COVID-19 Vaccine Confidence
Rapid Community Assessment Guide

A guide to help you understand your community's needs regarding COVID-19 vaccines in three weeks

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Vaccinate with **Confidence**
Protect communities. Empower families. Stop myths.

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Quick Start Guide

This rapid community assessment (RCA) guide is for staff of state, territorial, local, and tribal health departments involved in various aspects of COVID-19 vaccine planning who wish to better understand their community's needs regarding acceptance and uptake of COVID-19 vaccines among adults, adolescents, and children. This guide may also be relevant for coalitions, hospitals, health systems/clinics, and other organizations that have strong connections with the communities they serve and want to respond to questions and concerns regarding COVID-19 vaccines. While the guide is intended to be customized and used independently by state, territorial, local, and tribal public health staff, in some instances, technical assistance may be available through CDC (e.g., strike teams) and other partners with experience in this area.

This RCA can help you:

- Identify communities of focus in your area at risk for low uptake of COVID-19 vaccine.

- Document lessons learned from each phase of the COVID-19 vaccine rollout to inform subsequent phases.

- Get an early understanding of what communities of focus are thinking about COVID-19 vaccine:

  » Assess barriers to COVID-19 vaccine uptake as well as what is working to increase uptake.

  » Identify potential solutions to increase vaccine confidence and vaccine uptake.

- Identify community leaders, trusted messengers, and other important channels of communication with communities.

- Identify areas of intervention and timely, actionable solutions to increase confidence in and uptake of COVID-19 vaccine.

The RCA consists of five steps. Each step below links to a section in the guide with further information about that topic. You can click on a particular section to learn more.

Given the urgency of the COVID-19 pandemic, establish a rapid timeline for all five steps. Ideally, three weeks. This is not a strict guide but rather a suggested time frame.

1. Identify Objectives and Communities of Focus

2. Plan for the Rapid Community Assessment

3. Collect and Analyze Data

4. Report Findings and Identify Solutions

5. Evaluate Your Efforts

Additional Resources & Appendices

# Box 1: Sample Timeline for Conducting a Rapid Community Assessment

Preparatory Phase

Prior to starting an RCA, obtain support from the leadership of your health department, coalition, or organization for conducting the assessment and creating a plan for action. Early awareness and support from leadership makes it more likely findings will be put to good use in planning and guiding vaccination efforts.

Week 1: Planning and Buy-In

- Identify main objectives and your community(ies) of focus.
- Identify and form assessment team.
- Review existing data.
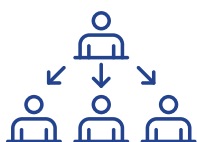
Week 2: Implementation and Analysis

- Use decision tool to identify data collection methods.
- Conduct data collection.
- Synthesize key findings across different tools--identify interventions for prioritization.

Week 3: Report Findings and Plan for Action

- Write report (narrative, one-page summary, slide presentation).
- Share/report out assessment results with the assessment team and wider community (e.g., local elected officials, department of health officials, tribal leaders, local boards of health, healthcare providers, parent/school groups, and other community partners).
- Prioritize solutions and develop implementation plans.
- Evaluate your efforts and plan for future community engagement.

Important note: Due to the COVID-19 pandemic, some assessment activities usually performed in person (e.g., listening sessions) may be adapted to a virtual format. Always follow guidance from state, territorial, tribal, and local health officials on community movement, gatherings, and other precautions when planning the assessment.

Introduction

The success of COVID-19 vaccination in ending the COVID-19 pandemic in the United States depends on high public confidence in COVID-19 vaccines. Public opinion polls have shown that while most Americans have initiated vaccination, some say they would prefer to wait, and say they will not get vaccinated. This guide is designed to help diagnose and solve specific vaccine confidence and demand challenges that face specific communities where there may be lower uptake, including advance planning for populations that are not yet eligible for vaccination.

Demand for COVID-19 vaccines exists on a spectrum, ranging from refusal to passive acceptance to demand. People can move along the spectrum based on information, experiences, barriers, or facilitators they encounter. Reinforcing confidence in COVID-19 vaccines is critical to ensure high vaccine uptake among adults, adolescents, and children. One of the guide's objectives is to move individuals, parents, and caretakers to the right of the demand spectrum (Figure 1).

Figure 1: Spectrum of Vaccine Demand

May have questions, take "wait and see" approach, want more information

Demand

Refusal

Passive Acceptance
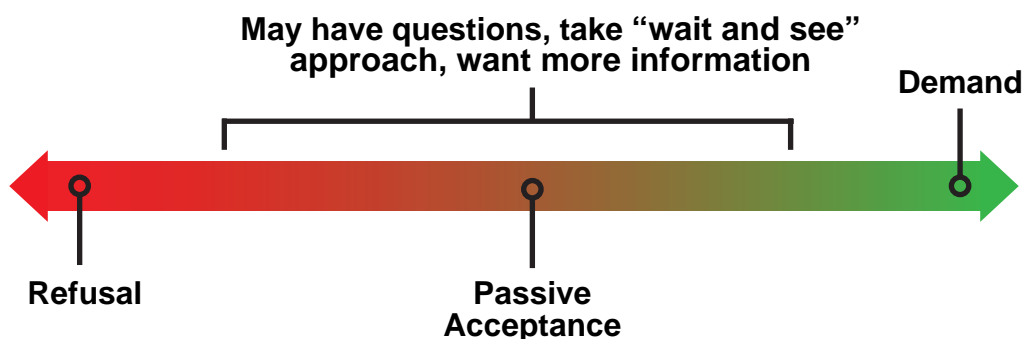
The COVID-19 pandemic has affected not just day-to-day life in communities in the United States, but also how individuals interact with public health systems and receive and interpret health information. Misinformation about COVID-19 vaccines can damage trust in health systems and negatively affect COVID-19 vaccine uptake. These experiences can spark hesitancy and move individuals, parents, and caretakers to the left of the spectrum, where they may delay or decline vaccination.

