

## **Vaccine Opinion Survey Report**

Cochise County Health & Social Services

University of Alabama at Birmingham

Rachael Rawlings

January 23, 2023



**Cochise County**  
Health and Social Services

**Table of Contents**

Introduction	3
Literature Review	6
Vaccine Hesitancy Pre-COVID	6
Vaccine Hesitancy Post-COVID	7
Critiques of Existing Research	9
Gaps in the Literature	9
Methods	10
Sample and Procedures	10
Setting	10
Sample Size	11
Sample Selection	11
Informed Consent	12
Results	12
Quantitative Results	12
Qualitative Results	14
Discussion	17
Conclusions	19
Limitations	20
References	21
Appendices	26
Appendix A: Quantitative Results	26
Appendix B: Qualitative Responses	33
Appendix C: Vaccine Opinion Survey	35

## Introduction

It is estimated that vaccination currently prevents between two and three million premature deaths a year worldwide (WHO, 2022). In the last century, experts estimate that the reduced incidence of infectious diseases aided by vaccination increased life expectancy in developed nations from 47 to 80 years of age (Rappuoli, 2014). Leaps in technology and understanding of biological mechanisms have allowed scientists to increase the number and type of vaccines available and decrease the amount of time spent in development and production (Rappuoli, 2014). However, the rate of vaccine uptake worldwide has stagnated and since the beginning of the 2020 pandemic, sinking from 86% to 81% worldwide (WHO, 2022).

While the decrease in vaccination can be partially attributed to reduced healthcare visits because of social distancing measures and worldwide healthcare reorientation to stop the spread of the novel coronavirus (COVID-19), at least some of the reduction in coverage can be attributed to vaccine hesitancy. It was identified as one of the top ten threats to global health in 2019 (WHO, 2019). The World Health Organization (WHO) defines vaccine hesitancy as “the delay in acceptance or refusal of vaccination despite the availability of vaccination services. Vaccine hesitancy is complex and context-specific, varying across time, place, and vaccines” (Lane et al., 2018; MacDonald & SAGE Working Group on Vaccine Hesitancy, 2015).

Hesitance to adopt any new technology is expected, and the same can be said for vaccines. Edward Jenner’s cowpox experiments paved the way for smallpox vaccination in the 1800s. But with each action comes an equal and opposite reaction, and thus organizations like the Anti-Compulsory Vaccination League were founded (Porter & Porter, 1988). This tradition of pushback has continued, rising to meet each new advance, but, for the most part, the benefits of improved technology outweighed the rumblings of discontent among the masses. The

eradication of single-host diseases like smallpox and rinderpest through vaccination speaks to the possibilities of the technology if it were fully embraced (ASM, 2020). The most significant detractor from vaccine progress occurred after the landmark false publication by Andrew Wakefield in 1998 when he published an article in the *Lancet* linking the measles, mumps, and rubella (MMR) vaccine with rising incidence of autism among children (Rao & Andrade, 2011). Despite the near-immediate refutation by the scientific community, the public association gained traction among lay people. While global vaccination coverage for MMR has increased since 1999, pockets of affluent communities have eschewed medical science. This has led to spikes in measles, mumps, and rubella cases in countries like the United States, where these diseases should be virtually eradicated (see Table 1).

*Table 1 shows the average number of cases of measles, mumps, and rubella each year compared to the years in which there were outbreaks for each disease.*

*Source: CDC*

<b>Table 1: Measles, Mumps, and Rubella Outbreaks in the United States since 1999</b>		
<b><i>Disease</i></b>	<b><i>Annual cases without outbreaks</i></b>	<b><i>Years with outbreaks</i></b>
Measles (CDC, 2022a)	On average: fewer than 200 cases within a year	2014: 667 cases 2018: 374 cases 2019: 1274 cases
Mumps (CDC, 2022b)	On average: fewer than 400 cases within a year	2006: 6584 cases 2009: 1991 cases 2010: 2612 cases 2016: 6396 cases 2017: 6109 cases 2018: 2251 cases 2019: 3780 cases
Rubella (CDC, 2022c)	On average: fewer than 10 cases within a year	Declared eradicated in the Americas region in 2015 by the Pan American Health Organization (PAHO) of the WHO. Declared eradicated in the US in 2004.

On March 11, 2020, the WHO declared the novel coronavirus (COVID-19) a pandemic (Cucinotta & Vanelli, 2020), which has led to years of adaptation and turmoil worldwide, varying responses, and differing attitudes about how the pandemic should best be managed. Initial compliance with isolation requests quickly gave way to demands to exercise “individual freedom” (Macip & Yuguero, 2022) even as hundreds of thousands contracted the disease and died. In the United States, this was fueled by an influx of media messaging that, in its best light, confounded and, in its worst light, demeaned and refuted scientific guidance (Atehortua & Patino, 2021).

When the mRNA vaccines were approved for use in late 2020, many people were concerned about their differences from “traditional” vaccines (e.g. MMR, influenza, Tdap, etc.). This distrust in “new” technology led to less robust initial vaccine uptake for COVID-19. Even today, more than a year and a half after the vaccines became available, a mere 69% of the world population has received a single dose (KFF, 2022). In Cochise County, the rate of uptake is slightly higher at 75.4% (AZDHS, 2022). That is on par with the state coverage rate of 74.3% (AZDHS, 2022), but falls below the national average of 79.5% (CDC, 2022d). Considering the new mRNA vaccines don't provide full protection until after the second dose, there is not nearly enough coverage to consider the implications of possible herd immunity or a near end to the pandemic.

Vaccine hesitancy for COVID-19 is correlated with an individual's political leanings, race, and income (Cowan et al., 2021). The Strategic Advisory Group of Experts on Immunization (SAGE) analyzed the results of a cross-sectional representative national survey and found that, in 2021, an individual's political affiliation became a determining factor in their

desire to vaccinate against COVID-19 (Cowan et al., 2021). It is unknown what effect this partisan divide will have on future vaccine uptake.

## **Literature Review**

Vaccine Hesitancy can be discussed in terms of two distinct periods: pre-COVID, when most hesitancy had to do with childhood vaccine schedules, yearly influenza regimens, and HPV, and post-COVID, when hesitancy devolved into outright distrust and conspiracy theories (Alcendor, 2021; Atehortua & Patino, 2021).

### **Vaccine Hesitancy Pre-COVID**

SAGE identified a few common reasons for vaccine hesitancy to be “complacency, inconvenience..., and lack of confidence” (WHO, 2019). Before the COVID-19 pandemic, the top cited reasons for vaccine hesitancy across WHO member countries were concerns for safety and side effects, lack of awareness of the benefits of vaccination, and a variety of demographic concerns about vaccination like religious affiliation, gender, socioeconomic issues, and cultural expectations (Lane et al., 2018). For example, in many developing nations where the Muslim faith is practiced, the halal<sup>1</sup> status of vaccines was a major concern for practitioners.

Newer vaccines, like those targeting HPV, could reduce cancer incidence in reproductive populations. However, issues of safety, appropriateness, and sexuality are cited as primary reasons for hesitancy (Beavis et al., 2018). In the decade after the first HPV vaccine’s implementation, the incidence of certain strains of HPV has decreased by 28%-64% (Harper & DeMars, 2017).

---

<sup>1</sup> *Halal* is an Arabic word which translates to “permissible”. If a food or an item is *halal*, it means that it meets a set of standards for ethical animal treatment, food handling, and preparation (HFSAA, 2022). Though vaccines are not food, medical treatments are sometimes created using animal products. This is where the concern of a vaccine’s halal status comes into question.

Many existing studies from the pre-COVID world looked at childhood, HPV, and influenza vaccines. There are a few methodologies of interest, but they tend to fall into three categories. The first methodology is the analysis of existing data, which was used by Beavis et al. for their 2018 study analyzing changes in HPV vaccine hesitancy reasoning. They utilized data collected from the National Immunization Survey — Teen (NIS-Teen) and found that overall, parents were concerned about vaccine safety and necessity (Beavis et al., 2018). The second methodology used an online questionnaire disseminated by a market research and polling firm, as was done with the Vaccine Hesitancy Survey, validated in 2018 (Shapiro et al., 2018). A third less-used methodology consists of mixed-methods data collection, using both quantitative surveys and qualitative interviews (Deml et al., 2019). These were all performed on national samples. It is possible that local health departments (LHDs) used different methodologies and smaller samples. Still, these results are rarely published in peer-reviewed journals, which makes it difficult to access that information.

### **Vaccine Hesitancy Post-COVID**

Previous research indicates that COVID-19 vaccine hesitancy is largely associated with race, socioeconomic status, and political leaning (Coughenour et al., 2021). However, it would be important to discuss the impact COVID-19 has had on other vaccine coverage (WHO, 2022). The interruptions to the worldwide healthcare system due to the pandemic impaired decades-long attempts to increase preventative vaccine uptake in the United States (Olusanya et al., 2021). It is still being determined what the long-term effects of this reduction will be on disease burden.

Studies examined in this analysis were limited to southern states (Arizona, Nevada, Alabama, and Tennessee) because the other available studies were national samples. Since the

Cochise County Health & Social Services (CCHSS) survey will be limited to residents, it seemed prudent to analyze methodologies that could be implemented in the target area.

A study conducted in Tennessee analyzed the extent of COVID-19 hesitancy in the American south, finding that rural communities “have a long history of cultural conservatism, poor health literacy, and distrust of government and medical establishments” as well as a higher susceptibility to disinformation campaigns fueled by conspiracy theories (Alcendor, 2021). While this wasn’t an experimental study, it provides useful context for discussing any experimental results in these regions.

At the local level, methodologies differ slightly from national sampling methods. A study out of Alabama employed community health workers to sample 3,721 individuals at the end of 2020. Due to social distancing guidelines, the surveys were conducted over the phone or via an online survey platform (Crozier et al., 2022). Another study in Nevada conducted a cross-sectional telephone survey via a market research firm to determine the determinants of COVID-19 vaccine hesitancy in the state (Coughenour et al., 2021). Studies conducted within Arizona tend to use focus groups. A study performed by Arizona State University, Northern Arizona University, and the Mayo Clinic in Arizona recruited participants using a snowball sampling methodology to generate electronic focus groups composed of trusted family members (Ignacio et al., 2022). Another study conducted by the Arizona Prevention Research Center sought to focus specifically on underrepresented groups (Latinx, rural, uninsured, and farmworker communities) in the borderland region (Yuma, Pima, Santa Cruz, and Cochise counties) to create a “feedback loop” about vaccine uptake. They used community health workers to create relationships with residents through listening sessions and the administration of a vaccine intention survey (Nuño et al., 2022).



### **Critiques of Existing Research**

The existing research has been prepared at the national or state level, usually by universities. As such, the research does not focus on the local experience. The closest assessment to Cochise County is the one conducted by Nuño et al., where they focused specifically on the borderland region of the state. Even then, the funding and resources available to the assessment team do not match what is available at the local level. Methods that involve commissioning a telephone or online study through a marketing firm are often out of reach financially for a small LHD. Additionally, studies conducted by LHDs often do not get published under the auspices of peer review and, as such, are relatively inaccessible to the average data collector. Scouring the websites of over three thousand LHDs would not be an efficient use of time or energy, assuming the survey methodologies are even published in a conspicuous fashion.

### **Gaps in the Literature**

Of the studies conducted in a post-COVID world, nearly all of them seek to determine reasons for COVID-19 vaccine hesitancy only. There have been no discernable studies on the effects of COVID-19 hesitancy on uptake of *other* vaccinations moving forward, especially at the local level. Further investigations should focus on identifying the impact of the COVID-19 pandemic on vaccine hesitancy in a future world.

