government



Note: *n* = 1,780,137.

Participants were then asked, "Please explain why you chose your above response." The open-ended responses were grouped into themes post-data-collection.

By far the most common response was that the participant was either **not familiar with the Public Health Department or doesn't use their services.**

- Never heard about them before this survey
- Very little experience with it
- Unfamiliar with the dept
- Have not had to deal with them
- Rarely use; use private healthcare providers
- Not used much

The next most common response, often expressed as a reason for trusting the Public Health Department, was that the department offers **reliable information and effective communication with the community.** These included mentions of such information appearing in the media as well as use of the County's website.

- When I used the website there was quite a bit of useful information
- When doing research, I often looked at the County website
- They talked about it on TV a lot
- They send information by emails
- They keep me up to date
- They give accurate information

The next most common theme was an assumption that the institution should be trusted and that people **have no reason not to trust the health department.**

- Why wouldn't I trust them?
- Why not? No reason not to
- No reason to doubt them
- Never had a problem with it
- I've never heard complaints about it
- Never heard anything bad

Another common theme was **expressions of approval for the department's work overall or vaccine management in particular.**

- Very good customer service
- They are doing a good job
- Vaccine and boosters were easy to locate
- They kept us advised on vaccines
- They have been excellent about letting people know where to get vaccinated and why they should

Another common theme, often expressed as a reason for not trusting the Public Health Department, was **a general lack of trust in government**.

- You should never trust any government agency
- The govt is bad
- Little trust in any government
- Have a problem these days trusting any gov't organization
- Too reliant on government control, CDC, NIH these agencies are corrupt
- The government does not give out honest information
- Skepticism of govt in healthcare

Other common themes included:

- Residents who had just moved to the County (and didn't have an informed opinion)
- That the department wants to help people and works for the common good
- That the department is too politicized
- That there is confusing and contradicting information
- That the participant has themselves worked with/for or knows someone who worked with/for the County

CONCLUSION

This report provides information to inform future efforts of RUHS – Public Health and others in the pandemic response. This information will inform the development of more effective outreach and education to encourage safe behaviors and stem the pandemic. Although it is likely that the lack of a post-incentive for participation made the survey less appealing to people with limited time (e.g., younger working adults vs. older retired adults), this report still closely matches the characteristics of the overall population.

COVID-19 was politized, and thus resulted in broken trust, rifts in friendships and familial relationships, and intense feelings of anger and hatred that persist today. Healing the community will take a very long time. Furthermore, COVID-19 has had varying degrees of impact on individuals and families, from economic struggles to mental and physical health challenges. Parenting during the pandemic has presented unique difficulties, especially with remote schooling and its effects on children's education and social development.

Overall, it's clear that many of the hardships experienced in 2020 and 2021 are not as severe nor as widespread anymore. People are able to access healthcare, food, and medicine more and more. However, even after the pandemic has concluded, some people continue to grapple with economic uncertainties, mental health challenges, and disruptions in daily life, necessitating ongoing support and resilience. Furthermore, new issues emerged since 2020, including the impact of inflation, that are hurting our most vulnerable communities. This report is merely the tip of the iceberg in exploring the aforementioned areas; HARC and RUHS – Public Health will also release follow-up pieces that examine various disparities in this data (e.g., geographic differences, differences based on race/ethnicity, etc.), as well as releasing pieces in smaller, more digestible formats designed for the general public (e.g., infographics).

APPENDICES

Appendix A: Artist Bio
Appendix B: Survey Instrument in English
Appendix C: Weighting Methodology

Appendix A: Artist Bio

This report represents the data collected throughout the study and is also supplemented by artwork by a Riverside County resident to illustrate the themes. The artwork in this report is created exclusively for Riverside University Health System – Public Health by Consuelo Marquez.

Consuelo Marquez (she/her) is a Mexican American artist born and raised in the Eastern Coachella Valley. With themes such as environmental justice, public health, and the world around her, she creates art that shows how colorful and diverse her communities are through a blend of realistic and surrealist styles.