To build vaccine confidence, you need trust in:

- The vaccines.

- The providers who give the vaccines.

- The system from which the vaccines come (i.e., vaccine development, licensing and authorization, manufacturing, and recommendations for use).
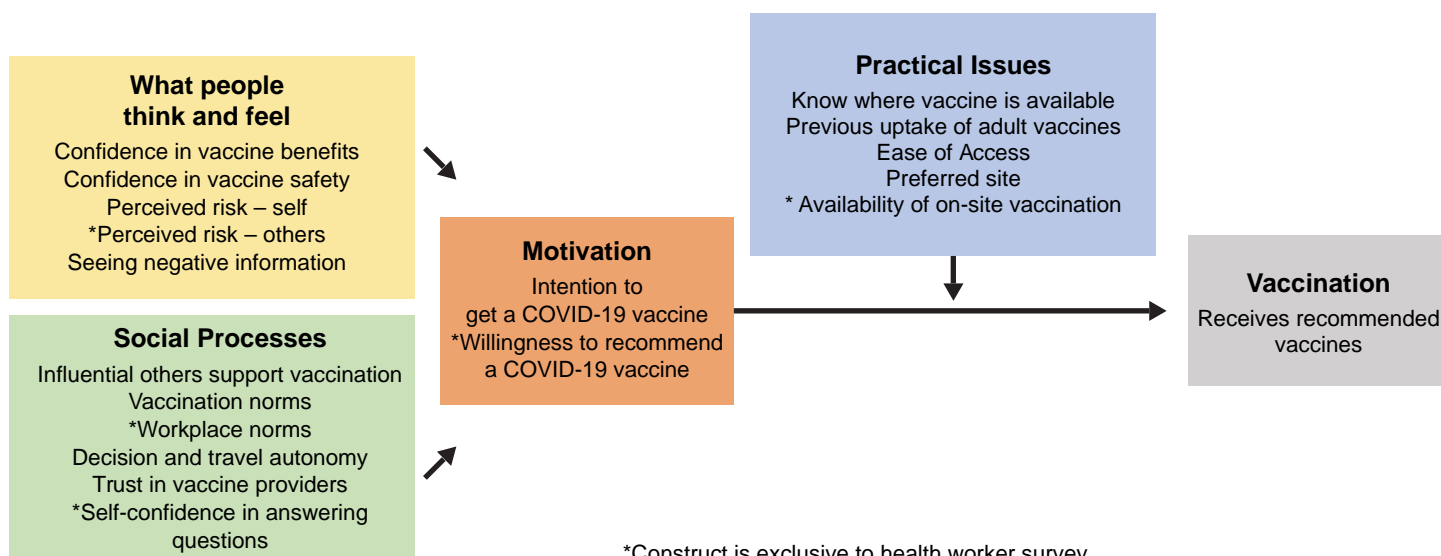
CDC's Vaccinate with Confidence framework for COVID-19 vaccines uses three strategies for building vaccine confidence:

- Building trust through credible, clear communications and addressing mis/disinformation.

- Empowering healthcare personnel to have effective vaccine conversations with parents and patients and strongly recommend COVID-19 vaccines.

- Engaging families, communities, and schools in a sustainable, equitable, and inclusive way, using two-way communication to reinforce trust in health authorities and build confidence in COVID-19 vaccines.

Participatory rapid community assessments can help obtain actionable insights about barriers to vaccine uptake and engage communities in a meaningful way at the same time.

This guide is built on the latest best practices and evidence for understanding and addressing vaccination demand challenges at the community level. It draws from the community-based participatory approach outlined in the World Health Organization's Tailoring Immunization Programmes guide and uses the Behavioral and Social Determinants for Vaccination framework (Figure 2) to frame data collection tools and analysis approaches. However, this guide's rapid COVID-19 vaccine assessment process is designed to be faster, more resource-efficient, used at the local level, and accessible to those with a limited background in RCAs or behavioral research. It is also intended to be heavily customized based on the community of focus and the time and resources available.

Figure 2: Behavioral and Social Determinants of Vaccination Framework

What people think and feel
Confidence in vaccine benefits
Confidence in vaccine safety
Perceived risk – self
*Perceived risk – others
Seeing negative information

Social Processes
Influential others support vaccination
Vaccination norms
*Workplace norms
Decision and travel autonomy
Trust in vaccine providers
*Self-confidence in answering questions

Motivation
Intention to get a COVID-19 vaccine
*Willingness to recommend a COVID-19 vaccine

Practical Issues
Know where vaccine is available
Previous uptake of adult vaccines
Ease of Access
Preferred site
* Availability of on-site vaccination

Vaccination
Receives recommended vaccines

*Construct is exclusive to health worker survey

Step 1
Identify Objectives and Community(ies) of Focus

In this section:

- Identify Your Objectives
- Identify Your Community(ies) of Focus
- Review Existing Data
- Human Subject Considerations

Identify Your Objectives

One of the most important elements of this RCA guide is to identify the primary objectives you wish to achieve by conducting an RCA. Example objectives include:

- Learn more about why a community has had persistently low vaccine uptake even with widespread vaccine availability.

- Learn more about the perceptions of communities you believe may have significant concerns and questions about COVID-19 vaccines.

- Learn about COVID-19 vaccination barriers and facilitators.

- Develop strategies for reinforcing vaccine confidence among communities of focus and addressing barriers preventing individuals or their children from getting vaccinated.

- Understand how misinformation or too much information is influencing vaccine perceptions and how to address this.