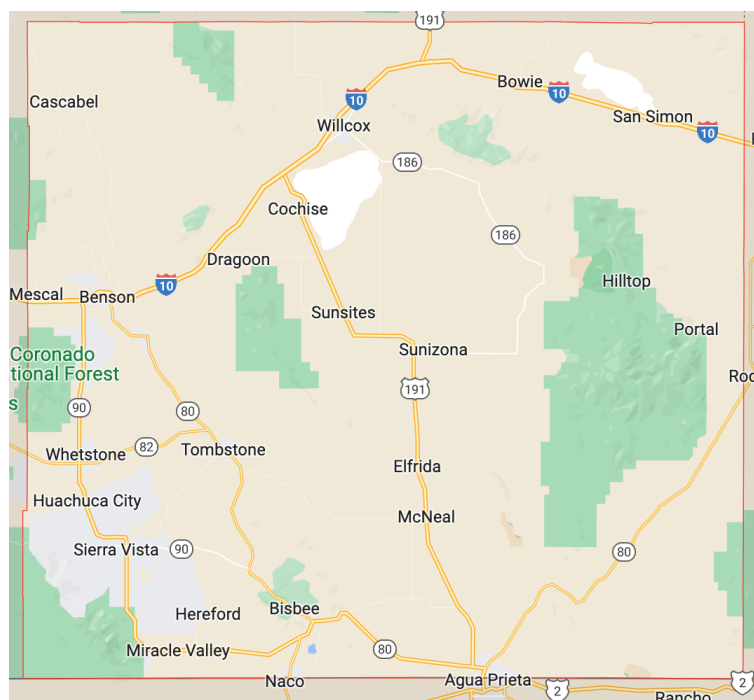
## Methods

### Sample and Procedures

#### *Setting*

Cochise County, Arizona, is located in the southeast corner of the state, bordered in the east by New Mexico and by the state of Sonora, Mexico to the south.

Figure 1 (right) shows a map of the county. 125,447 residents were counted in the 2020 census, and the population estimate on



*Figure 1 Cochise County, Arizona, Image cropped from Google Maps (Google, n.d.)*

July 1, 2021, was 126,050 (United States Census Bureau, n.d.-a). There are five major economic centers located within the county: Benson, Bisbee, Douglas, Sierra Vista, and Willcox. The largest of these centers is Sierra Vista, with an estimated population of 45,479 on July 1, 2021 (United States Census Bureau, n.d.-c).

The county is 48.8% female, 54.4% white alone (not Hispanic or Latino), and 35.9% Hispanic or Latino, the largest minority population. Over one-fifth of residents are 65 years or older. Another one-fifth of residents are under 18 years of age. 27.6% of residents speak a language other than English at home. Over one-quarter of residents aged 25 and over have a bachelor's degree or higher, while over 88% are at least a high school graduate (United States Census Bureau, n.d.-a).

There are contrasting pockets of affluence and poverty within the county. 14.6% of residents live in poverty county-wide, while only 12.3% of residents in Sierra Vista do (United States Census Bureau, n.d.-c). In contrast, of the 16,513 Douglas residents, approximately 28.2% live in poverty (United States Census Bureau, n.d.-b). 46.5% of residents are in the civilian labor force (United States Census Bureau, n.d.-a).

### ***Sample Size***

The assessment population is the adult population of Cochise County, AZ. As of July 1, 2021, there is an estimated total population of 126,050 (United States Census Bureau, n.d.-a). Approximately 21.1% of that population is under the age of 18, so the estimated number of adults within the county (>18 years old) is 99,453. A statistically significant sample would have to be 383 people to achieve a confidence level of 95% and a margin of error of  $\pm 5\%$ , as determined by the Raosoft sample size calculator (Raosoft, 2004). To achieve a confidence level of 99% with a margin of error of  $\pm 5\%$ , we would need to survey a sample of 660 residents. Ideally, we would like to meet the 660-resident threshold, but any sample size over 383 should be significant enough for the purpose set forth by this assessment.

### ***Sample Selection***

The survey was disseminated through links posted on social media, sent via email, or accessed via a QR code at community outreach events. The sampling method used was a combination of convenience and snowball sampling, wherein anyone who takes the survey will be asked to invite their friends and family to take it as well. A significant number of responses were captured from community outreach events held by CCHSS.

## **Informed Consent**

An informed consent screen is the first thing respondents see. Their participation in the survey is considered assent to the terms of informed consent.

## **Results**

### **Quantitative Results**

This assessment was interested in the predictive effect the COVID pandemic has had on vaccination uptake and vaccination hesitancy in adult residents of Cochise County, AZ. Individuals were not randomly selected but were placed into cohorts based on their answers to the question, “Since January 2021, have you had a COVID-19 vaccination?” The following analyses were conducted on 143 participants (105 female, 33 male, 1 identifying as another gender, and 4 declining to answer). Descriptive statistics were conducted using frequencies and percentages for categorical data. In contrast, continuous data were summarized using means and standard deviations and/or medians with minimum and maximum values as necessary. The analyses were conducted using JMP Pro 16 (SAS Institute; Cary, NC) and Microsoft Excel (Redmond, WA). The sample consisted of 73.43% female and 22.38% male respondents. They were generally white (86.71%) and in middle age ( $50.53 \pm 13.88$ ), but participant ages ranged from 22 to 80. 79.72% of respondents indicated they had received a COVID-19 vaccine, while 18.88% indicated they had not. 2 respondents declined to answer, and they were asked to answer the questions associated with not having been vaccinated. However, their responses were kept separate from the analysis of vaccinated vs. unvaccinated individuals and were collected strictly for informational purposes.

Core question responses were then reported by cohort (received a COVID vaccine vs. have not received a COVID vaccine). Since the sample size is smaller than the recommended

383 (calculated to determine appropriate power for the population), these results are not generalizable to the county's population. The COVID-vaccinated cohort ( $n=114$ ) was 73.68% female and 22.81% male, had a mean age of  $51.77 \pm 13.98$ , but a range of 22 to 80, and was 88.60% white. The COVID-unvaccinated cohort ( $n=27$ ), for comparison, was 77.78% white, and consisted of 70.37% female and 22.22% male respondents. The mean age was  $46.74 \pm 12.30$  but ranged from 26 to 77.

Tables 3 and 4 show answers to questions that were targeted to individual cohorts. Table 3 shows the results of questions asked of vaccinated individuals. Of note is that 75.44% of vaccinated individuals have received at least one booster, 70.18% are likely to recommend vaccination to others, and 70.18% plan to get all the boosters they are eligible to receive. Some of the reasons they gave for vaccination are shown in Table 3, with the top reported reason being personal health/well-being (66.67%). Table 4 shows responses to questions asked of unvaccinated individuals. Interestingly, only one of the individuals who are not vaccinated for COVID plan to become vaccinated in the future, and they give various reasons for choosing not to be vaccinated.

Table 5 shows the results of t-tests conducted on bivariate data. These statistical results indicate that there is not a statistically significant difference in the responses of the two groups (those vaccinated for COVID-19 and those who are not) in the following variables of interest: age ( $p=0.088$ ), gender identity ( $p=0.5704$ ), educational attainment ( $p=0.4947$ ), or employment status ( $p=0.6484$ ). While not significant in terms of traditional statistics, it should be noted that there was a notable difference in the change in opinion of other vaccines ( $p=0.0580$ ) between the tested groups. The table also illustrates the significant difference between individuals who are vaccinated for COVID-19 and those who are not in the following variables of interest: agency

trust ( $p < 0.0001$ ), concern about COVID ( $p < 0.0001$ ), the importance of vaccination ( $p < 0.0001$ ), and whether the individuals had received vaccines other than COVID since COVID-29 vaccines have become available ( $p < 0.0001$ ).

Table 6 shows the odds ratio between COVID-vaccinated and unvaccinated groups and if they had changed their opinion of other vaccinations since the start of the pandemic (OR 0.33). An odds ratio is a measure of association that shows the strength between two events. In this case, the odds of the COVID-vaccinated and unvaccinated groups indicates that those who were not “exposed” (vaccinated for COVID-19) were 67% less likely to have changed their mind about vaccination in general.

### Qualitative Results

Write-in responses from questions 16 and 23 and responses to open-ended questions 24, 29, 31, and 35 are presented in Tables 7-12. These responses were coded by examining the types of responses presented and identifying recurring themes. For example, in response to the question, “What sources do you trust to learn about COVID-19? Select all that apply.” 28 responses were recorded. They fell into six categories: none, media, science organizations, science research, personal choice, and medical professionals, 6 responders indicating “none” (Table 7). One of the offered write-in options was, “*Doctors that get banned for not being bought by big pharma,*” which was coded as Medical Professionals while answers like, “*WHO*” were coded as Science Organization. Table 8 shows the write-in responses from vaccinated recipients to the question, “What influenced you to receive a COVID-19 vaccine. Select all that apply.” 10 total responses were received, and the largest percentage of respondents cited safety as a reason that influenced them to get vaccinated with answers like, “*I have an extremely compromised immune system*” and “*concern for elder family members*” being typical.

The remaining four tables examine responses to the open-ended questions asked in the survey. One of these questions was asked of only vaccinated respondents, two were asked of only unvaccinated respondents, and one was asked of all respondents. Table 9 shows the coded responses of vaccinated respondents to the question, “Think about people you know. What reasons do they give for not getting vaccinated?”. The top three cited reasons were vaccine trust & safety, government trust, and misinformation. One interesting response, which was coded under the categories Vaccine Trust & Safety, Personal Choice, and COVID Severity is:

*They did not want to put an untested substance in their bodies. If I didn't have to choose between my job and the vaccine, I wouldn't have had it. I already had COVID before the vaccine and then the Omicron variant after the vaccine.*

When unvaccinated people were asked, “What could motivate you to receive a COVID-19 vaccine?” the majority (74%) responded that nothing could (Table 10) with answers ranging from simple one-word “*Nothing*,” answers to longer responses like:

*Nothing. I refuse to be a test subject esp when the death rate of said virus is less than 1%. Plus the vaccine has killed 3 immediate and extended family members.*

One of the more articulate responses to this question said:

*[Redacted personal information] ...All of the responses and reactions (masks, social distancing, reduced business hours, mandated vaccines) seemed arbitrary at best, and time has proved many of these measures ineffective. This vaccine is a bell that you cannot unring once you've taken it so I've taken a wait and see approach and am happy with my decision.*

When the same people were asked, “Please share any details that help explain your circumstances [for remaining unvaccinated].” the top three responses were government trust, personal choice, and misinformation (Table 11). Responses ranged from simple responses like “CDC contradicts itself, mainly religious beliefs.” to

*I have friends that work in medical testing and helped make the vaccines. They warned that the study time was too short to know if the vax was actually safe or effective, and from there we have been reading studies and discussing their implications. The amount of negative reactions has been concerning, and the lack of acknowledgment + continued pushing of this vax has obliterated any trust we may have had in the CDC, WHO, and other supposed public health expert.*

Lastly, when all responses were asked to explain their thoughts on vaccines, 67 reported positive associations, 22 reported mixed associations, and 14 were negative (Table 12). Another 6 had responses that were unclear (e.g. one-word entries like “flu” that were not clearly positive, mixed, or negative). 7 responses were off-topic. One of the mixed responses reads as follows:

*I have no issues with vaccines. I believe the COVID vaccine did not go through enough safety testing before being forced on the population. The adverse events were not presented to me prior to injection and at my current health there is no benefit for me getting a COVID booster especially due to its weaning efficacy*

And one of the negative responses of note:

*I think we've been lied to. I think our officials have an agenda and are extremely biased. I hate to sound like a conspiracy nut, but our government has really created a relationship of distrust.*



There were three more open-ended questions asked of respondents, but they were excluded from the analysis. Question 30, “What influenced you to NOT receive a COVID-19 vaccine? Select all that apply.” was asked of unvaccinated individuals. The write-in were excluded from analysis because there were only six responses. Question 37, “Please explain your stance [regarding vaccines other than COVID-19].” did not yield responses that were substantively different from those to question 35. Question 42, “What other information would you like to share with us?” had many responses that were connected to a question regarding flu vaccination clinics in the county but also contained a significant number of responses that did not correlate to other questions asked in the survey.

### **Discussion**

There was a higher proportion of COVID-19-vaccinated respondents (79.72%) than the actual percentage (75.4%) of vaccinated individuals in the county, indicating an oversample of those who are already vaccinated. This, coupled with the lower number of unvaccinated respondents (n=27), means that the statistical conclusions that can be drawn from this analysis are limited.