Consuelo's artwork is featured throughout this report and can be seen in person at RUHS – Public Health.

To see more of Consuelo's work, please visit her personal Instagram at:
https://instagram.com/risingtraaash?utm_medium=copy_link

Or visit the Instagram of the CEMPAZUCHITL Zine, an art zine:
https://instagram.com/cempa_zine?utm_medium=copy_link

Appendix B: English Version of the Survey

1. Have you ever tested positive for COVID-19?
   - Yes (**Skip to #3)**
   - No (**Skip to #2)**

2. How serious do you think it would be if you tested positive for COVID-19? *Select one response.* **After you answer this question, skip to #9 on the next page**
   - Not at all serious
   - A little
   - Moderately
   - Very serious

3. How many times have you tested positive for COVID-19?
   - One time
   - Two times
   - Three or more times

4. How serious were your symptoms when you **first tested** positive for COVID-19?
   - Not at all serious
   - A little
   - Moderately
   - Very serious

5. For **any** positive COVID-19 test, did you have an overnight stay in a hospital for suspected or diagnosed COVID-19?
   - Yes **(skip to #6)**
   - No **(skip to #7)**

6. If yes, were you put into the ICU (intensive care unit) because of suspected or diagnosed COVID-19?
   - Yes
   - No

7. After you first tested positive for COVID-19, have you recovered to your usual state of health?
   - No
   - Yes: # of days it took to recover _____

8. For **any** positive COVID-19 test, did you have any symptoms lasting 3 months or longer that you did not have prior to having COVID-19?
   Long term symptoms may include; Tiredness or fatigue, difficulty thinking, concentrating, forgetfulness, or memory problems (sometimes referred to as "brain fog"), difficulty breathing or shortness of breath, joint or muscle pain, fast-beating or pounding heart (also known as heart palpitations), chest pain, dizziness on standing, menstrual changes, changes to taste/smell, or inability to exercise.
   - Yes
   - No

9. How many times have you been tested for COVID-19, including at-home testing kits?
   - ○ None **(skip to #13)**
   - ○ 1 time **(skip to #10)**
   - ○ 2 times **(skip to #10)**
   - ○ 3 times **(skip to #10)**
   - ○ 4 times **(skip to #10)**
   - ○ 5 or more times **(skip to #10)**

10. Where did you get tested? *Select all that apply.*
   - ☐ Pharmacy
   - ☐ Urgent Care
   - ☐ Hospital
   - ☐ College campus
   - ☐ Health clinic
   - ☐ Testing site
   - ☐ Doctor's office
   - ☐ Another location (please specify): _____
   - ☐ At home

11. If tested **at home**, what was the result?
   - ○ I never tested at home **(skip to #13)**
   - ○ I don't know **(skip to #13)**
   - ○ Negative test **(skip to #13)**
   - ○ Positive test **(skip to #12)**
   - ○ Tested more than once, and got both positive and negative results **(skip to #12)**

12. What actions did you take, immediately after your test? *Select all that apply.*
   - ☐ Stayed home
   - ☐ Isolated from others
   - ☐ Wore a mask when around others
   - ☐ Took another test
   - ☐ Went to the doctor/healthcare provider
   - ☐ Other (please specify): _____

13. Have you experienced any COVID-19 vaccine requirements? *Select all that apply.*
   - ☐ Yes, there is a vaccine requirement at my work
   - ☐ Yes, I have been required to get booster shots
   - ☐ Yes, there is a vaccine requirement at my school
   - ☐ Yes, family has required me to be vaccinated to visit them
   - ☐ Yes, friends have required me to be vaccinated to visit them
   - ☐ Yes, other (please specify): _____ _____
   - ☐ No, I have not experienced any vaccine requirements **(skip to #15 on the next page)**

14. If you answered, "yes" to any of the options in #13, how (if at all) did this/these requirement(s) change your behavior?
_____
_____