- Tailor communication/behavioral strategies for increasing COVID-19 vaccine uptake based on community needs.

It can be helpful to formulate the objective(s) as a question—one that working with the community can help you answer. For example, "Why are we seeing low vaccine uptake among children in rural parts of our county?"

In addition, consider using the COVID-19 Vaccine Learning Template (Appendix A) to help you document what was learned from previous phases of COVID-19 vaccine rollout. These lessons learned can help you to formulate assessment questions and identify potential communities of focus.

Identify Your Community(ies) of Focus

There are several factors to consider when selecting communities of focus in your RCA. You may wish to conduct your assessment in the following types of communities:

- Communities experiencing **low rates of COVID-19 vaccine uptake or vaccine confidence among adults or parents.**

- Communities with historically low routine adult or childhood immunization rates.

- Communities that have experienced **disproportionately high rates of SARS-CoV-2 infection and severe COVID-19 disease or death** (either historically or recently in "hotspots"), including an increase in variants of concern.

- Communities that have **high rates of underlying health conditions** that place them at greater risk for severe COVID-19 disease (e.g., heart disease, lung disease, obesity).

- Communities likely to experience **barriers to accessing adult or pediatric COVID-19 vaccination services**. These could include communities that experienced challenges during earlier phases of vaccine rollout.

- Communities **with low adoption of COVID-19 mitigation measures** (e.g., mask wearing, social distancing).

- Communities that are seeking **alternative types of COVID-19 prevention or treatment** that may lead to adverse health outcomes (e.g., overdoses reported of animal dewormer used as a way to prevent COVID-19 infection).

- Communities with **a history of mistrust** in and/or exploitation by government agencies, health authorities, or the medical establishment.

- Communities that are **not well-known to health authorities** or have not traditionally been the focus of immunization programs (e.g., non-US-born persons, particularly non-U.S.-citizens, migrant and seasonal workers).

Certain populations may have unique considerations for conducting a rapid community assessment. See the addendums Considerations for Tribal Communities and Considerations for Adolescents and Digital Context.

Resources permitting, a jurisdiction may choose to do RCAs of multiple populations, either simultaneously or over time. Other resources are available to help identify communities of focus, such as the American Immunization Registry Association's guide for identifying immunization pockets of need using immunization information systems.

Review Existing Data

Once you have identified your focus community(ies), rapidly review existing data sources to get a picture of your focus community's demographics, health status, and how individuals have been impacted by COVID-19. You may want to check with your state and local health department to see if they have data dashboards with racial and ethnic variables, ZIP code data, etc. Suggested data to review are contained in Box 2.

Box 2: Examples of Existing Data Sources

Disease and vaccination data:

- COVID-19 disease surveillance data (e.g., cases, testing, hospitalization, deaths)

- COVID-19 vaccine uptake data

- Routine immunization data

Demographic data: Used to understand the size, location, socioeconomic status, and composition of the focus community. Examples include:

- Local government data, including school system data

- U.S. Census Quick Facts, available for states, counties, and towns of 5,000 or more (www.census.gov/quickfacts)

- American Community Survey (www.census.gov/programs-surveys/acs/)

Data on race and ethnicity and COVID-19 disease by race and ethnicity

CDC resources:

- CDC COVID Data Tracker

- COVID-NET: A Weekly Summary of U.S. COVID-19 Hospitalization Data

- COVIDView: A Weekly Surveillance Summary of U.S. COVID-19 Activity

- CDC/ATSDR Social Vulnerability Index

Existing health assessment data: Surveys conducted at the local level to assess community needs, health behaviors, healthcare use practices, or health indicators may be useful to anticipate some potential needs of the community(ies) of focus.

- County Health Rankings (www.countyhealthrankings.org/)

- PLACES Project (https://www.cdc.gov/places/about/index.html)

- Community health assessments conducted by local health departments or nonprofit hospitals

- Other local/community surveys

Peer-reviewed literature: Literature reviews can provide useful information on population characteristics, effective assessment, and intervention strategies. Tutorials on how to conduct a literature review using PubMed® can be accessed through the U.S. National Library of Medicine at https://learn.nlm.nih.gov/documentation/training-packets/T0042010P/.

Social listening: Review any published reports, online social media discussions, or local news coverage on the COVID-19 impact in your community of focus to better understand the current climate and sentiments about COVID-19 vaccines.

Human Subject Considerations

Check whether your agency or organization requires Human Subjects or Institutional Review Board (IRB) review for collecting community data. The purpose of an IRB review is to make sure there are no unintended consequences of data collection, all risks to participants are minimized, and all data are kept confidential.

If your organization does require IRB review, consult with the person who coordinates it. This person can determine whether an IRB review is needed or whether your project is exempt from review. Some organizations or agencies may not require IRB review or may have exemptions or emergency processes that allow you to collect data quickly during a situation such as the COVID-19 pandemic.

Plan for the Rapid Community Assessment

In this section:

- Identify Partners
- Obtain Partner Support
- Identify Resources
- Choose Assessment Methods
- Form Your Assessment Team
- Recruit Participants

Identify Partners

As soon as you decide to conduct the assessment, meet with key community partners to introduce the assessment and invite them to participate in the planning and implementation. Partners are people who are invested in the focus community as well as the implementation and/or outcomes of immunization programs. Securing key partners' support will help you to gain community members' trust, paving the way for a successful assessment.

Identifying community partners is an iterative process. Ask everyone you talk with to suggest other people you could contact. You can also do a quick scan of local social media, online sources, and news media to identify partners. Look for information and articles about local politics, local school board members, local nonprofit organizations focused on health or social issues, school health officials, religious leaders, and community health events (Box 3). Look for groups involved in previous COVID-19 mitigation measures and community engagement.