No statistical relationship was detected between COVID-19 vaccination status and age, gender identity, educational attainment, employment status, and change of opinion of all vaccinations. All groups were roughly equivalent in terms of race.

A statistical relationship was detected between COVID-19 vaccination status and the likelihood of trusting agencies, worry about COVID, vaccination importance, and recent vaccination history among respondents. In these instances, those who were vaccinated for COVID-19 were much more likely to trust public agencies, worry about COVID, believe in the

importance of vaccination, and have received other vaccinations recently than their unvaccinated counterparts.

A follow-up odds ratio was calculated on the change of opinion on vaccination by COVID-19 vaccination status. It was determined that people who were vaccinated for COVID-19 were less likely to have changed their minds about future vaccination (Table 6; OR: 0.33). People who were vaccinated for COVID-19 were 67% less likely to have changed their minds about future vaccinations than those who were not vaccinated for COVID-19.

When examining the responses from vaccinated respondents about reasons they have heard people don't get vaccinated, the top three reasons were vaccine trust & safety, government trust, and misinformation, but many others were offered. Interestingly, political motivations only accounted for 16.35% of the responses. This was cited by Coughenour et al. to be a primary reason, though it doesn't exclude the association of political belief with vaccination outcomes. In response to a question asking unvaccinated individuals what could motivate them to receive a COVID-19 vaccine, most respondents (74.07%) indicated that nothing would convince them. The same group cited government trust, personal choice, and misinformation as their top reasons for resisting vaccination. It looks like those who were hesitant to become vaccinated for COVID are not willing to and/or cannot be swayed by any convincing arguments to become vaccinated in the future.

## Conclusions

The combination of qualitative and quantitative analyses from this assessment paint a much more nuanced picture of vaccine hesitancy among Cochise County residents than expected based on previous research. While there is a contingent of vaccine-resistant individuals who are not vaccinated for COVID-19 and refuse to entertain the possibility, there are many more that are vaccinated or who have reservations about vaccination that could potentially be addressed with time or improved messaging.

Regarding the original question of whether the COVID-19 pandemic affected the opinion of other vaccines, the answer is still unclear. The statistical analyses yield mixed results: those who were not vaccinated for COVID-19 were statistically less likely to have received any other vaccines in the previous year ( $p < 0.0001$ ), but the difference in responses between vaccinated and unvaccinated groups related to the change of opinion on other vaccines was barely insignificant by traditional measures ( $p = 0.0580$ ). When following up this close relationship with another measure of association, we see that the odds ratio between those who have changed their opinion on all vaccination and those who have not by COVID-19 vaccination status reveals that those who are vaccinated were less likely to have changed their minds than those who were not vaccinated (OR 0.33).

Given the apparent entrenchment of COVID vaccine-hesitant individuals, messaging surrounding the COVID vaccine is not likely to be well received. However, messaging surrounding mRNA vaccination, the FDA approval process for vaccination, and mRNA vaccine safety may help in alleviating the concerns some of these individuals have about the COVID vaccine. Since most non-vaccinated respondents (72.41%) simply don't trust the vaccine, the only thing that can be done is attempt to improve or establish that trust. This is made

significantly more difficult by the deep-seated lack of government trust in this group, but it could perhaps be fixed with time and consistency.

### **Limitations**

This assessment has significant limitations. Cross-sectional studies trade simplicity and cost-effectiveness for the ability to determine incidence and causality. Additionally, given the small number of responses that were received, it is difficult to determine certain associations between exposure and outcome, as well as any temporal relationship between the two (Wang & Cheng, 2020).

This sample ( $n=143$ ) is small, falling far below the recommended sample size of 383 for the county, and therefore is not generalizable to the population. Follow-up surveys and analyses using more reliable sampling methods could be used to improve these results.

The sampling method in use may limit the ability of the assessment team to get an accurate sample that matches the county's demographics. While convenience samples can indicate larger trends, they cannot be generalized as fact within a community. Additionally, the use of snowball sampling may skew the data demographically as people will tend to send the survey to family and friends rather than a stranger. This means that the person it is sent to will have the same or similar socioeconomic and racial background as the first respondent in the chain. It is important to discuss the access concerns that arise when a survey is given online. While most people in Cochise County have access to a computer at home, not everyone has access to the Internet (United States Census Bureau, n.d.-a). This limits the number and types of responses that can be captured.

## References

- Alcendor, D. J. (2021). Targeting COVID Vaccine Hesitancy in Rural Communities in Tennessee: Implications for Extending the COVID-19 Pandemic in the South. *Vaccines*, 9(11). <https://doi.org/10.3390/vaccines9111279>
- ASM. (2020, March 6). *Disease Eradication: What Does It Take to Wipe out a Disease?* Asm.org. <https://asm.org/Articles/2020/March/Disease-Eradication-What-Does-It-Take-to-Wipe-out>
- Atehortua, N. A., & Patino, S. (2021). COVID-19, a tale of two pandemics: novel coronavirus and fake news messaging. *Health Promotion International*, 36(2), 524–534. <https://doi.org/10.1093/heapro/daaa140>
- AZDHS. (2022, September 28). *AZDHS*. Arizona Department of Health Services. <https://www.azdhs.gov/covid19/data/index.php>
- Beavis, A., Krakow, M., Levinson, K., & Rositch, A. F. (2018). Reasons for Lack of HPV Vaccine Initiation in NIS-Teen Over Time: Shifting the Focus From Gender and Sexuality to Necessity and Safety. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, 63(5), 652–656. <https://doi.org/10.1016/j.jadohealth.2018.06.024>
- CDC. (2022a, September 6). *Measles Cases and Outbreaks*. Centers for Disease Control and Prevention. <https://www.cdc.gov/measles/cases-outbreaks.html>
- CDC. (2022b, September 6). *Mumps*. Centers for Disease Control and Prevention. <https://www.cdc.gov/mumps/outbreaks.html>
- CDC. (2022c, September 8). *Rubella (German Measles)*. <https://www.cdc.gov/rubella/index.html>

- CDC. (2022d, October 3). *COVID Data Tracker*. [https://covid.cdc.gov/covid-data-tracker/#vaccinations\\_vacc-people-additional-dose-totalpop](https://covid.cdc.gov/covid-data-tracker/#vaccinations_vacc-people-additional-dose-totalpop)
- Coughenour, C., Gakh, M., Sharma, M., Labus, B., & Chien, L.-C. (2021). Assessing Determinants of COVID-19 Vaccine Hesitancy in Nevada. *Health Security*, 19(6), 592–604. <https://doi.org/10.1089/hs.2021.0079>
- Cowan, S. K., Mark, N., & Reich, J. A. (2021). COVID-19 Vaccine Hesitancy Is the New Terrain for Political Division among Americans. *Socius*, 7, 23780231211023656. <https://doi.org/10.1177/23780231211023657>
- Crozier, J., Christensen, N., Li, P., Stanley, G., Clark, D. S., & Selleck, C. (2022). Rural, Underserved, and Minority Populations' Perceptions of COVID-19 Information, Testing, and Vaccination: Report from a Southern State. *Population Health Management*, 25(3), 413–422. <https://doi.org/10.1089/pop.2021.0216>
- Cucinotta, D., & Vanelli, M. (2020). WHO Declares COVID-19 a Pandemic. *Acta Bio-Medica: Atenei Parmensis*, 91(1), 157–160. <https://doi.org/10.23750/abm.v91i1.9397>
- Deml, M. J., Jafflin, K., Merten, S., Huber, B., Buhl, A., Frau, E., Mettraux, V., Sonderegger, J., Kliem, P., Cattalani, R., Krüerke, D., Pfeiffer, C., Burton-Jeangros, C., & Tarr, P. E. (2019). Determinants of vaccine hesitancy in Switzerland: study protocol of a mixed-methods national research programme. *BMJ Open*, 9(11), e032218. <https://doi.org/10.1136/bmjopen-2019-032218>
- Harper, D. M., & DeMars, L. R. (2017). HPV vaccines - A review of the first decade. *Gynecologic Oncology*, 146(1), 196–204. <https://doi.org/10.1016/j.ygyno.2017.04.004>
- HFSAA. (2022). *What is Halal?* Halal Food Standards Alliance of America. <https://www.hfsaa.org/what-is-halal/>

- Ignacio, M., Oesterle, S., Mercado, M., Carver, A., Lopez, G., Wolfersteig, W., Ayers, S., Ki, S., Hamm, K., Parthasarathy, S., Berryhill, A., Evans, L., Sabo, S., & Doubeni, C. (2022). Narratives from African American/Black, American Indian/Alaska Native, and Hispanic/Latinx community members in Arizona to enhance COVID-19 vaccine and vaccination uptake. *Journal of Behavioral Medicine*. <https://doi.org/10.1007/s10865-022-00300-x>
- KFF. (2022, September 12). *KFF Global COVID-19 Vaccine Coverage Tool: Current and Projected Coverage – Updated as of September 12*. KFF. <https://www.kff.org/interactive/kff-global-covid-19-vaccine-coverage-tool-current-and-projected-coverage/>
- Lane, S., MacDonald, N. E., Marti, M., & Dumolard, L. (2018). Vaccine hesitancy around the globe: Analysis of three years of WHO/UNICEF Joint Reporting Form data-2015-2017. *Vaccine*, 36(26), 3861–3867. <https://doi.org/10.1016/j.vaccine.2018.03.063>
- MacDonald, N. E., & SAGE Working Group on Vaccine Hesitancy. (2015). Vaccine hesitancy: Definition, scope and determinants. *Vaccine*, 33(34), 4161–4164. <https://doi.org/10.1016/j.vaccine.2015.04.036>
- Macip, S., & Yuguero, O. (2022). Individual Freedom in the Initial Response to Covid-19. *Frontiers in Public Health*, 10, 765016. <https://doi.org/10.3389/fpubh.2022.765016>
- Nuño, T., Sierra, L. A., Wilkinson-Lee, A., Carvajal, S., de Zapien, J., Coulter, K., Figueroa, C., Morales, M., Sepulveda, R., Sepulveda, R., & Ingram, M. (2022). The Arizona Prevention Research Center partnerships in Arizona to promote COVID-19 vaccine health equity. *Frontiers in Public Health*, 10, 944887. <https://doi.org/10.3389/fpubh.2022.944887>

- Olusanya, O. A., Bednarczyk, R. A., Davis, R. L., & Shaban-Nejad, A. (2021). Addressing Parental Vaccine Hesitancy and Other Barriers to Childhood/Adolescent Vaccination Uptake During the Coronavirus (COVID-19) Pandemic. *Frontiers in Immunology*, 12, 663074. <https://doi.org/10.3389/fimmu.2021.663074>
- Porter, D., & Porter, R. (1988). The politics of prevention: anti-vaccinationism and public health in nineteenth-century England. *Medical History*, 32(3), 231–252. <https://doi.org/10.1017/s0025727300048225>
- Rao, T. S. S., & Andrade, C. (2011). The MMR vaccine and autism: Sensation, refutation, retraction, and fraud. *Indian Journal of Psychiatry*, 53(2), 95–96. <https://doi.org/10.4103/0019-5545.82529>
- Raosoft. (2004). *Sample Size Calculator by Raosoft, Inc.* Raosoft. <http://www.raosoft.com/samplesize.html>
- Rappuoli, R. (2014). Vaccines: science, health, longevity, and wealth. *Proceedings of the National Academy of Sciences of the United States of America*, 111(34), 12282. <https://doi.org/10.1073/pnas.1413559111>
- Shapiro, G. K., Tatar, O., Dube, E., Amsel, R., Knauper, B., Naz, A., Perez, S., & Rosberger, Z. (2018). The vaccine hesitancy scale: Psychometric properties and validation. *Vaccine*, 36(5), 660–667. <https://doi.org/10.1016/j.vaccine.2017.12.043>
- United States Census Bureau. (n.d.-a). *QuickFacts: Cochise County, Arizona* [Data set]. Retrieved September 12, 2022, from <https://www.census.gov/quickfacts/cochisecountyarizona>
- United States Census Bureau. (n.d.-b). *QuickFacts: Douglas city, Arizona* [Data set]. Retrieved September 12, 2022, from <https://www.census.gov/quickfacts/douglascityarizona>



United States Census Bureau. (n.d.-c). *QuickFacts: Sierra Vista city, Arizona* [Data set].