15. Have you had the COVID-19 vaccine?
*The definition of fully vaccinated does **not** include a booster. Everyone, except those who are moderately or severely immunocompromised, is still considered fully vaccinated two weeks after their second dose in a two-dose series, such as the Pfizer-BioNTech and Moderna vaccines, or two weeks after the single-dose J&J/Janssen vaccine.*
    - o No, but I plan on getting vaccinated **(skip to 20)**
    - o No, and I don't plan on getting vaccinated **(skip to 20)**
    - o Yes, I'm fully vaccinated **(skip to 16)**
    - o Yes, but I'm not fully vaccinated **(skip to 16)**

16. Have you received any boosters?
    - o Yes, I have had a booster
    - o Yes, I have had two or more boosters
    - o No, I have not had a booster

17. Did you have any side-effects or symptoms after receiving the COVID-19 vaccination?
    - o No
    - o I don't know
    - o Yes (please describe your side effects and/or symptoms _____

18. Why did you choose to get vaccinated? Select all that apply.
    - ☐ To protect myself
    - ☐ To protect family/friends
    - ☐ To protect others
    - ☐ Age/health risk
    - ☐ To prevent death/serious disease
    - ☐ I believe in science/vaccines
    - ☐ For the public good
    - ☐ I had to for work
    - ☐ Other (please specify): _____

19. In your opinion, how much **did** the COVID-19 vaccine protect you against getting COVID-19? *Select one response.* **After answering, skip to #22 on the next page.**
    - o Not at all
    - o A little
    - o Moderately
    - o Very much

20. In your opinion, how much would the COVID-19 vaccine protect you against getting COVID-19? *Select one response.*
    - o Not at all
    - o A little
    - o Moderately
    - o Very much
    - o I'm not sure

21. **If you haven't been vaccinated against COVID-19,** what is/are the main reason(s) you have **not** taken the vaccine? *(Select all that apply)*.
    - ☐ In my view, the vaccine doesn't work
    - ☐ I have concerns about it being a new type of vaccine (mRNA vaccine)
    - ☐ I do not have time or time off work
    - ☐ It does not affect me
    - ☐ I have natural immunity
    - ☐ I am worried about the side effects
    - ☐ I have allergy concerns
    - ☐ I want to wait longer and see what reactions others have
    - ☐ I do not know if my health insurance covers it
    - ☐ I do not trust the government
    - ☐ Spiritual/religious reasons
    - ☐ I am healthy, so I do not need the vaccine
    - ☐ I heard it can affect my sexual health or fertility
    - ☐ I am afraid of needles
    - ☐ I do not have a car or bus I can take to get the vaccine
    - ☐ I have a disability that worries me if I got the vaccine
    - ☐ I do not believe that COVID-19 is real
    - ☐ Other_____

Answer #22-24 if you ARE vaccinated or PLAN to be vaccinated against COVID-19

Upon receiving the COVID-19 vaccine (if you have/if you choose to in the future), **do you plan to stop…**	Yes	No	I never did this
22. Social distancing (staying at home and avoiding others as much as possible)			
23. Wearing a face mask in public			
24. Frequently washing or sanitizing your hands			

25. How likely are you to recommend the vaccine to someone else?
    - o Extremely Likely
    - o Likely
    - o Neutral
    - o Unlikely
    - o Extremely unlikely

26. Has your child/children received the COVID-19 vaccine?
    - o I don't have children **(skip to #29 on the next page)**
    - o No, I have NOT vaccinated them **(skip to #27)**

→27. If no, why did you **choose NOT to vaccinate** your child/children? *Select all that apply.* ***After answering, skip to #29 on the next page.***
    - ☐ In my view, the vaccine doesn't work
    - ☐ I have concerns about it being a new type of vaccine (mRNA vaccine)
    - ☐ I do not have time or time off work
    - ☐ It does not affect my child/children
    - ☐ My child/children have natural immunity
    - ☐ I am worried about the side effects for my child/children
    - ☐ I have allergy concerns for my child/children
    - ☐ I want to wait longer and see what reactions others have
    - ☐ I do not know if health insurance covers it
    - ☐ I do not trust the government
    - ☐ Spiritual/religious reasons
    - ☐ My child/children are healthy, so they do not need the vaccine
    - ☐ My child/children are afraid of needles
    - ☐ I do not have a car or bus I can take to get my child/children the vaccine
    - ☐ My child/children have a disability that worries me if they got the vaccine
    - ☐ My child isn't old enough
    - ☐ My child is immunocompromised
    - ☐ Other_____