Box 3: Sample Partners to Engage

- Local health coalitions or immunization coalitions
- Public sector (e.g., USDA Cooperative Extension Service, Americorps, Census)
- Unions (e.g., police, fire, transportation, healthcare, teachers)
- State chapters of professional associations
- Faith-based organizations and religious leaders
- Leaders of local health systems, hospitals, and clinics
- Organizations serving populations disproportionately affected by COVID-19 (e.g., people experiencing homelessness, people who use drugs, rural populations, people with disabilities, agricultural and food processing workers)
- Community-based organizations working with immigrants and refugees
- Other organizations with wide community reach (e.g., YMCAs, YWCAs)
- Organizations serving older adults (e.g., Meals on Wheels, older adult centers)
- Citizen advisory groups (city, county)
- Leaders of assisted living communities and long-term care facilities
- Managers of food-processing plants and grocery stores

- Personnel in congregate settings (e.g., jails, prisons)

- School communities (e.g., school administrators, educators, school nurses, PTA, PTO members)

- Youth-focused organizations (e.g., Boys and Girls Clubs, Scouts, youth sports leagues)

- Community media outlets (especially those that serve closed/isolated communities)

- Pharmacists and clinician experts such as infectious disease physicians, pediatricians, or medical providers from a large community practice

Obtain Partner Support

There are several ways to meet with partners, depending on their availability and preferences, as well as your available resources. During the COVID-19 pandemic, in-person meetings may not be advisable. Other options include:

- Individual phone calls

- Group calls or virtual meetings (if appropriate)

- Attending events being held by partners (virtual or in person, observing COVID-19 precautions). For example, a pastor may invite you to speak at a church service

During the call or meeting, cover the following topics:

- Reasons for the assessment (objectives) and who is conducting it

- Assessment timeline

- Ideas for data collection activities

- Community members who might be interested in being part of the assessment team (see section on forming the team below)

- How the assessment data will be used and who will have access to it

- Plans for reporting back to the community

It can be helpful to prepare a short, one-page document in plain language or a brief presentation that summarizes COVID-19 rates, vaccine distribution plans (or rates, if the vaccine has already been distributed), assessment objectives, and contact information for your team. Have the one-page document translated into the language(s) most commonly spoken by community members. You may want to include a member of the community of focus when developing the document to avoid any cultural or language/translation issues. In addition, community partners are an invaluable source of information on the population of interest.

Identify Resources

In addition to human resources, determine what funding is available and/or identify new potential funding sources to ensure the assessment can be carried out (Box 4). Resources may also be needed to report back to the community and then implement interventions, though the type and scope of resources needed will depend on assessment findings.

Box 4: Potential Resources Needed

- Honoraria for community members who participate in the assessment

- Information technology services (e.g., to support virtual meetings)

- Data collection equipment/supplies (e.g., laptops, tablets, software, paper questionnaires)

- Printing (e.g., reports and questionnaires)

- Translation and interpretation services (e.g., for data collection, reports, community forums, focus groups)

- Incentives for survey/focus group participants (e.g., gift cards or retail discount coupons)

- Consultants who may have specialized skill set with data collection methods of choice

- Other miscellaneous expenses

Choose Assessment Methods

There are a number of methods that can be utilized to collect qualitative and quantitative data for an RCA. The table below provides a summary of methods and their objectives.

Table 1: Summary of Data Collection Methodologies

Methods	Objective
Community Interviews	Structured interviews with community members who have deep knowledge or experience about a particular topic, issue, or community.
Listening Sessions	Guided discussions with a small group of participants chosen based on their role or their organization's role in the community. Like community interviews, listening sessions can provide a nuanced understanding of community questions, concerns, and perspectives toward COVID-19 vaccines.
Observations	Attend and observe meetings where the audiences of focus congregate or observe listening sessions facilitated by others. Conduct observations in public places such as a busy downtown area or an outdoor vaccination clinic.
Intercept Interviews	Intercept interviews are informal conversations that include a brief set of open-ended questions. The interviews are conducted by approaching respondents in public places such as parks, farmers markets, street corners, restaurants/bars, or grocery stores.
Surveys	Questionnaires that assess how people think and feel, what social processes affect their lives, what practical obstacles they face, and what their motivation is to get vaccinated.
Social Listening or Social and Traditional Media Monitoring	Social listening refers to the process of collecting data from social and traditional media platforms to track online discussions, trends, and sentiments about a topic. It is useful for understanding the information landscape (including misinformation) and concerns and attitudes of your community of focus. It also can inform digital marketing and communication strategies.

Before you choose the methods to be used for your assessment, determine your organization's capacity. Here are some factors to consider:

- Available budget

- Available time

- Available staff

- Accounting of what tools are already being used (you may wish to choose different tools to avoid duplication of data already collected or available)

- Expected/desired timeline

- Existing partnerships/links to communities

You can conduct different levels of assessment based on capacity and need.

- **Basic Assessment:** Social listening and a few community interviews

- **In-Depth Assessment:** Social listening, community interviews, and listening sessions

- **Comprehensive Assessment:** Social listening, community Interviews, survey, and observation

Form the Assessment Team

The ideal assessment team will include individuals committed to understanding and addressing community needs regarding COVID-19 vaccines and who have varied backgrounds, skills, and experience. Here are some examples of individuals whom you can include:

- Individuals who are members of your communities of focus (speak the same language, as appropriate). If including community members isn't possible, ensure access to interpreters.

- Individuals with strong ties to or knowledge about your communities of focus.

- Individuals with experience collecting the type of data you are interested in collecting (e.g., survey, community interviews).

- Staff from your health department, such as immunization program managers, epidemiologists, health educators, community health workers, public information officers, etc.