Retrieved September 12, 2022, from

<https://www.census.gov/quickfacts/fact/table/sierravistacityarizona/PST045221>

Wang, X., & Cheng, Z. (2020). Cross-Sectional Studies: Strengths, Weaknesses, and

Recommendations. *Chest*, 158(1S), S65–S71. <https://doi.org/10.1016/j.chest.2020.03.012>

WHO. (2019). *Ten health issues WHO will tackle this year*. [https://www.who.int/news-](https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019)

[room/spotlight/ten-threats-to-global-health-in-2019](https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019)

WHO. (2022, July 14). *Immunization coverage*. [https://www.who.int/news-room/fact-](https://www.who.int/news-room/fact-sheets/detail/immunization-coverage)

[sheets/detail/immunization-coverage](https://www.who.int/news-room/fact-sheets/detail/immunization-coverage)

## Appendices

### Appendix A: Quantitative Results

Table 2. Questions asked of all participants (n=143)

Variable	All Respondents (n=143)	Have received a COVID-19 Vaccine (n=114)	Have not received a COVID-19 Vaccine (n=27)
<b>Language Preference</b>			
<i>English</i>	140 (97.90%)	113 (99.12%)	26 (96.30%)
<i>Spanish</i>	3 (2.10%)	1 (0.88%)	1 (3.70%)
<b>ZIP Code</b>			
<i>85602</i>	5 (3.50%)	3 (2.63%)	2 (7.41%)
<i>85603</i>	24 (16.78%)	23 (20.18%)	1 (3.70%)
<i>85606</i>	2 (1.40%)	2 (1.75%)	-
<i>85607</i>	18 (12.59%)	10 (8.77%)	6 (22.22%)
<i>85610</i>	3 (2.10%)	3 (2.63%)	-
<i>85613</i>	2 (1.40%)	2 (1.75%)	-
<i>85615</i>	19 (13.29%)	17 (14.91%)	2 (7.41%)
<i>85616</i>	6 (4.20%)	6 (5.26%)	-
<i>85617</i>	4 (2.80%)	4 (3.51%)	-
<i>85620</i>	1 (0.70%)	1 (0.88%)	-
<i>85635</i>	31 (21.68%)	25 (21.93%)	6 (22.22%)
<i>85636</i>	1 (0.70%)	1 (0.88%)	-
<i>85638</i>	2 (1.40%)	1 (0.88%)	1 (3.70%)
<i>85643</i>	7 (4.90%)	3 (2.63%)	4 (14.81%)
<i>85650</i>	18 (12.59%)	13 (11.40%)	5 (18.52%)
<b>Age</b>			
<b>Mean ± SD</b>	50.53 ± 13.88	51.77 ± 13.98	46.74 ± 12.30
<b>Median; Min - Max</b>	50; 22 to 80	52; 22 to 80	45; 26 to 77
<b>Sex at Birth</b>			
<i>Female</i>	105 (73.43%)	84 (73.68%)	19 (70.37%)
<i>Male</i>	33 (23.08%)	27 (23.68%)	6 (22.22%)
<i>Don't know/Not Sure</i>	1 (0.70%)	-	1 (3.70%)
<i>Decline to answer</i>	4 (2.80%)	3 (2.63%)	1 (3.70%)
<b>Gender Identity</b>			
<i>Female</i>	105 (73.43%)	84 (73.68%)	19 (70.37%)
<i>Male</i>	32 (22.38%)	26 (22.81%)	6 (22.22%)
<i>Other: (left blank)</i>	2 (1.40%)	1 (0.88%)	1 (3.70%)
<i>Decline to answer</i>	4 (2.80%)	3 (2.63%)	1 (3.70%)
<b>Marital Status</b>			
<i>Married</i>	93 (65.03%)	74 (64.91%)	19 (70.37%)
<i>Divorced</i>	19 (13.29%)	17 (14.91%)	2 (15.39%)
<i>Widowed</i>	3 (2.10%)	3 (2.63%)	-

Variable	All Respondents (n=143)	Have received a COVID-19 Vaccine (n=114)	Have not received a COVID-19 Vaccine (n=27)
<i>Separated</i>	2 (1.40%)	1 (0.88%)	1 (3.70%)
<i>Never Married</i>	17 (11.89%)	13 (11.40%)	3 (11.11%)
<i>Member of an unmarried couple</i>	5 (3.50%)	4 (3.51%)	1 (3.70%)
<i>Decline to answer</i>	4 (2.80%)	2 (1.75%)	1 (3.70%)
<b>Hispanic Origin</b>			
<i>No</i>	90 (62.94%)	78 (68.42%)	12 (44.44%)
<i>Yes</i>	46 (32.17%)	32 (28.07%)	12 (44.44%)
<i>Don't know/Not sure</i>	1 (0.70%)	-	1 (3.70%)
<i>Decline to answer</i>	6 (4.20%)	4 (3.51%)	2 (7.41%)
<b>Race</b>			
<i>American Indian or Alaskan Native</i>	7 (4.590%)	6 (5.26%)	1 (3.70%)
<i>Asian</i>	3 (2.10%)	3 (2.63%)	-
<i>White</i>	124 (86.71%)	101 (88.60%)	21 (77.78%)
<i>Don't know/Not sure</i>	5 (3.50%)	3 (2.63%)	2 (7.41%)
<i>Decline to answer</i>	10 (6.99%)	7 (6.14%)	3 (11.11%)
<b>Primary Language</b>			
<i>English</i>	128 (89.51%)	106 (92.98%)	22 (81.48%)
<i>Spanish</i>	12 (8.39%)	8 (7.02%)	2 (7.41%)
<i>Other</i>	1 (0.70%)	-	1 (3.70%)
<i>Decline to answer</i>	2 (1.40%)	-	2 (7.41%)
<b>English Proficiency</b>	(n=13)	(n=8)	(n=3)
<i>Well</i>	4 (30.77%)	2 (25.00%)	2 (66.67%)
<i>Very Well</i>	7 (53.85%)	5 (62.50%)	-
<i>Native speaker</i>	2 (15.38%)	1 (12.50%)	1 (33.33%)
<b>Educational Attainment</b>			
<i>High school or equivalent (GED)</i>	10 (6.99%)	8 (7.02%)	2 (7.41%)
<i>Some college, including associate</i>	52 (36.36%)	41 (35.96%)	11 (40.74%)
<i>Bachelor's degree or higher</i>	78 (54.55%)	64 (56.14%)	12 (44.44%)
<i>Don't know/Not sure</i>	1 (0.70%)	-	1 (3.70%)
<i>Decline to answer</i>	2 (1.40%)	1 (0.88%)	1 (3.70%)
<b>Employment Status</b>			
<i>Employed</i>	100 (74.55%)	82 (71.93%)	18 (66.67%)
<i>Self-employed</i>	5 (3.50%)	2 (1.75%)	3 (11.11%)
<i>Out of work for less than 1 year</i>	1 (0.70%)	-	1 (3.70%)
<i>A homemaker</i>	5 (3.50%)	4 (3.51%)	1 (3.70%)
<i>A student</i>	2 (1.40%)	-	-
<i>Retired</i>	27 (16.36%)	23 (20.18%)	4 (14.81%)
<i>Unable to work</i>	2 (1.40%)	2 (1.75%)	-
<i>Decline to answer</i>	1 (0.70%)	1 (0.88%)	-

Variable	All Respondents (n=143)	Have received a COVID-19 Vaccine (n=114)	Have not received a COVID-19 Vaccine (n=27)
<b>Income</b>			
<i>Less than \$35,000</i>	16 (11.19%)	14 (12.28%)	2 (7.41%)
<i>\$35,000 to \$49,999</i>	19 (13.29%)	15 (13.16%)	4 (14.81%)
<i>\$50,000 to \$74,999</i>	31 (21.68%)	24 (21.05%)	5 (18.52%)
<i>\$75,000 to \$99,999</i>	26 (18.18%)	19 (16.67%)	7 (25.93%)
<i>\$100,000 or more</i>	39 (27.27%)	33 (28.95%)	6 (22.22%)
<i>Decline to answer</i>	12 (8.39%)	9 (7.89%)	3 (11.11%)
<b>Household Size</b>			
<b>Mean ± SD</b>	2.92 ± 1.55	2.80 ± 1.53	3.56 ± 1.48
<b>Median; Min - Max</b>	2; 1 to 8	2; 1 to 8	4; 1 to 6
<b>Who they trust for COVID information</b>			
<i>TV/Internet</i>	35 (24.48%)	27 (23.68%)	7 (25.93%)
<i>Social Media</i>	5 (3.50%)	3 (2.63%)	2 (7.41%)
<i>Primary Care Doctor</i>	85 (59.44%)	76 (66.67%)	9 (38.46%)
<i>Friends and Family</i>	15 (10.49%)	11 (9.65%)	3 (11.11%)
<i>CCHSS</i>	61 (42.66%)	58 (50.88%)	3 (11.11%)
<i>AZDHS</i>	70 (48.95%)	65 (57.02%)	5 (18.52%)
<i>CDC</i>	83 (58.04%)	77 (67.54%)	6 (22.22%)
<i>Other</i>	28 (19.58%)	16 (14.04%)	12 (44.44%)
<i>Don't know/Not sure</i>	3 (2.10%)	1 (0.88%)	2 (7.41%)
<i>Decline to Answer</i>	1 (0.70%)	-	1 (3.70%)
<b>Trust Public Health Agencies</b>			
<i>Not at all</i>	29 (20.28%)	9 (7.89%)	20 (69.23%)
<i>A little</i>	12 (8.39%)	7 (6.14%)	5 (18.52%)
<i>Somewhat</i>	15 (10.49%)	14 (12.28%)	-
<i>Mostly</i>	48 (33.57%)	48 (44.11%)	-
<i>Totally</i>	37 (25.87%)	36 (31.58%)	1 (3.70%)
<i>Decline to answer</i>	2 (1.40%)	-	1 (3.70%)
<b>Had COVID</b>			
<i>Yes</i>	65 (45.45%)	49 (42.98%)	16 (59.26%)
<i>No</i>	64 (44.76%)	56 (49.12%)	8 (29.63%)
<i>Don't know/Not sure</i>	13 (9.09%)	9 (7.89%)	3 (11.11%)
<i>Decline to answer</i>	1 (0.70%)	-	-
<b>Worried about COVID</b>			
<i>Not at all concerned</i>	38 (26.57%)	17 (14.91%)	21 (77.78%)
<i>A little concerned</i>	34 (23.78%)	30 (26.32%)	4 (14.81%)
<i>Somewhat concerned</i>	52 (36.36%)	49 (42.98%)	2 (7.41%)
<i>Very concerned</i>	18 (12.59%)	18 (15.79%)	-
<i>Decline to answer</i>	1 (0.70%)	-	-