    - o Yes, I have one child and vaccinated that child **(skip to #28)**
    - o Yes, I have more than one child and vaccinated them all **(skip to #28)**
    - o Yes, I have more than one child, but only vaccinated some of them **(skip to #28)**

→28. If yes, why did you **choose to vaccinate** your child/children? *Select all that apply.* ***After answering, skip to #29 on the next page.***
    - ☐ To protect my child/children
    - ☐ To protect family/friends
    - ☐ To protect others
    - ☐ Age/health risk
    - ☐ To prevent death/serious disease
    - ☐ I believe in science/vaccines
    - ☐ For the public good
    - ☐ I had to for their school
    - ☐ I had to for their daycare
    - ☐ Other (please specify):_____

29. Where did you learn about how to get a vaccine/ booster locally?_____

30. The biggest fear I have about COVID-19 is… *Select all that apply.*

- ☐ Dying
- ☐ Getting infected or sick
- ☐ No fear
- ☐ Loved one getting sick or dying
- ☐ Hospitalization
- ☐ Spreading it to others
- ☐ Concerns about children
- ☐ Long-term effects
- ☐ Those who are not vaccinated
- ☐ Variants
- ☐ Financial/economic concerns
- ☐ Other (please specify)
- •
- • _____

How is the COVID-19 **pandemic currently impacting** your personal daily life with regards to	To a great extent	Somewhat	Very little	Not at all
31. Work/school participation				
32. Economic situation				
33. Physical health				
34. Mental health				
35. Social life or relationships				

36. COVID-19 has also affected how people feel and act. Which of the following are you experiencing now due to COVID-19? *Please select all that apply.*

- ☐ Anxiety
- ☐ Boredom
- ☐ Conflict in the home
- ☐ Confusion
- ☐ Decreased exercise
- ☐ Decreased sexual activity
- ☐ Depression
- ☐ Fear of getting sick
- ☐ Frustration
- ☐ Increased alcohol or other substance use
- ☐ Increased eating
- ☐ Increased sexual activity
- ☐ Loneliness
- ☐ Loss of hope
- ☐ Trouble sleeping
- ☐ Worry about friends and family
- ☐ None of these options
- ☐ Other (please specify) _____

COVID-19 has impacted people's day-to-day life in many ways. Have you experienced any of these difficulties due to COVID-19? *Select all that apply.* *For example, if you quit your job in 2020 and 2021, place an **X** in each square.*	Yes, I did in **2020**	Yes, I did in **2021**	Yes, I did in **2022**	No, not a problem any years
37. Quit my job				
38. Reduced wages or work hours				
39. Job loss				
40. Loss of savings or retirement funds				
41. Problems with housing				
42. Childcare issues				
43. Problems getting food				
44. Problems getting cleaning supplies or other household items				
45. Problems getting medications				
46. Transportation issues				
47. Problems accessing healthcare				

48. Were there any <u>other</u> ways COVID-19 has impacted your day-to-day life that you'd like to share?

_____

Did you **DELAY** getting any of the following because of the COVID-19 pandemic? *Check all that apply. For example, if you delayed care in both 2020 and 2021, check both squares.*	Yes, in **2020**	Yes, in **2021**	Yes, in **2022**	No, none of these years
49. Medical care				
50. Mental healthcare				
51. Dental care				

Did you need any of the following for reasons other than COVID-19, but **DID NOT GET IT** because of the COVID-19 pandemic? *Check all that apply. For example, if you did not get care in both 2020 and 2021, check both squares.*	Yes, in **2020**	Yes, in **2021**	Yes, in **2022**	No, none of these years
52. Medical care				
53. Mental healthcare				
54. Dental care				