In some cases, you may wish to work exclusively with an outside organization to conduct the assessment, such as an academic group or a community-based organization. If you choose this route, we recommend that the health department work closely with the group selected to ensure local perspectives are represented on the assessment team.

Some staff may be able to participate as part of their regular job (e.g., if they work for a community-based organization). However, in other cases, you may need to hire staff temporarily or provide a stipend; if so, be sure to include this cost in your budget. It may not be realistic to expect community members to donate their time, so budget for people's time and labor.

Recruit Participants

Once you have formed your assessment team and obtained partner buy-in, you can begin recruiting participants. Aim to obtain a broad mix of people within those communities so you can hear all perspectives. Include different ages, gender identities, races, ethnicities, primary languages, national origins, education levels, and occupations. If you are focusing on pediatric vaccination, consider parents, guardians, foster parents, grandparents, and others who care for children.

It can be challenging to recruit participants, especially if the community of focus is not well-connected to the health system, has not been previously engaged in community assessment work, or has a fear of working with government officials. Consider using a "snowball sampling" approach for participant recruitment, speaking with a few key leaders/community members and asking them whom else you should contact.

One way to start is to plan a few initial meetings or listening sessions with groups you already have relationships with that are involved in COVID-19 vaccination outreach and/or have strong relationships in your community(ies) of focus. This can include local health or immunization coalitions, COVID-focused taskforces, or networks of community-based organizations. Use the opportunity to learn about their experiences, perspectives, and ideas. Share why you think their participation is worthwhile and ask for their support in identifying key individuals to speak with for the assessment. It may be easier to join existing meetings rather than schedule new ones. During these meetings, ask for names of other people or organizations you can work with. This table provides some examples, along with ways that these organizations can help recruit assessment participants.

Table 2: Example of Organizations to Contact and Recruitment Methods

Organizations	Methods
Professional associations	Email
Trade unions	Text message
Community-based organizations	Social media
Faith-based organizations	Traditional media (newspaper, radio)
Nonprofit organization	Newsletters
Youth-serving organizations	Flyers
School systems and parent-teacher organizations	Mailings
Neighborhood/homeowners associations	
Colleges/universities	
Online communities representing local groups	

Token incentives such as gift cards or retail discount coupons can also increase response and participation rates. For example, respondents could be given the chance to enter a drawing for a gift card or may be given a reimbursement for transportation costs for in-person data collection. Table 2 helps you think through aspects of your community of focus as you consider recruitment methods.

Table 3: Guidance for Recruiting Participants and Related Examples

Where does this community of focus…	Guiding Questions	Recruitment Example
Live	Consider physical location and networks that connect this subpopulation. Where do people spend a lot of time or stay in touch with their neighbors in the time of COVID-19?	If you're looking to recruit from a neighborhood disproportionately affected by COVID-19: • Find out what previous efforts in community mitigation and contact tracing were used to reach this community and use what worked. • Put up flyers on the community bulletin board at the local coffee shop or grocery store. • Ask the local neighborhood association to post about the assessment in its closed social media group.
Work	Consider workplace and professional networks that connect with this subpopulation, including those not formally employed. Where do people earn a living locally? Are there large employers that are more likely to employ your subpopulation?	If you're looking to recruit farm workers in a rural community: • Approach farm companies that are big employers in the area and community organizations that serve undocumented immigrants who work on nearby farms. • Run targeted ads on social media platforms popular with this subpopulation. • Engage through local churches or houses of worship widely attended by people working in farming.
Learn	Consider the education system to either directly identify assessment participants or serve as network connections to participants—from small, private daycare facilities, preschools, elementary school, and high schools to trade schools and universities. Educational institutions usually have deep connections to communities.	If you're trying to recruit college students at a large commuter campus: • Reach out to college administration staff to find out how to best promote to students. • Run an ad or give an interview with a local DJ at the college radio station. • Find out if there is a student public health or community association and contact it to publicize the opportunity to members. • Advertise on social media or dating platforms popular with local college students.

Where does this community of focus...	Guiding Questions	Recruitment Example
Socialize	Consider social groups and interactions that may take place online and offline, including those involving community organizations and worship. How do people socialize or worship in the time of COVID-19? How do they get community services? Are there affinity groups you can contact?	If you're looking to recruit people with disabilities or those who may face access barriers to COVID-19 vaccination in a community: • Find local community or business associations for people with disabilities. These groups might include work-placement organizations, arts and enrichment programs, and mobility/transportation programs. • Ask if you can promote the assessment opportunity in a future email or event.

Step 3
Collect and Analyze Data

In this section:

- Data Collection Tools
- Data Analysis

Once you have gathered your assessment team and identified resources that you have or will need to conduct the RCA, it's time to collect and analyze data.

Data Collection Tools

Several tools and templates have been developed for you to use and build on if you do not have existing data collection tools available. It's likely you will need to tailor the tools for use in your community. Here are some other considerations:

- Translate the data collection tools into the main languages that the community(ies) speak. This is especially important for individuals who have limited English proficiency. An alternative would be to provide access to interpreters.

- Ask a few members of the community to review the instruments to ensure they are culturally appropriate.

- Make sure interviewers, focus group facilitators, and notetakers are fluent in the participants' language(s).

1. Community Interviews (Please see Appendix B)

OBJECTIVE

- Individual structured interviews useful for gathering information about a specific topic or community. Community interviews can provide individual perspective and a nuanced understanding of issues in the community regarding COVID-19 vaccine confidence.

IMPLEMENTATION

Participants

- Individual key members of the community or community-based organization (CBO)'s staff.

Methodology

- A facilitator conducts a semi-structured interview with the participant for approximately 60 minutes in person or virtually. Use the discussion guide to conduct the interview. Use probes as necessary to elicit in-depth information.