Variable	All Respondents (n=143)	Have received a COVID-19 Vaccine (n=114)	Have not received a COVID-19 Vaccine (n=27)
<b>Think Vaccination is Important</b>			
<i>Not at all important</i>	34 (23.78%)	12 (10.53%)	22 (81.48%)
<i>A little important</i>	8 (5.59%)	5 (4.39%)	3 (11.11%)
<i>Somewhat important</i>	10 (6.99%)	8 (7.02%)	1 (3.70%)
<i>Very important</i>	90 (62.94%)	89 (78.07%)	1 (3.70%)
<i>Decline to answer</i>	1 (0.70%)	-	-
<b>Had a COVID Vaccine</b>			
<i>Yes</i>	114 (79.72%)	114 (100%)	-
<i>No</i>	27 (18.88%)	-	27 (100%)
<i>Decline to answer</i>	2 (1.40%)	-	-
<b>Received Other Vaccines</b>			
<i>Yes</i>	98 (68.53%)	90 (78.95%)	8 (29.63%)
<i>No</i>	41 (28.67%)	22 (19.30%)	19 (70.37%)
<i>Don't know/Not sure</i>	2 (1.40%)	2 (1.75%)	-
<i>Decline to Answer</i>	2 (1.40%)	-	-
<b>Did COVID change your opinion on other vaccines?</b>			
<i>Yes</i>	30 (20.98%)	19 (16.67%)	11 (40.74%)
<i>No</i>	101 (70.63%)	85 (74.56%)	16 (59.26%)
<i>Don't know/Not sure</i>	7 (4.90%)	7 (6.14%)	-
<i>Decline to Answer</i>	5 (3.50%)	3 (2.63%)	-
<b>Likely to receive vaccines in the future</b>			
<i>Not Likely</i>	20 (13.99%)	7 (7.53%)	12 (44.44%)
<i>Somewhat Likely</i>	23 (16.08%)	14 (15.05%)	7 (25.93%)
<i>Very Likely</i>	93 (65.03%)	71 (76.34%)	6 (22.22%)
<i>Decline to answer</i>	7 (4.90%)	1 (1.08%)	2 (7.41%)
<b>Know where to get vaccinated</b>			
<i>Yes</i>	135 (94.41%)	110 (96.49%)	25 (92.59%)
<i>No</i>	2 (1.40%)	1 (0.88%)	1 (3.70%)
<i>Don't know/Not sure</i>	3 (2.10%)	2 (1.75%)	1 (3.70%)
<i>Decline to Answer</i>	3 (2.10%)	1 (0.88%)	-
<b>Know about the web calendar</b>			
<i>Yes</i>	66 (46.15%)	50 (43.86%)	16 (59.26%)
<i>No</i>	62 (43.63%)	53 (46.49%)	9 (33.33%)
<i>Don't know/Not sure</i>	9 (6.29%)	7 (6.14%)	2 (7.41%)
<i>Decline to Answer</i>	6 (4.20%)	4 (3.51%)	-
<b>Interested in drive-thru flu clinics</b>	(n = 123)	(n = 97)	(n = 27)
<i>Yes</i>	63 (51.22%)	61 (62.89%)	2 (7.41%)
<i>No</i>	45 (36.59%)	24 (24.74%)	21 (77.78%)

Variable	All Respondents (n=143)	Have received a COVID-19 Vaccine (n=114)	Have not received a COVID-19 Vaccine (n=27)
<i>Don't know/Not sure</i>	13 (10.57%)	11 (11.34%)	2 (7.41%)
<i>Decline to Answer</i>	2 (1.63%)	1 (1.03%)	2 (7.41%)
<b>Drive-thru clinic location preference</b>	(n = 123)	(n = 97)	(n = 11)
<i>Sierra Vista</i>	40 (32.52%)	35 (36.08%)	5 (18.52%)
<i>Closer to your community</i>	47 (38.21%)	42 (43.30%)	5 (18.52%)
<i>Don't know/Not sure</i>	15 (12.20%)	9 (9.28%)	6 (22.22%)
<i>Decline to Answer</i>	21 (17.07%)	11 (11.34%)	11 (40.74%)

Table 3. Vaccine Follow-Up Questions (n=114)

Variable	N (%)
<b>Total Number of Vaccines</b>	
<i>1</i>	2 (1.75%)
<i>2 Moderna/Pfizer or 1 J&amp;J</i>	25 (21.93%)
<i>3+ (1 or more boosters)</i>	86 (75.44%)
<i>Decline to answer</i>	1 (0.88%)
<b>Reasons for vaccination</b>	
<i>It became available</i>	59 (51.75%)
<i>Friends/Family</i>	21 (18.42%)
<i>Recommendation of public health</i>	61 (53.51%)
<i>Work/School Requirement</i>	35 (30.70%)
<i>Personal health/well-being</i>	76 (66.67%)
<i>Travel</i>	12 (10.53%)
<i>Other</i>	12 (10.53%)
<b>Likely to Recommend COVID Vaccine</b>	
<i>Not likely</i>	15 (13.16%)
<i>Somewhat likely</i>	18 (15.79%)
<i>Very likely</i>	80 (70.18%)
<i>Decline to Answer</i>	1 (0.88%)
<b>Know how many boosters they're eligible for</b>	
<i>Yes</i>	95 (83.33%)
<i>No</i>	16 (14.04%)
<i>Decline to answer</i>	3 (2.63%)
<b>Will get eligible boosters</b>	
<i>Yes</i>	80 (70.18%)
<i>No</i>	31 (27.19%)
<i>Decline to answer</i>	3 (2.63%)

Table 4. Unvaccinated Follow-Up Questions (n=27)

Variable	N (%)
<b>Will get vaccinated for COVID in the future</b>	
<i>No</i>	26 (89.66%)
<i>Maybe/I'm Undecided</i>	1 (3.45%)
<b>What influenced vaccination choice</b>	
<i>Friends/Family</i>	3 (10.34%)
<i>Don't trust it</i>	21 (72.41%)
<i>Lack of/Conflicting Information</i>	17 (58.62%)
<i>COVID isn't harmful</i>	9 (31.03%)
<i>Other</i>	6 (20.69%)
<i>Don't know/Not sure</i>	1 (3.45%)

Figure 2. Who Respondents Trust for Information about COVID

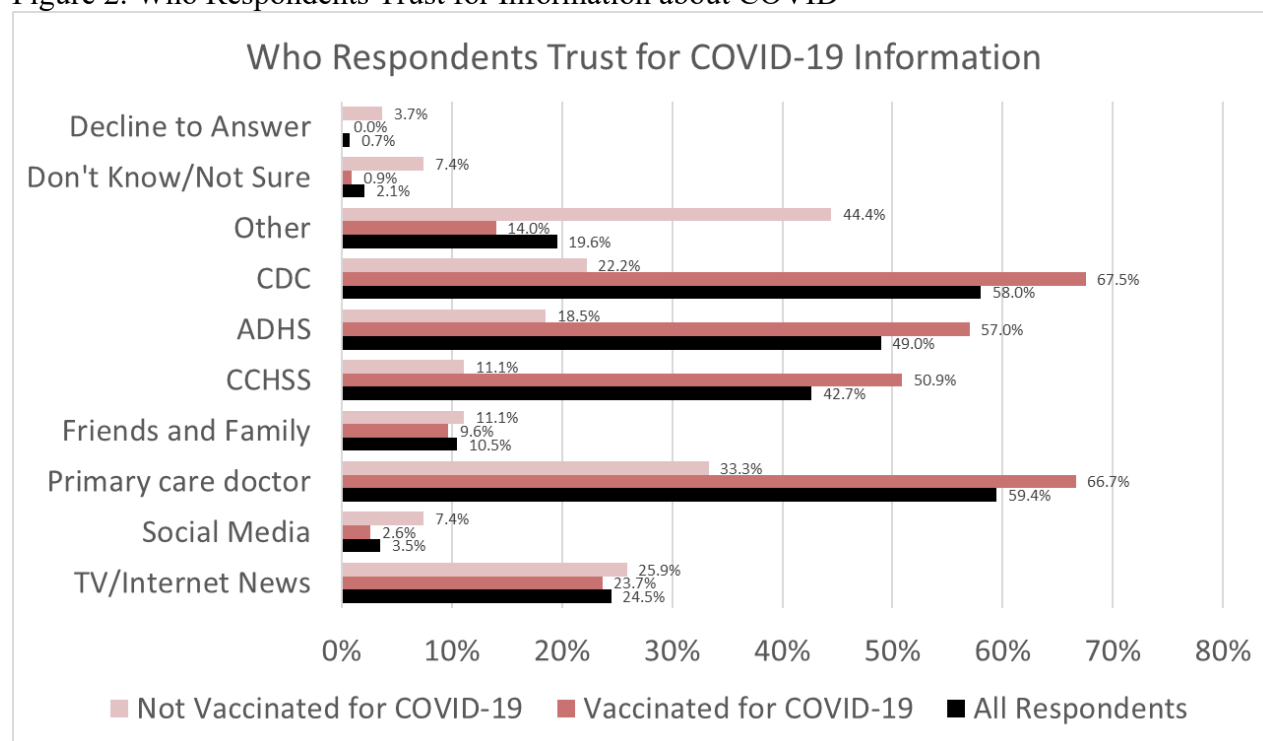




Table 5. *t*-test results for variables of interest versus COVID-19 vaccination status

Variable of Interest	Vaccinated for COVID-19 Mean $\pm$ SD	Not Vaccinated for COVID-19 Mean $\pm$ SD	<i>df</i>	<i>t</i> -value	<i>p</i> -value	Statistically significant
Age	51.77 $\pm$ 13.98	46.74 $\pm$ 12.30	139	1.7181	0.088	No
Agency Trust	3.83 $\pm$ 1.17	1.35 $\pm$ 0.85	138	8.9093	<0.0001	Yes
COVID Worry	2.60 $\pm$ 0.93	1.30 $\pm$ 0.61	139	6.9217	<0.0001	Yes
Vaccine Importance	3.53 $\pm$ 0.99	1.30 $\pm$ 0.72	139	11.0292	<0.0001	Yes
Received Other Vaccines	1.20 $\pm$ 0.40	1.70 $\pm$ 0.47	137	5.7363	<0.0001	Yes
Gender Identity	1.78 $\pm$ 0.47	1.85 $\pm$ 0.61	135	0.5688	0.5704	No
Educational Attainment	3.50 $\pm$ 0.63	3.40 $\pm$ 0.65	136	0.6847	0.4947	No
Employment Status	2.50 $\pm$ 2.56	2.26 $\pm$ 2.23	138	0.4570	0.6484	No
Change of Opinion on Other Vaccines	2.09 $\pm$ 1.33	1.59 $\pm$ 0.50	134	1.9121	0.058	No

Table 6. Change Opinion of All Vaccinations vs. COVID-19 Vaccination Status

	Yes	No	OR
Vaccinated	19	85	0.33
Unvaccinated	11	16	

People who were vaccinated for COVID-19 were 67% less likely to have changed their minds about future vaccinations than those who were not vaccinated for COVID-19.

## Appendix B: Qualitative Responses

Table 7. Write in responses to question 16 “What sources do you trust to learn about COVID-19? Select all that apply.” Asked of all respondents.

Category	Count ( <i>n</i> =28)	Frequency
Science Research	6	21.43%
Media	6	21.43%
Science Organization	5	17.86%
Medical Professionals	4	14.29%
Personal Choice	4	14.29%

Table 8. Write-in responses to question 23 “What influenced you to receive a COVID-19 vaccine? Select all that apply.” Asked only of vaccinated respondents.

Category	Count (n=10)	Frequency
<b>Safety</b>	4	40.00%
<b>Personal Experience</b>	2	20.00%
<b>Medical Professionals</b>	2	20.00%
<b>Job Requirements</b>	1	10.00%
<b>Political Reasons</b>	1	10.00%

Table 9. Responses to open-ended question 24 “Think about people you know. What reasons do they give for not getting vaccinated?” Asked only of vaccinated respondents.

Category	Count (n=104)	Frequency
<b>Vaccine trust &amp; safety</b>	41	39.42%
<b>Government trust</b>	31	29.81%
<b>Misinformation</b>	22	21.15%
<b>COVID severity</b>	22	21.15%
<b>Side effects</b>	19	18.27%
<b>Vaccine development</b>	18	17.31%
<b>Politics</b>	17	16.35%
<b>Personal choice</b>	16	15.38%
<b>COVID is a hoax</b>	13	12.50%
<b>Unclear</b>	7	6.73%
<b>Off-topic</b>	4	3.85%
<b>Religion</b>	2	1.92%

Table 10. Responses to open-ended question 29 “What could motivate you to receive a COVID-19 vaccine?” Asked only of unvaccinated respondents.