55. COVID-19 has also affected the economy in various ways. How has inflation impacted you, or your household? *By inflation, we mean the increases in the costs of goods and services.*

56. Did you quit a job at any point in 2021 or 2022? By this we mean that **you left a job by choice** and not because you were fired or laid off or because a temporary job ended.
    - o No, I did not quit a job **(skip to #67 on the next page)**
    - o Not applicable as I was not employed **(skip to #67 on the next page)**
    - o Yes, I quit a job **(skip to #57)**

Indicate which of the following is a reason why you quit a job in 2021 or 2022.	A major reason	A minor reason	Not a reason
57. The pay was too low			
58. The benefits – such as health insurance, paid time off wasn't good			
59. Working TOO MANY hours			
60. Working TOO FEW hours			
61. No opportunities for advancement			
62. Not enough flexibility to choose when you put in your hours			
63. Wanted to relocate to a different area			
64. Felt disrespected at work			
65. Employer required a COVID-19 vaccine			
66. Because of childcare issues			

Please rate how much you agree with the following statements. By people of color, we mean African American, Black, Indigenous, Southwest and East Asian, Latino/Latina/Latinx, etc.	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
67. People of color are facing more of the health impact of COVID-19 than White people.					
68. People of color are facing more of the financial/economic impact of COVID-19 than White people.					

-

69. In the past three months, how much attention have you been paying to issues of race and racial inequality?
    - A lot of attention
    - Some attention
    - Only a little attention
    - No attention at all

70. In general, do you think there is too much, too little, or about the right amount of attention paid to race and racial issues in our country these days?
    - Too much attention
    - Too little attention
    - About the right amount of attention

How important, if at all, do you think it is for people in our country to do each of the following?	Very important	Somewhat important	Not too important	Not at all important
71. Educate themselves about the history of racial inequality in our country				
72. Approach other people when they say or do something racist				
73. Support businesses that are owned by racial or ethnic minorities				
74. Attend protests or rallies focused on issues related to racial equality				
75. Choose to live in communities that are racially and ethnically diverse				
76. Have conversations about race with people who are not the same race as them				

77. Where do you **usually get information on COVID-19?** Check all that apply, and then list the specific source.

Source	Yes	What is the specific source?
Academic settings (e.g., class, lab, library)	☐	
Friends and family	☐	
Government (e.g., local, state, U.S.)	☐	
Health organizations (CDC, WHO, etc.)	☐	
Healthcare professionals (e.g., doctor, nurse, etc.)	☐	
Online/internet sources	☐	
Place of worship (e.g., church, temple, etc.)	☐	
Print news (e.g., newspaper, magazine, etc.)	☐	
Research articles (e.g., scientific findings, published articles, peer-reviewed)	☐	
Social media	☐	
Television news (e.g., CNN, FOX, MSNBC, etc.)	☐	
Work	☐	
Other (please specify)	☐	

78. What sources **do you trust** to give you accurate COVID-19 information? Check all that apply, and then list the specific source.

Source	Yes	What is the specific source?
Academic settings (e.g., class, lab, library)	☐	
Friends and family	☐	
Government (e.g., local, state, U.S.)	☐	
Health organizations (CDC, WHO, etc.)	☐	
Healthcare professionals (e.g., doctor, nurse, etc.)	☐	
Online/internet sources	☐	
Place of worship (e.g., church, temple, etc.)	☐	
Print news (e.g., newspaper, magazine, etc.)	☐	
Research articles (e.g., scientific findings, published articles, peer-reviewed)	☐	
Social media	☐	
Television news (e.g., CNN, FOX, MSNBC, etc.)	☐	
Work	☐	
Other (please specify)	☐	

How would you rate the quality of _____ in your neighborhood?	Excellent	Very good	Good	Fair	Poor	Don't know or unsure
79. Health and wellness						
80. The economy						
81. Safety						
82. Education						
83. Transportation						
84. Environment						
85. Housing						