- A notetaker is required to take detailed notes on all topics discussed in the interview.

- Consider audio recording the interview with consent from the interviewee.

- More guidance on conducting qualitative assessment and analysis can be found on the CDC website [here](#).

EXPECTED OUTPUTS

- You learn what motivates your interviewee to accept, delay, or refuse COVID-19 vaccines for themselves or their children, what barriers there are to accessing COVID-19 vaccines, and how to address barriers to improve COVID-19 vaccine confidence and uptake.

Listening Sessions (Please see [Appendix B](#))

OBJECTIVE

- Guided discussions with a small group of participants chosen based on their role or their organization's role in the community. Like community interviews, listening sessions can provide a nuanced understanding of community questions, concerns, and perspectives toward COVID-19 vaccines.

IMPLEMENTATION

Participants

- Five to 10 members of the community(ies)of focus, staff from CBOs, or other key individuals/ knowledge holders who represent your community(ies) of focus.

Methodology

- A facilitator conducts the listening session for approximately 60 minutes in person or virtually.

- Use the discussion guide to conduct the interview. Use probes as necessary to elicit in-depth information.

- A notetaker is required to take detailed notes of all topics discussed in the listening session.

- Consider audio recording the interview with consent from all interviewees.

- Listening sessions may be better suited for the fluid and urgent nature of the COVID-19 pandemic than traditional focus groups, in which participants are typically selected to meet specific inclusion criteria. Participants in listening sessions may come from preexisting groups and do not typically need to meet specific inclusion criteria.

EXPECTED OUTPUTS

- You learn what motivates your participants to accept, delay, or refuse COVID-19 vaccines for themselves or their children, what barriers exist to accessing COVID-19 vaccines, and how to address barriers to improve COVID-19 vaccine confidence and uptake.

Observations (Please see [Appendix C](#))

OBJECTIVE

- Attend and observe meetings or events where the audiences of focus congregate.

IMPLEMENTATION

Participants

- Community residents, staff from CBOs, or other key individuals/knowledge holders who represent your community(ies) of focus.

Methodology

- Find out what community meetings or events are happening in your jurisdiction by asking partners and reviewing websites, message boards, and other online sources. These could include mass vaccination events, county fairs, barbeques, farmer's markets, health fairs, etc.

- If needed, seek permission to attend and observe.

- Take notes on what you hear and see.

EXPECTED OUTPUTS

- You learn about the type of people who live in your community(ies) of focus and how different types of events are carried out.

Intercept Interviews (Please see [Appendix D](#))

OBJECTIVE

- Gather feedback from community members in public places.

IMPLEMENTATION

Participants

- Community residents

Methodology

- Approach respondents in public places such as parks, farmers markets, street corners, restaurants/bars, or grocery stores.

- Ask a brief set of open-ended questions during informal conversations.

EXPECTED OUTPUTS

- You have clearer view of perspectives regarding COVID-19 vaccination.

Surveys (Please see Appendix E)

OBJECTIVE

- Questionnaires that assess how people think and feel, what social processes affect their lives, what practical obstacles they face, and what their motivation is to get vaccinated.

IMPLEMENTATION

Participants

- Community residents, parents, staff from health departments or CBOs, or other key individuals/knowledge holders who represent your community(ies) of focus.

Methodology

- Questionnaires can be administered in person, over the phone, or via survey platforms (e.g., SurveyMonkey).

- When choosing a platform, consider how your community(ies) of focus prefer to provide information, whether they have easy access to phones or computers, and what their level of literacy is.

- If your community(ies) of focus lack connection to virtual platforms, you may consider in-person data collection done safely and in accordance with COVID-19 mitigation guidelines.

- It is particularly important to pilot test self-administered surveys (e.g., online or paper) to ensure the audience of interest can easily understand the content.

EXPECTED OUTPUTS

- You can quantify barriers to and facilitators of COVID-19 vaccine confidence and uptake within and between your community(ies) of focus.

Social Listening or Social and Traditional Media Monitoring (Please see Appendix F)

OBJECTIVE

- Social listening refers to the process of collecting data from social and traditional media platforms to track online discussions, trends, and sentiments about a topic. It is useful for understanding the information landscape (including misinformation) and concerns and attitudes of your community of focus. It also can inform digital marketing and communication strategies.

IMPLEMENTATION

Participants

- Community(ies) of focus at large, social media or community influencers, and members of the media.

Methodology

- Identify any existing monitoring tools your organization may already be using.

- In addition to existing tools, sign up for other relevant tools (free or paid) to set up a social and traditional media monitoring system.

- Check your monitoring tools regularly and record observations.

EXPECTED OUTPUTS

- You learn what questions and concerns your community(ies) of focus have about COVID-19 vaccines.

- You track trends across and within social networks to learn how information travels, what topics are trending at particular time points, and how these trends change over time.

Data Analysis

As noted in the table, data analysis differs based on the methods used to conduct this RCA. You do not need advanced software to use the tools in this guide. You can use note taking template tools to summarize key points for data collected. It is important to disaggregate the data by different population subgroups (e.g., race/ethnicity, language, gender identity).

Qualitative Data Analysis

- Review and synthesize information from the notes. If available and time allows, also listen to audio recordings.

- Work with other members of the assessment team to identify major themes that emerged from the various discussions and interviews.

- Identify key findings for reach of the different populations of focus, looking across all of the different data collection activities.

Survey Data Analysis

- Use a data tool to help you tabulate answers from the survey. Data analysis tools can range from simple (e.g., Excel) to more complex (e.g., SAS, SPSS, STATA).

- A survey will help to quantify vaccine-related issues and help with understanding the magnitude of the facilitators and barriers.