Category	Count (n=27)	Frequency
<b>Nothing</b>	20	74.07%
<b>Off-topic</b>	2	7.41%
<b>Manufacturer accountability</b>	2	7.41%
<b>Mandatory for Job</b>	1	3.70%
<b>More long-term effect data</b>	1	3.70%
<b>Unsure</b>	1	3.70%

Table 11. Responses to open-ended question 31 “Please share any details that help explain your circumstances [for remaining unvaccinated].” Asked only of unvaccinated respondents.

Category	Count (n=17)	Frequency
<b>Misinformation</b>	7	41.18%
<b>Government trust</b>	4	23.53%
<b>Personal choice</b>	4	23.53%
<b>COVID severity</b>	4	23.53%
<b>Vaccine safety</b>	3	17.65%
<b>Side effects</b>	2	11.76%
<b>Religion</b>	2	11.76%
<b>Vaccine trust</b>	2	11.76%
<b>Off-topic</b>	2	11.76%
<b>Politics</b>	1	5.88%

Table 12. Responses to open ended question 35 “Please explain your thoughts on vaccines.” Asked of all respondents.

Category	Count (n=116)	Frequency
<b>Positive</b>	67	57.76%
<b>Mixed</b>	22	18.97%
<b>Negative</b>	14	12.07%
<b>Off-topic</b>	7	6.03%
<b>Unclear</b>	6	5.17%

### Appendix C: Vaccine Opinion Survey

(PDF survey should be inserted starting on the next page. Contact [rrpridem@uab.edu](mailto:rrpridem@uab.edu) or [rrawlings@cochise.az.gov](mailto:rrawlings@cochise.az.gov) if it is missing).

## Vaccine Opinion Survey - Oct 2022

---

**Page exit logic:** Skip / Disqualify Logic

**IF:** #1 Question "EN: Which language do you prefer? // ES: ¿Qué idioma prefiere?" is one of the following answers ("Español") **THEN:** Jump to [page 14 - Consentimiento Informado](#)

**DATA** Shortname / Alias: **LANGPREF** Variable name: **LANGPREF**

1. EN: Which language do you prefer? // ES: ¿Qué idioma prefiere? \*

- ☐ English
- ☐ Español

---

**Informed Consent**

**Goals:**

We need your help in gathering data about vaccines in our county. We want to know how our residents feel about vaccines.

**Eligibility:**

To respond to this survey, you must live in Cochise County and be over age 18.

**Informed Consent**

If you agree to partake in this assessment, we will ask you to take a survey. This survey will take the average person less than ten minutes to complete.

Your privacy is important to us and your responses will remain anonymous. Your name and identity will not be collected.

Continuing with and responding to this assessment indicates you agree to participate.

**Benefits:**

With your help, we can improve the policies and programs available to you and other residents in Cochise County.

**Risks:**

This topic can be uncomfortable for some people. If you participate, you may feel upset about some of the questions. Please know that we want your opinion, no matter what it is.

**Compensation:**

You will not be paid for your participation.

Participation is voluntary. Even if you choose to take part now, you can change your mind and stop at any time. You may choose not to answer a question or stop for any reason.

The report we create from this survey will be available to the public.

If you have questions, please contact Dr. Alicia Thompson, Director of Cochise County Health & Social Services, at [Athompson@cochise.az.gov](mailto:Athompson@cochise.az.gov) or 520-432-9468.

By answering the following questions, you agree to participate.

**Instructions:**

Make sure you hit "Tab" instead of "Enter" to move between questions.

**Page exit logic:** Skip / Disqualify Logic

**IF:** (((((((((((((((((((((((((((((((#2 Question "What is your ZIP code?

*Please enter a number*" is exactly equal to "85603") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85605") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85606") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85607") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85608") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85609") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85613") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85615") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85616") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85617") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85619") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85620") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85625") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85626") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85627") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85630") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85632") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85635") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85636") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85638") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85644") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85650") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85655") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85670") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85671") OR #2 Question "What is your ZIP code?  
*Please enter a number*" is exactly equal to "85610") OR #3 Question "

Do you live in Cochise County?

" is one of the following answers ("Yes")) AND #4 Question "What is your age?

*Please enter a number*" is greater than or equal to "18") **THEN:** Jump to [page 4 - Demographic Questions](#)

**DATA** Shortname / Alias: **ZIP** Variable name: **ZIP**

2. What is your ZIP  
code?

*Please enter a number*\*

**LOGIC** Hidden unless: ((#2 Question "What is your ZIP code? Please enter a number" is exactly equal to "85602" OR #2 Question "What is your ZIP code? Please enter a number" is exactly equal to "85611") OR #2 Question "What is your ZIP code? Please enter a number" is exactly equal to "85643")

**DATA** Shortname / Alias: **LIVEINCC** Variable name: **CntyConfirm**

3.

Do you live in Cochise County?

\*

- ☐ Yes
- ☐ No
- ☐ Don't know/Not sure
- ☐ Decline to answer

**DATA** Shortname / Alias: **AGE** Variable name: **Age**

4. What is your age?

*Please enter a number* \*

## Not Eligible

---

Thank you for your interest. Unfortunately, one or more answers have made you ineligible. Please consider sharing this survey with people you know who both live in Cochise County, AZ, and are over 18 years of age.

## Demographic Questions

---

**DATA** Shortname / Alias: **SEXATBIRTH**

5. What was your sex at birth?

- ☐ Male
- ☐ Female
- ☐ Don't know/Not sure
- ☐ Decline to answer

**DATA** Shortname / Alias: **GENDERID**

6. How do you describe your gender?

- ☐ Male
- ☐ Female
- ☐ Transgender
- ☐ Decline to answer
- ☐ None of these - Write In

**DATA** Shortname / Alias: **MARITAL**

7. What is your marital status?

- ☐ Married
- ☐ Divorced
- ☐ Widowed
- ☐ Separated
- ☐ Never Married
- ☐ Member of an unmarried couple
- ☐ Decline to answer



**DATA** Shortname / Alias: **HISPANIC**

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

*Origins are not races.*

- ☐ Yes
- ☐ No
- ☐ Don't know/Not sure
- ☐ Decline to answer

**DATA** Shortname / Alias: **RACE**

9. How would you describe your race?

*Select all that apply.*

- ☐ American Indian or Alaskan Native
- ☐ Asian
- ☐ Black or African American
- ☐ Native Hawaiian or other Pacific Islander
- ☐ White
- ☐ Don't know/Not sure
- ☐ Decline to answer

## Demographic Questions

---

**LOGIC** Show/hide trigger exists.

**DATA** Shortname / Alias: **PRIMARYLANG**

10. What language is primarily spoken in your home?

- ☐ English
- ☐ Spanish
- ☐ Other - Write In

- ☐ Decline to answer

**LOGIC** Hidden unless: #10 Question "What language is primarily spoken in your home?" is one of the following answers ("Spanish","Other - Write In")

**DATA** Shortname / Alias: **ENGPROF**

11. How well do you believe you speak and understand English?

- |                       |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Not at all            | Not well              | Well                  | Very well             | Native speaker        | Decline to answer     |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

## Demographic Questions

---

**DATA** Shortname / Alias: **EDATTAIN**

12. What is the highest level of education you have completed?

- ☐ Less than high school
- ☐ High school or equivalent (GED)
- ☐ Some college, including associate degree or trade school
- ☐ Bachelor's degree or higher
- ☐ Don't know/Not sure
- ☐ Decline to answer

**DATA** Shortname / Alias: **EMPLSTAT**

13. What is your current employment status?

- ☐ Employed
- ☐ Self-employed
- ☐ Out of work for 1 year or more
- ☐ Out of work for less than 1 year
- ☐ A homemaker
- ☐ A student
- ☐ Retired
- ☐ Unable to work
- ☐ Decline to answer

**DATA** Shortname / Alias: **INCOME**

14. What is your current household income from all sources?

- ☐ Less than \$35,000
- ☐ \$35,000 to \$49,999
- ☐ \$50,000 to \$74,999
- ☐ \$75,000 to \$99,999
- ☐ \$100,000 or more
- ☐ Decline to answer

**DATA** Shortname / Alias: **HHSIZE**

15. How many total people – adults and children – currently live in your household, including yourself?

*Please enter a number*

## COVID History, Attitudes, and Vaccination

---

**DATA** Shortname / Alias: **TRUSTSRC**

16. What sources do you trust to learn about COVID-19?

*Select all that apply.*

- ☐ News on TV/from Internet Sources
- ☐ Social Media
- ☐ Primary care doctor or health care provider
- ☐ Friends and family
- ☐ Cochise Health & Social Services Website
- ☐ Arizona Department of Health Website
- ☐ The Centers for Disease Control and Prevention (CDC) Website
- ☐ Other - Write In
- ☐ Don't know/Not Sure
- ☐ Decline to answer

**DATA** Shortname / Alias: **AGENCYTRUST**

17. How much do you trust the public health agencies that recommend you get a COVID-19 vaccine? Would you say you trust them:

- |                       |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Not at all            | A little              | Moderately            | Very much             | Totally               | Decline to answer     |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**DATA** Shortname / Alias: **HADCOVID**

18. Since March 2020, do you believe you've ever had COVID-19?  
*Answer "yes" if you tested positive but didn't have symptoms.*

- ☐ Yes
- ☐ No
- ☐ Don't know/Not sure
- ☐ Decline to answer

## COVID History, Attitudes, and Vaccination

---

**Page exit logic:** Skip / Disqualify Logic

**IF:** #21 Question "Since January 2021, have you had a COVID-19 vaccination?" is not one of the following answers ("Yes") **THEN:** Jump to [page 11 - Not Vaccinated Follow-up Questions](#)

**DATA** Shortname / Alias: **COVIDWORRY**

19. How worried are you about contracting COVID-19?

- |                         |                       |                       |                       |                       |
|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Not at all<br>concerned | A little<br>concerned | Somewhat<br>concerned | Very<br>concerned     | Decline to<br>answer  |
| <input type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**DATA** Shortname / Alias: **VAXIMPT**

20. How important do you think getting a vaccine is to protect yourself against COVID-19?

Not at all  
important

☐

A little  
important

☐

Somewhat  
important

☐

Very  
important

☐

Decline to  
answer

☐

**DATA** Shortname / Alias: **HADCOVIDVAX**

21. Since January 2021, have you had a COVID-19 vaccination?

- ☐ Yes
- ☐ No
- ☐ Don't know/Not sure
- ☐ Decline to answer

### Vaccinated Follow-up Questions

---

**DATA** Shortname / Alias: **TOTALVAX**

22. How many total COVID-19 vaccinations have you received?

- ☐ 1 - I have received 1 dose Moderna/Pfizer
- ☐ 2 - I have received 2 doses of Moderna/Pfizer or 1 dose of Johnson & Johnson
- ☐ 3+ - I received at least 1 booster in addition to the primary series
- ☐ Don't know/Not sure
- ☐ Decline to answer

**DATA** Shortname / Alias: **COVIDINFL**

23. What influenced you to receive a COVID-19 vaccine?

*Select all that apply.*

- ☐ It became available
- ☐ Friends/Family
- ☐ Recommendation of public health officials
- ☐ Work or school requirements
- ☐ Personal health/wellbeing
- ☐ Travel
- ☐ Other - Write In
- ☐ Don't know/Not sure
- ☐ Decline to answer

24. Think about people you know. What reasons do they give for not getting vaccinated?

### Vaccinated Follow-up Questions

---

**Page exit logic:** Skip / Disqualify Logic

**IF:** #21 Question "Since January 2021, have you had a COVID-19 vaccination?" is one of the following answers ("Yes") **THEN:** Jump to [page 12 - Other vaccines](#)