86. Please select the **five** most important **health problems** that need to be fixed in your community.

- ☐ A shortage of health professionals
- ☐ Air quality
- ☐ Asthma
- ☐ Cancer
- ☐ Cardiovascular disease (heart attacks, etc.)
- ☐ Delays in access to health care
- ☐ Diabetes
- ☐ Disabilities (hearing loss, blindness, etc.)
- ☐ Environmental pollution
- ☐ High blood pressure
- ☐ Infant mortality
- ☐ Insufficient physical activity
- ☐ Limited access to healthy foods
- ☐ Mental health problems (anxiety, depression, etc.)
- ☐ Not having a usual/stable source of health care
- ☐ Not having health insurance coverage
- ☐ Obesity/overweight
- ☐ Poor dental hygiene
- ☐ Poor nutrition/diet
- ☐ Respiratory/lung disease
- ☐ Sexually transmitted diseases (STDs)
- ☐ Smoking/tobacco use/vaping/e-cigarette access & use
- ☐ Stroke
- ☐ Substance use
- ☐ Suicide
- ☐ Teen pregnancy
- ☐ Traffic injuries
- ☐ Other (please specify) _____

87. Please select the **five** most important **social problems** that need to be fixed in your community.

- ☐ Child abuse
- ☐ Climate change
- ☐ Criminal convictions
- ☐ Domestic violence
- ☐ Gun violence
- ☐ High housing costs (purchase or rental)
- ☐ Homelessness
- ☐ Lack of citizenship
- ☐ Low college readiness
- ☐ Low educational attainment
- ☐ Low English literacy
- ☐ Low reading proficiency
- ☐ Low school attendance
- ☐ Low walkability or bike-ability
- ☐ Marijuana growing (illegal)
- ☐ Police brutality
- ☐ Poor high school graduation rates
- ☐ Poor student-teacher ratios
- ☐ Poverty
- ☐ Property crime
- ☐ Public transportation (e.g., not being able to get enough/any transportation)
- ☐ Racism
- ☐ Rape/sexual assault
- ☐ Traffic congestion
- ☐ Traffic injuries
- ☐ Unemployment/underemployment
- ☐ Violent crime
- ☐ Other (please specify) _____

Would you say, in general, that your _____ is excellent, good, very good, fair, or poor?	Excellent	Very good	Good	Fair	Poor
88. Physical health					
89. Mental health					

90. Do you have any children under the age of 18?

- ○ No **(skip to #92)**
- ○ Yes **(skip to #91)**

91. In what ways has COVID-19 impacted you as a parent?

_____

_____

The Department of Public Health within Riverside County has worked to reduce the impact of COVID-19 throughout the community. **Please indicate whether you were aware of Public Health's following activities:**	Knew about it	Aware and used it	Unaware and didn't need it	Unaware and would have liked to know about this
92. Mask distribution				
93. Food assistance/Great Plates Program				
94. Childcare assistance				
95. Educational information and videos				
96. Opened vaccine sites				
97. Opened testing sites				
98. Provided data to the community				
99. Gave information to support small businesses				

100. If you did not know about the services provided above and needed them, where would you look for these services (e.g., social media, internet, schools, healthcare settings, etc.)?

_____

_____

101. How much do you trust the Riverside County Public Health Department?

- ○ A lot
- ○ A moderate amount
- ○ A little
- ○ None at all

102. Please explain why you chose your above response.

_____

103. Are you of Hispanic, Latino, or Spanish origin?

- o No, not of Hispanic, Latino, or Spanish origin
- o Yes, Mexican, Mexican American, Chicano
- o Yes, Puerto Rican
- o Yes, Cuban
- o Yes, Other Hispanic, Latino, or Spanish origin (specify): _____

104. Which one of these groups would you say best represents your race? For the purposes of this survey, Hispanic is not a race.