- You can review numerical trends—percentages, average (mean) or medians—in one community or across multiple communities and at one point in time or over time with repeated measurements.

- More information on different quantitative analytic methods can be found on the Better Evaluation website.

Once you analyze data from the different assessment methods, look across the information to make sure findings are consistent and develop a comprehensive picture of the main issues affecting vaccine acceptance and access. The Insights Synthesis Tool in Appendix G can help to structure, visualize, and compare all the findings from your assessment in a systematic manner.

The tool consists of four columns to summarize data analysis for each population of focus.

1. Summary of key findings

2. Summary of barriers to vaccination

3. Summary of facilitators to vaccination

4. Summary of proposed solutions

Table 4: Example of How to Use the Tools

Situation Description	Selected Tools	Key Data Points
You are trying to understand an immigrant or migrant worker community in a rural area. Many of these community members are working in a nearby large-scale farming or meatpacking business. Data show high hesitancy to receive COVID-19 vaccines in these populations compared to other populations.	COVID-19 Vaccine Rollout Learning Template Community interviews Social listening	Communication materials have been requested in Tagalog, Spanish, and Arabic for vaccine FAQs to match languages of healthcare personnel with limited English literacy, and a local nonprofit health organization, the Open Arms Support Clinic, specifically caters to immigrant and migrant populations and has previously hosted an information session with the health department. Conducted interview with Open Arms outreach coordinator, who suggested you speak to a local imam and to the local Spanish-language radio station DJ for further insights. Followed social media conversations in Spanish in local community groups open to the public on Twitter and Facebook. This included monitoring posts with the most engagement and discussion on COVID-19, vaccines, and circulating misinformation.

Key Findings from Insights Synthesis

COVID-19 vaccine uptake was high among doctors and nurses, food services, and custodial staff. However, many for whom English is a second language had concerns and wanted content in other languages and a Q&A session with an interpreter present. After an information session was held and materials provided in multiple languages, vaccination coverage increased, but staff reported that they are getting questions from family and friends about vaccination.

- **Barriers:** Language and one-way communication

- **Facilitators:** Information sessions with Q&A and translated content

Open Arms is a trusted resource for immigrant and migrant communities and is well-connected to many community organizations. There are many challenges facing this community.

- **Barriers:** Low socioeconomic status, lack of health insurance, language and social acceptance in larger community

- **Facilitators:** Strong community partnerships, faith groups

Misinformation around purity and safety of COVID-19 vaccines is circulating.

- **Barriers:** Religious concerns noted for Muslim community; questions aren't adequately answered or addressed.

- **Enabler:** One local respected pediatrician is an influential voice in addressing misinformation online in Spanish.

Solutions:

- Identify champions who got vaccinated to share their stories in the workplace and online about why they got vaccinated.

- Use peer-to-peer educator approach in workplaces and in the community and online spaces to translate, share information, and address questions across the three largest migrant communities.

- Work with influential pediatrician and radio stations to offer regular, live streamed "office hours" when viewers and listeners can have their questions answered and updated information shared.

- Invite community representatives to join a county vaccine confidence task force to help develop appropriate community engagement strategies.

-

Step 4
Report Findings and Identify Solutions

After you have collected and analyzed data, you need to report your findings back to your community(ies) of focus and identified partners. Discuss and prioritize solutions. This is the most important step in an RCA because the goal of this process is to engage and build relationships.

These discussions can happen at multiple stages in this process. For example, you can report back on the initial assessment, and then continue to report back as interventions are implemented. It is important to collect contact information for partners who may be interested in the outcomes, so that you can share findings with them.

Report Findings

The first step is to create a report that is user-friendly for the community. Consider both the format and the literacy level. For example, a PowerPoint presentation format may be developed more quickly focusing on larger themes and shared more easily than an in-depth report (see presentation template in Appendix I). When reporting findings, be careful not to include any names or descriptors that could identify who said what, especially in small communities. Use general descriptors to attribute verbatim quotes, such as "pediatrician, private practice" or "elementary school parent."

Table 5: Suggestions for Reporting Assessment Findings

Examples of Sections in Your Report	Examples of Report Format
• Background, including why the community was selected for assessment • Key objectives of the RCA • Summarized methodology • Summarized key findings (and disaggregated by relevant subgroups (e.g., race/ethnicity, language, gender identity, etc.) • Recommended solutions • Next steps	• PowerPoint presentation • One-page results summary • Longer narrative report • Visualization of key data • Video

Identify Solutions

Once there is consensus on the key barriers affecting COVID-19 vaccine confidence and uptake in particular communities, identify appropriate solutions.

Effective solutions will:

1. Increase trust in COVID-19 vaccines, vaccinators and/or the healthcare system.

2. Establish or solidify getting vaccinated as a social norm.

3. Motivate or encourage people to get the vaccine.

4. Improve physical access to the vaccine.

Strategic thinking on the following questions can help to identify solutions:

1. What are the main barriers affecting your community(ies) of focus's willingness or ability to be vaccinated?

2. What, if anything, is already being done to address barriers to COVID-19 vaccine confidence and uptake? How effective are these efforts, and where is there room to improve?

3. Which issues can be more easily addressed than others?

Other factors to consider when considering solutions to implement and evaluate:

1. Importance/expected impact

2. Feasibility

3. Scalability

4. Sustainability

Strategies for building COVID-19 vaccine demand include making vaccines:

1. **Accessible:** Easy to get

2. **Beneficial:** Health benefits outweigh risk of getting COVID-19 or perceived or real side effects from vaccination

3. **Convenient:** Reduce out of pocket, social, and opportunity costs

4. **Desirable:** Appealing

5. **Normative:** Presented as a social default

6. **Necessary:** Indispensable for accessing things they want to get back to doing

Appendix H provides a list of solutions/interventions to address the specific issues identified by the RCA. This list is based on scientific review of recent literature.