**DATA** Shortname / Alias: **VAXREC**

25. How likely are you to recommend getting a COVID-19 vaccine to others?

Not at all likely

Somewhat likely

Extremely likely

Decline to answer

☐☐☐☐

**DATA** Shortname / Alias: **BSTRNMBR**

26. I know how many COVID-19 booster vaccinations I am eligible to receive.

☐ Yes

☐ No

☐ Decline to answer

**DATA** Shortname / Alias: **BSTRGET**

27. I intend to get as many COVID-19 booster vaccinations as I am eligible to receive.

☐ Yes

☐ No

☐ Decline to answer

**Not Vaccinated Follow-up Questions**

---



**LOGIC** Show/hide trigger exists.

**DATA** Shortname / Alias: **FUTUREVAX**

28. Are you interested in receiving a COVID-19 vaccine in the future?

- ☐ Yes
- ☐ No
- ☐ Maybe/I'm Undecided
- ☐ Decline to answer

**LOGIC** Hidden unless: #28 Question "Are you interested in receiving a COVID-19 vaccine in the future?" is one of the following answers ("No","Maybe/I'm Undecided","Decline to answer")

29. What could motivate you to receive a COVID-19 vaccine?

**LOGIC** Show/hide trigger exists. Hidden unless: #28 Question "Are you interested in receiving a COVID-19 vaccine in the future?" is one of the following answers ("No", "Maybe/I'm Undecided", "Decline to answer")

**DATA** Shortname / Alias: **NOTVAXINFL**

30. What influenced you to NOT receive a COVID-19 vaccine?

*Select all that apply.*

- ☐ Friends/Family
- ☐ Lack of trust in vaccine
- ☐ Lack of or conflicting information about vaccine
- ☐ I do not feel Covid-19 would be harmful
- ☐ Trust homeopathic remedies
- ☐ Other
- ☐ Don't know/Not sure
- ☐ Decline to answer

**LOGIC** Hidden unless: #30 Question "What influenced you to NOT receive a COVID-19 vaccine?"

*Select all that apply."*

31. Please share any details that help explain your circumstances.

**LOGIC** Hidden unless: #28 Question "Are you interested in receiving a COVID-19 vaccine in the future?" is one of the following answers ("Yes")

**DATA** Shortname / Alias: **BARRIER**

32. You indicated you are interested in getting vaccinated for COVID-19. What has prevented you from receiving a COVID-19 vaccination?

*Select all that apply.*

- ☐ Access (transportation; vaccination clinic distance or availability)
- ☐ Time (work schedule, caring for minor children)
- ☐ I don't know how to get vaccinated
- ☐ Other - Write In
- ☐ Decline to answer

## Other vaccines

---

**DATA** Shortname / Alias: **OTHERVAX**

33. Since January 2021, have you received any vaccine that was NOT related to COVID-19?

*Examples include seasonal flu, pneumonia, shingles, or any other vaccine*

- ☐ Yes
- ☐ No
- ☐ Don't know/Not sure
- ☐ Decline to answer

**DATA** Shortname / Alias: **VAXOPCHG**

34. Has the COVID-19 pandemic or messaging surrounding COVID-19 vaccines changed your opinion of vaccines for other preventable diseases?

- ☐ Yes
- ☐ No
- ☐ Don't know/Not sure
- ☐ Decline to answer

35. Please explain your thoughts on vaccines

**DATA** Shortname / Alias: **VAXFUTURE**

36. How likely are you to seek preventative vaccination for other diseases in the future?

*Examples include seasonal flu, pneumonia, shingles, or any other vaccine*

Not likely at all

Somewhat likely

Extremely Likely

Decline to answer



37. Please explain your stance.

**Page exit logic:** Skip / Disqualify Logic

**IF:** (((((((((((((((((((((((((((((((((((((((#5 Question "What was your sex at birth?" OR #6 Question "How do you describe your gender?" ) OR #7 Question "What is your marital status?" ) OR #8 Question "Are you of Hispanic, Latino, or Spanish origin?"  
*Origins are not races.*" ) OR #9 Question "How would you describe your race?"  
*Select all that apply.*" ) OR #10 Question "What language is primarily spoken in your home?" ) OR #11 Question "How well do you believe you speak and understand English?" ) OR #12 Question "What is the highest level of education you have completed?" ) OR #13 Question "What is your current employment status?" ) OR #14 Question "What is your current household income from all sources?" ) OR #15 Question "How many total people – adults and children – currently live in your household, including yourself?"  
*Please enter a number*" ) OR #16 Question "What sources do you trust to learn about COVID-19?"  
*Select all that apply.*" ) OR #17 Question "How much do you trust the public health agencies that recommend you get a COVID-19 vaccine? Would you say you trust them:" ) OR #18 Question "Since March 2020, do you believe you've ever had COVID-19?"  
*Answer "yes" if you tested positive but didn't have symptoms.*" ) OR #19 Question "How worried are you about contracting COVID-19?" ) OR #20 Question "How important do you think getting a vaccine is to protect yourself against COVID-19?" ) OR #21 Question "Since January 2021, have you had a COVID-19 vaccination?" ) OR #22 Question "How many total COVID-19 vaccinations have you received?" ) OR #23 Question "What influenced you to receive a COVID-19 vaccine?"  
*Select all that apply.*" ) OR #24 Question "Think about people you know. What reasons do they give for not getting vaccinated?" ) OR #25 Question "How likely are you to recommend getting a COVID-19 vaccine to others?" ) OR #26 Question "I know how many COVID-19 booster vaccinations I am eligible to receive." ) OR #27 Question "I intend to get as many COVID-19 booster vaccinations as I am eligible to receive." ) OR #28 Question "Are you interested in receiving a COVID-19 vaccine in the future?" ) OR #29 Question "What could motivate you to receive a COVID-19 vaccine?" ) OR #30 Question "What influenced you to NOT receive a COVID-19 vaccine?"  
*Select all that apply.*" ) OR #30 Question "What influenced you to NOT receive a COVID-19 vaccine?"  
*Select all that apply.*" ) OR #31 Question "Please share any details that help explain your circumstances." ) OR #32 Question "You indicated you are interested in getting vaccinated for COVID-19. What has prevented you from receiving a COVID-19 vaccination?"  
*Select all that apply.*" ) OR #33 Question "Since January 2021, have you received any vaccine that was NOT related to COVID-19?"  
*Examples include seasonal flu, pneumonia, shingles, or any other vaccine*  
" ) OR #34 Question "Has the COVID-19 pandemic or messaging surrounding COVID-19 vaccines changed your opinion of vaccines for other preventable diseases?"  
  
" ) OR #35 Question "Please explain your thoughts on vaccines  
" ) OR #36 Question "How likely are you to seek preventative vaccination for other diseases in the future?"  
*Examples include seasonal flu, pneumonia, shingles, or any other vaccine*  
" ) OR #37 Question "Please explain your stance." ) OR #38 Question "Do you know where to get vaccines near you?" ) OR #42 Question "What other information would you like to share with us?" ) **THEN:** Jump to [page 26 - Thank You!](#) Flag response as complete

**DATA** Shortname / Alias: **NEARBYVAX**

38. Do you know where to get vaccines near you?

- ☐ Yes
- ☐ No
- ☐ Don't know/Not sure
- ☐ Decline to answer

**DATA** Shortname / Alias: **WEBCAL**

39. Are you familiar with the Cochise County Health & Social Services web calendar?

- ☐ Yes
- ☐ No
- ☐ Don't know/Not sure
- ☐ Decline to answer

**DATA** Shortname / Alias: **FLUSHOT**

40. We want to host drive-thru clinics next year to make getting flu shots more convenient. Is this something you would be interested in?

- ☐ Yes
- ☐ No
- ☐ Don't know/Not sure
- ☐ Decline to answer

**DATA** Shortname / Alias: **SV\_OTHER**

41. Would you rather attend a drive-thru clinic in Sierra Vista or one closer to your community?

*If your community is Sierra Vista, please select option one.*

- ☐ Sierra Vista
- ☐ Closer to your community
- ☐ Don't know/not sure
- ☐ Decline to answer

42. What other information would you like to share with us?

## Consentimiento Informado

---

**Page exit logic:** Skip / Disqualify Logic

**IF:** (((((((((((((((((((((((((((((((#43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85603" OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85605") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85606") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85607") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85608") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85609") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85613") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85615") OR #43 Question "¿Cuál es su



código postal?

Por favor, introduzca un número " is exactly equal to "85616") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85617") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85619") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85620") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85625") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85626") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85627") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85630") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85632") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85635") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85636") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85638") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85644") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85650") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85655") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85670") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85671") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85610") OR #44 Question "¿Vive en el condado de Cochise?" is one of the following answers ("Sí")) AND #45 Question "¿Cuál es tu edad?

Por favor, introduzca un número " is greater than or equal to "18") **THEN:** Jump to [page 16 - Preguntas Demográficas](#)

## Metas:

Necesitamos su ayuda para recolectar datos sobre las vacunas en nuestro condado. Queremos saber cómo se sienten nuestros residentes acerca de las vacunas.

**Elegibilidad:**

Para responder a esta encuesta, debe vivir en el condado de Cochise y ser mayor de 18 años.

**Consentimiento informado:**

Si acepta participar en esta evaluación, le pediremos que responda una encuesta. Esta encuesta le tomara un promedio de menos de diez minutos para completar.

Su privacidad es importante para nosotros y sus respuestas permanecerán anónimas. Su nombre e identidad no serán recolectados.

El hecho de continuar y responder a esta evaluación indica que acepta participar.

**Beneficios:**

Con su ayuda, podemos mejorar las políticas y los programas disponibles para usted y otros residentes del condado de Cochise.

**Riesgos:**

Este tema puede resultar incómodo para algunas personas. Si participa, es posible que se sienta molesto por algunas de las preguntas. Tenga en cuenta que queremos su opinión, sin importar cuál sea.

**Compensación:**

No se le pagará por su participación.

La participación es voluntaria. Incluso si elige participar, puede cambiar de opinión y detenerse en cualquier momento. Puede elegir no responder a una pregunta o detenerse por cualquier motivo.

El reporte que crearemos a resultado de esta encuesta estará disponible para el público.

Si tiene preguntas, comuníquese con la Dra. Alicia Thompson, Directora de

Servicios Sociales y de Salud del Condado de Cochise, a  
Athompson@cochise.az.gov o al 520-432-9468.

Al contestar las siguientes preguntas, usted acepta participar.

### Instrucciones:

Asegúrese de presionar "Tab" en lugar de "Enter" para moverse entre las preguntas.

**DATA** Shortname / Alias: **ZIP**

43. ¿Cuál es su código postal?

Por favor, introduzca un número \*

**LOGIC** Hidden unless: ((#43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85602" OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85611") OR #43 Question "¿Cuál es su código postal?

Por favor, introduzca un número " is exactly equal to "85643")

**DATA** Shortname / Alias: **LIVEINCC**

44. ¿Vive en el condado de Cochise? \*

- ☐ Si
- ☐ No
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

**DATA** Shortname / Alias: **AGE**

45. ¿Cuál es tu edad?

*Por favor, introduzca un número \**

### Aviso de no elegible

---

Gracias por su interés. Desafortunadamente, una o más respuestas lo han hecho inelegible para participar en esta encuesta. Considere compartir esta encuesta con personas que conoce que viven en el condado de Cochise, AZ, y son mayores de 18 años.

### Preguntas Demográficas

---

**DATA** Shortname / Alias: **SEXATBIRTH**

46. ¿Cuál fue su sexo al nacer?

- ☐ Hombre
- ☐ Mujer
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

**DATA** Shortname / Alias: **GENDERID**

47. ¿Cómo describe su género?

- ☐ Hombre
- ☐ Mujer
- ☐ Transgénero
- ☐ Otro

- ☐ Niego a contestar

**DATA** Shortname / Alias: **MARITAL**

48. ¿Cuál es su estado civil?

- ☐ Casado
- ☐ Divorciado
- ☐ Viudo
- ☐ Separado
- ☐ Nunca casado
- ☐ Miembro de una pareja no casada
- ☐ Niego a contestar

**DATA** Shortname / Alias: **HISPANIC**

49. ¿Es de origen hispano, latino o español?

*Los orígenes no son razas.*

- ☐ Si
- ☐ No
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

**DATA** Shortname / Alias: **RACE**

50. ¿Cómo describiría su raza?