- o Black/African American (**skip to #106**)
- o European/White (**skip to #106**)
- o Indigenous/Native (original peoples of North, Central, South America with active tribal or community affiliation). (**skip to #106**)
- o Native Hawaiian/Pacific Islander (**skip to #106**)
- o Southeast and East Asian/Asian American (**skip to #106**)
- o Southwest Asian and North African (**skip to #106**)
- o Other (specify): _____ (**skip to #106**)
- o Multiracial/more than one race (**skip to #105**)

105. Please specify the races you identify with: _____

106. Last year, what was your household income?

- o Less than $10,000
- o $10,000 to $14,999
- o $15,000 to $24,999
- o $25,000 to $34,999
- o $35,000 to $49,999
- o $50,000 to $74,999
- o $75,000 to $99,999
- o $100,000 to $149,999
- o $150,000 to $199,999
- o $200,000 or more

107. Last year, what was the *specific* household income from all sources before taxes? _____

108. How many people, **including you**, live in your household? **Please include adults and children.**

- o 1
- o 2
- o 3
- o 4
- o 5
- o 6
- o 7
- o 8
- o 9
- o 10 or more

109. What is your highest level of education?
- Less than high school
- High school graduate
- Some college, no degree
- Associates degree
- Bachelor's degree
- Graduate or professional degree

110. What sex were you assigned at birth, on your original birth certificate?
- Male
- Female

111. How do you describe yourself today? *Select all that apply.*
- ☐ Male
- ☐ Female
- ☐ Transgender
- ☐ Nonbinary
- ☐ Another option (please specify) _____

112. Do you consider yourself to be… *Select all that apply.*
- ☐ Straight
- ☐ Gay
- ☐ Lesbian
- ☐ Bisexual
- ☐ Asexual
- ☐ Queer
- ☐ Questioning
- ☐ Choose not to respond
- ☐ Not listed (please specify) _____

113. Generally, do you think of yourself as a _____? *Select one response.*
- Democrat
- Republican
- No party affiliation/independent
- Libertarian
- Not sure
- Choose not to respond
- Other (please specify) _____

114. What is your age, in years? _____

115. About how tall are you without shoes? Please answer in feet/inches. _____

116. How much do you weigh, in pounds, without shoes? _____

That concludes the survey!

Thank you so much for your time and responses. We truly appreciate it. If your household is chosen to receive the $100 Visa gift card, the gift card will be mailed within one month of receiving your survey.

Appendix C: Weighting Methodology

This is a brief report on the weighting procedure and outcome for the CHA (community health assessment) and COVID-19 needs assessment survey. The report is paraphrased from the work of Brian Kriz, a statistician who performed the weighting procedure. A total of 4,804 cases were provided in a .sav file. Missing data were imputed using a hotdeck method. Weighting targets such as age, sex, race by ethnicity, and education were used for the dataset. Weights were scaled to sum to 1,853,876 - the size of the 18+ population according to 2021 1-year ACS (American Community Survey) point estimates.

Crosscheck coding

First, the statistician conducted a check to confirm all variable recodes used for weighting were properly recoded. Codes were confirmed as accurate.

Missingness

About 72.8% of cases are complete, and about 27.4% cases have at least one missing variable. Race and ethnicity have the most missing information. A total of 1% of cases have missing information for all weighting variables.

Imputation

Imputation using a hotdeck method was performed. Data were verified for no missing values after the imputation procedure so that the targets could be weighted on all variables.

Weighting diagnostics

The data were weighted using an iterative proportional fitting (i.e., raking or rim weighting) algorithm The weighting procedure converged after 200 iterations. Below are diagnostics of the original weights and winsorized weights at the 0.01 and 0.99 percentile.

In this final configuration, the design effect is 3.28 for the trimmed and untrimmed set of weights. The max ratio of max to min weights is 444 and 1358, respectively.

There appears to be a large under-representation of young respondents relative to the population targets that are likely creating large weights. Possibly better diagnostics could be achieved by collapsing young adults (i.e., combining those who are 18, 19, in their 20s and in their 30s to 18-39).