*Seleccione todas las que correspondan.*

- ☐ Indio americano o Nativo de Alaska
- ☐ Asiático
- ☐ Negro o Afroamericano
- ☐ Nativo de Hawái u otro Isleño del Pacífico
- ☐ Blanco
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

## **Preguntas Demográficas**

---

**LOGIC** Show/hide trigger exists.

**DATA** Shortname / Alias: **PRIMARYLANG**

51. ¿Qué idioma se habla principalmente en su hogar?

- ☐ Inglés
- ☐ Español
- ☐ Otro

- ☐ Niego a contestar

**LOGIC** Hidden unless: #51 Question "¿Qué idioma se habla principalmente en su hogar? " is one of the following answers ("Español","Otro")

**DATA** Shortname / Alias: **ENGPROF**

52. ¿Qué tan bien cree usted que habla y entiende el inglés?

Nada en  
absoluto

☐

No muy  
bien

☐

Bien

☐

Muy bien

☐

Hablante  
nativo

☐

Niego a  
contestar

☐

## Preguntas Demográficas

---

**DATA** Shortname / Alias: **EDATTAIN**

53. ¿Cuál es el nivel más alto de educación que ha completado?

- ☐ Menos de la preparatoria
- ☐ Preparatoria o equivalente (por ejemplo, GED)
- ☐ Alguna universidad, incluido un título de asociado o una escuela de oficios
- ☐ Licenciatura o superior
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

**DATA** Shortname / Alias: **EMPLSTAT**

54. ¿Cuál es su situación laboral actualmente?

- ☐ Empleado
- ☐ Trabajador por cuenta propia
- ☐ Sin trabajo por 1 año o más
- ☐ Sin trabajo por menos de 1 año
- ☐ Ama de casa
- ☐ Estudiante
- ☐ Retirado
- ☐ Incapaz de trabajar
- ☐ Niego a contestar

**DATA** Shortname / Alias: **INCOME**

55. ¿Cuál es su ingreso familiar de todas las fuentes actualmente?

- ☐ Menos de \$35,000
- ☐ \$35,000 a \$49,999
- ☐ \$50,000 a \$74,999
- ☐ \$75,000 a \$99,999
- ☐ \$100,000 o mas
- ☐ Niego a contestar



**DATA** Shortname / Alias: **HHSIZE**

56. ¿Cuántas personas en total, adultos y niños, viven actualmente en su hogar, incluyendo usted mismo?

*Por favor, introduzca un número.*

## Historial de COVID, Actitudes y Vacunación

---

**DATA** Shortname / Alias: **TRUSTSRC**

57. ¿En qué fuentes confía para aprender sobre COVID-19?

*Seleccione todas las que correspondan.*

- ☐ Noticias en TV/de Fuentes de Internet
- ☐ Redes Sociales
- ☐ Médico de atención primaria o proveedor de atención médica
- ☐ Amigos y familiares
- ☐ Sitio web de Cochise County Health & Social Services
- ☐ Sitio web del Departamento de Salud de Arizona
- ☐ Sitio web de los Centros para el Control y la Prevención de Enfermedades (CDC)
- ☐ Otra:
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

**DATA** Shortname / Alias: **AGENCYTRUST**

58. ¿Cuánto confía en las agencias de salud pública que recomiendan que se vacune contra el COVID-19? ¿Diría que confías en ellos?:

Nada en absoluto	Un poco	Moderadamente	Mucho	Totalmente	Niego a contestar
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**DATA** Shortname / Alias: **HADCOVID**

59. Desde marzo de 2020, ¿cree que alguna vez ha tenido COVID-19?

*Responda "sí" si dio positivo pero no tuvo síntomas.*

- ☐ Si
- ☐ No
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

## Historial de COVID, Actitudes y Vacunación

---

**Page exit logic:** Skip / Disqualify Logic

**IF:** #62 Question "Desde enero del 2021, ¿ha tenido una vacuna contra el COVID-19?" is not one of the following answers ("Si") **THEN:** Jump to [page 23 - Preguntas de Seguimiento de no Vacunados](#)

**DATA** Shortname / Alias: **COVIDWORRY**

60. ¿Qué tan preocupado está por contraer COVID-19?

Nada preocupado	Un poco preocupado	Algo preocupado	Muy preocupado	Niego a contestar
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**DATA** Shortname / Alias: **VAXIMPT**

61. ¿Qué tan importante cree que es vacunarse para protegerse contra el COVID-19?

Nada  
importante

☐

Un poco  
importante

☐

Algo  
importante

☐

Muy  
importante

☐

Niego a  
contestar

☐

**DATA** Shortname / Alias: **HADCVIDVAX**

62. Desde enero del 2021, ¿ha tenido una vacuna contra el COVID-19?

- ☐ Si
- ☐ No
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

### Preguntas de Seguimiento de Vacunados

---

**DATA** Shortname / Alias: **TOTALVAX**

63. ¿Cuántas vacunas contra el COVID-19 ha recibido en total?

- ☐ 1 – He recibido 1 dosis de Moderna/Pfizer
- ☐ 2 – He recibido 2 dosis de Moderna/Pfizer o 1 dosis de Johnson & Johnson
- ☐ 3+: He recibido al menos un refuerzo además de la serie principal
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

**DATA** Shortname / Alias: **COVIDINFL**

64. ¿Qué lo influyó para recibir una vacuna contra el COVID-19?

*Seleccione todas las que correspondan.*

- ☐ Estuvo disponible
- ☐ Amigos/Familia
- ☐ Recomendación de los funcionarios de salud pública
- ☐ Requisitos laborales o escolares
- ☐ Salud/bienestar personal
- ☐ Viajes
- ☐ Otro
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

65. Piensa en las personas que conoces. ¿Qué razones dan para no vacunarse?

#### Preguntas de Seguimiento de Vacunados

---

**Page exit logic:** Skip / Disqualify Logic

**IF:** #62 Question "Desde enero del 2021, ¿ha tenido una vacuna contra el COVID-19?" is one of the following answers ("Si") **THEN:** Jump to [page 24 - Otras Vacunas](#)

**DATA** Shortname / Alias: **VAXREC**

66. ¿Qué tan probable es que recomiende vacunarse contra el COVID-19 a otras personas?

- |                       |                       |                         |                       |
|-----------------------|-----------------------|-------------------------|-----------------------|
| Nada probable         | Algo probable         | Extremadamente probable | Niego a contestar     |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/> |

**DATA** Shortname / Alias: **BSTRNMBR**

67. Sé cuántas vacunas de refuerzo contra el COVID-19 puedo recibir.

- ☐ Si
- ☐ No
- ☐ Niego a contestar

**DATA** Shortname / Alias: **BSTRGET**

68. Tengo la intención de recibir tantas vacunas de refuerzo de COVID-19 como sea elegible para recibir.

- ☐ Si
- ☐ No
- ☐ Niego a contestar

### **Preguntas de Seguimiento de no Vacunados**

---

**LOGIC** Show/hide trigger exists.

**DATA** Shortname / Alias: **FUTUREVAX**

69. ¿Está interesado en recibir una vacuna contra el COVID-19 en el futuro?

- ☐ Si
- ☐ No
- ☐ Tal vez/Estoy indeciso
- ☐ Niego a contestar

**LOGIC** Hidden unless: #28 Question "Are you interested in receiving a COVID-19 vaccine in the future?" is one of the following answers ("No","Maybe/I'm Undecided","Decline to answer")

70. ¿Qué podría motivarlo a recibir una vacuna contra el COVID-19?

**LOGIC** Show/hide trigger exists. Hidden unless: #28 Question "Are you interested in receiving a COVID-19 vaccine in the future?" is one of the following answers ("No","Maybe/I'm Undecided","Decline to answer")

**DATA** Shortname / Alias: **NOTVAXINFL**

71. ¿Qué lo influyó para NO recibir una vacuna contra el COVID-19?

*Seleccione todas las que correspondan.*

- ☐ Amigos/Familia
- ☐ Falta de confianza en la vacuna
- ☐ Falta de información o información contradictoria sobre la vacuna.
- ☐ No siento que COVID-19 sería dañino
- ☐ Confío en los remedios homeopáticos
- ☐ Otro
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

**LOGIC** Hidden unless: #71 Question "¿Qué lo influyó para NO recibir una vacuna contra el COVID-19?

*Seleccione todas las que correspondan. "*

72. Comparta cualquier detalle que ayude a explicar sus circunstancias.

**LOGIC** Hidden unless: #69 Question "¿Está interesado en recibir una vacuna contra el COVID-19 en el futuro?" is one of the following answers ("Si")

**DATA** Shortname / Alias: **BARRIER**

73. Usted indicó que está interesado en vacunarse contra el COVID-19. ¿Qué le ha impedido recibir una vacuna contra el COVID-19?

*Seleccione todas las que correspondan.*

- ☐ Acceso (transporte; distancia de la clínica de vacunación o disponibilidad)
- ☐ Tiempo (horario de trabajo, cuidado de hijos menores)
- ☐ No sé cómo vacunarme
- ☐ Otro
- ☐ Niego a contestar

## Otras Vacunas

---

**DATA** Shortname / Alias: **OTHERVAX**

74. Desde enero de 2021, ¿ha recibido alguna vacuna que NO esté relacionada con el COVID-19?

*Los ejemplos incluyen la vacuna contra la gripe, la neumonía, el herpes zóster o cualquier otra vacuna*

- ☐ Si
- ☐ No
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar



**DATA** Shortname / Alias: **VAXOPCHG**

75. ¿La pandemia de COVID-19 o los mensajes relacionados con las vacunas de COVID-19 han cambiado su opinión sobre las vacunas para otras enfermedades prevenibles?

- ☐ Si
- ☐ No
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

76. Por favor explique su opinión sobre las vacunas.

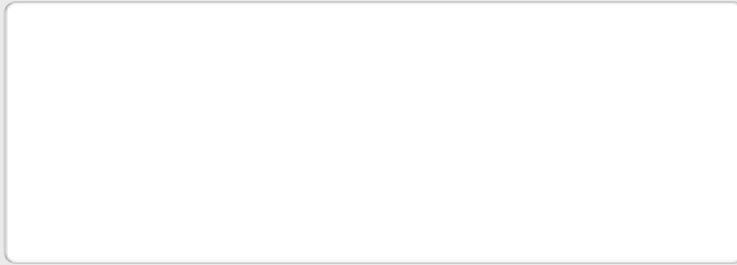
**DATA** Shortname / Alias: **VAXFUTURE**

77. ¿Qué tan probable es que busque vacunas preventivas para otras enfermedades en el futuro?

*Los ejemplos incluyen la vacuna contra la gripe, la neumonía, el herpes zóster o cualquier otra vacuna*

- |                       |                       |                         |                       |
|-----------------------|-----------------------|-------------------------|-----------------------|
| Nada probable         | Algo probable         | Extremadamente probable | Niego a contestar     |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/> |

78. Por favor explique su punto de vista.



## Servicios Sociales y de Salud del Condado de Cochise

---

**DATA** Shortname / Alias: **NEARBYVAX**

79. ¿Sabe dónde conseguir vacunas cerca de usted?

- ☐ Si
- ☐ No
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

**DATA** Shortname / Alias: **WEBCAL**

80. ¿Está familiarizado con el calendario web de Cochise County Health & Social Services?

- ☐ Si
- ☐ No
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

**DATA** Shortname / Alias: **FLUSHOT**

81. El próximo año quisiéramos organizar clínicas de servicio al carro para que sea más conveniente vacunarse contra la gripe. ¿Esto es algo que le interesaría?

- ☐ Si
- ☐ No
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

**DATA** Shortname / Alias: **SV\_OTHER**

82. ¿Preferiría asistir a una clínica en Sierra Vista o a una más cercana a su comunidad?

- ☐ Sierra Vista (seleccione si esta es su comunidad)
- ☐ En mi comunidad
- ☐ No sé/No estoy seguro
- ☐ Niego a contestar

83. ¿Qué otra información le gustaría compartir con nosotros?

**Thank You!**

---

Thank you for taking our survey. Your response is very important to us.

If you are interested in learning more about the clinics offered by Cochise County Health & Social Services, please visit our online calendar.

To learn more about what boosters you are eligible to receive, please see the CDC's current guidance.