Table 11. Comparison of Weighting Metrics with and without Winsorizing

Weight	Population Estimate	Minimum Weight	Mean Weight	Median Weight	Max Weight	Ratio	Deff
Weight	1,853,876	1.42	385.9	103.19	1,929.52	1,358.04	3.28
Winsorized Weight	1,853,876	4.34	385.9	103.19	1,929.42	444.76	3.28

Check Targets and Weight

Unweighted, some distributions are off by as much as 27 percentage points. The largest difference was with young adults (underrepresented by 19 percentage points), older adults (overrepresented by 24 percentage points), Hispanics/Latinos (underrepresented by 25 percentage points), and White, Non-Hispanic (over represented by 27 percentage points). After weighting, we still see some large discrepancies with young adults (10 percentage point difference from the target). As mentioned above, we could get closer if we further collapse age into 18-39.

Table 12. Comparison of Weighted and Unweighted Estimates Against Weighting Targets

Demographics		Unweighted Estimates		Weighted Estimates		Targets		Delta Unweighted		Delta Weighted	
Target	Label	Count	%	Count	%	Count	%	Count	%	Count	%
Household Income	Less than 14,999	359	7.50%	139,043	7.50%	139,041	7.5%	-138,682	0%	2	0.00%
	15,000 to 34,999)	697	14.50%	248,493	13.40%	248,419	13.4%	-247,722	1%	74	0.00%
	35,000 to 74,999	1,244	25.90%	500,521	27.00%	500,547	27.0%	-499,303	-1%	-26	0.00%
	75,000 to 149,999	1,484	30.90%	617,309	33.30%	617,341	33.3%	-615,857	-2%	-32	0.00%
	150,000 or more	1,020	21.20%	348,511	18.80%	348,529	18.8%	-347,509	2%	-18	0.00%
Age	18 to 29	112	2.30%	216,095	11.70%	398,583	21.5%	-398,471	-19%	-182,488	-9.80%
	30s	361	7.50%	383,865	20.70%	341,113	18.4%	-340,752	-11%	42,752	2.30%
	40s	528	11.00%	348,399	18.80%	309,597	16.7%	-309,069	-6%	38,802	2.10%
	50s	768	16.00%	333,798	18.00%	296,620	16.0%	-295,852	0%	37,178	2.00%
	60s	1,222	25.40%	292,101	15.80%	259,543	14.0%	-258,321	11%	32,558	1.80%
	70s and up	1,813	37.70%	279,617	15.10%	248,419	13.4%	-246,606	24%	31,198	1.70%
Sex	Male	2,087	43.40%	972,538	52.50%	925,084	49.9%	-922,997	-6%	47,454	2.60%
	Female	2,717	56.60%	881,338	47.50%	928,792	50.1%	-926,075	6%	-47,454	-2.60%
Race Ethnicity	Hispanic	1,280	26.60%	951,977	51.40%	956,600	51.6%	-955,320	-25%	-4,623	-0.20%
	NH, White	2,804	58.40%	572,111	30.90%	576,555	31.1%	-573,751	27%	-4,444	-0.20%
	NH, Black	228	4.70%	121,033	6.50%	113,086	6.1%	-112,858	-1%	7,947	0.40%
	NH, Asian	240	5.00%	125,238	6.80%	122,356	6.6%	-122,116	-2%	2,882	0.20%
	NH, Other	252	5.20%	83,516	4.50%	85,278	4.6%	-85,026	1%	-1,762	-0.10%
Education	Less than HS	254	5.30%	315,085	17.00%	291,059	15.7%	-290,805	-10%	24,026	1.30%
	High school graduate	583	12.10%	571,820	30.80%	541,332	29.2%	-540,749	-17%	30,488	1.60%
	Some college or associate's degree	1,660	34.60%	601,298	32.40%	613,633	33.1%	-611,973	1%	-12,335	-0.70%
	Bachelor's degree	1,047	21.80%	248,542	13.40%	268,812	14.5%	-267,765	7%	-20,270	-1.10%
	Graduate or professional degree	1,260	26.20%	117,130	6.30%	139,041	7.5%	-137,781	19%	-21,911	-1.20%

Final Data Set

The final data set was provided back to HARC with original weights (recommended for use, used by HARC) as well as winsorized weights (not recommended for use, not used by HARC).