Please note this list is a starting point in thinking about solutions for greater uptake of COVID-19 vaccine. You can also consider approaches such as motivational interviewing, peer-to-peer engagement, or education through entertainment, storytelling, and other narrative methods that may not be well-reflected in current literature or evidence-based approaches but may be identified by your communities of focus as a potential new way to increase vaccine confidence and uptake. See CDC's COVID-19 Vaccination Field Guide for a description of twelve evidence-based approaches to consider.

It is critical to identify solutions in consultation with the communities you are working with, and you can build on solutions that have previously worked for them. Any solutions that you identify should be possible to implement within given resources, scalable to ensure most people in the community are reached through them, and sustainable in the vaccine rollout period. Selecting solutions will also depend on other factors, such as funding, human resources, and time.

Step 5
Evaluate Your Efforts

Post-RCA

After you have concluded your RCA, revisit your objectives to determine if you have enough information about community(ies) of focus in your jurisdiction to make actionable recommendations to increase confidence in and uptake of COVID-19 vaccines.

Some questions that can help you evaluate your efforts:

- To what extent have you achieved your primary objective(s)?

- Do you have enough data to understand barriers and facilitators to vaccine demand?

- What questions remain unanswered? Which population groups do you still need more information about?

- How well-equipped are you to address your communities' needs related to COVID-19 vaccines?

- How well prepared do you feel for the next stage of COVID-19 vaccine implementation?

After evaluating your efforts and consulting with partners, including members of your community(ies) of focus, you can decide whether you need to conduct additional RCAs in targeted areas. We also recommend checking back with your community(ies) of focus to understand whether challenges may have changed.

Additional Resources

Community Needs Assessment (general):

- https://www.cdc.gov/globalhealth/healthprotection/fetp/training_modules/15/community-needs_pw_final_9252013.pdf

Human Subject Considerations:

- https://healthpolicy.ucla.edu/programs/health-data/trainings/Documents/tw_cba28.pdf

Data Collection and Analysis:

- Evaluating Programs (University of Wisconsin Extension Program): https://fyi.extension.wisc.edu/programdevelopment/evaluating-programs/

- Sampling (University of Wisconsin Extension Program): https://cdn.shopify.com/s/files/1/0145/8808/4272/files/G3658-03.pdf

- How to write an interview guide: https://sociology.fas.harvard.edu/files/sociology/files/interview_strategies.pdf

- How to facilitate a focus group: https://www.uml.edu/docs/FG%20Tips%20sheet_RK_tcm18-167588.pdf

- Community Interviews: https://healthpolicy.ucla.edu/programs/health-data/trainings/Documents/tw_cba23.pdf

- Qualitative Data Analysis (Thematic Coding): https://www.betterevaluation.org/evaluation-options/thematiccoding

- University of Kansas, Center for Community Health and Development- Community Tool Box with guidance on listening session: Chapter 3. Assessing Community Needs and Resources | Section 3. Conducting Public Forums and Listening Sessions | Main Section | Community Tool Box (ku.edu)

References

- American Immunization Registry Association. Identifying Immunization Pockets of Need.

- First Draft. Newsgathering and Monitoring on the Social Web. Published online October 2019. Accessed December 14, 2020.

- Gastanaduy PA, Budd J, Fisher N, et al. A Measles Outbreak in an Underimmunized Amish Community in Ohio. *N Engl J Med* 2016; 375:1343-54.

- Hall V, Banerjee E, Kenyon C, et al. Measles Outbreak--Minnesota April-May 2017. *MMWR Morb Mortal Wkly Rep* 2017; 66:713-7.

- Hill HA, Singleton JA, Yankey D, Elam-Evans LD, Pingali SC, Kang Y. Vaccination Coverage by Age 24 Months Among Children Born in 2015 and 2016 - National Immunization Survey-Child, United States, 2016-2018. *MMWR Morb Mortal Wkly Rep* 2019; 68:913-8.

- Lathrop B, Kasambira-Emerson MMR, Squires V, Santibañez S. "Empowering Communities that Experience Margin-alization through Narrative" in The Value of Stories: Narrative Ethics in Public Health. (In Press).

- Patel M, Lee AD, Clemmons NS, et al. National Update on Measles Cases and Outbreaks--United States, January 1-October 1, 2019. *MMWR Morb Mortal Wkly Rep* 2019; 68:893-6.

- Robinson CL, Bernstein H, Romero JR, Szilagyi P. Advisory Committee on Immunization Practices Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger--United States, 2019. *MMWR Morb Mortal Wkly Rep* 2019; 68:112-4.

- Seither R, Loretan C, Driver K, Mellerson JL, Knighton CL, Black CL. Vaccination Coverage with Selected Vaccines and Exemption Rates Among Children in Kindergarten--United States, 2018-19 School Year. *MMWR Morb Mortal Wkly Rep* 2019; 68:905-12.

- Smith R, Cubbon S, Wardle C. *Under the Surface: Covid-19 Vaccine Narratives, Misinformation & Data Deficits on Social Media*. First Draft; 2020:96.

- Whitney CG, Zhou F, Singleton J, Schuchat A, Centers for Disease Control and Prevention. Benefits from immuniza-tion during the vaccines for children program era--United States, 1994-2013. *MMWR Morb Mortal Wkly Rep* 2014; 63:352-5.

- World Health Organization. Tailoring Immunization Programmes. https://apps.who.int/iris/bitstream/handle/10665/329448/9789289054492-eng.pdf, 2019.

- UNICEF. Vaccine Misinformation Management Field Guide. 2020

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Appendix A:
COVID-19 Vaccine Rollout Learning Template

COVID-19 Vaccine Rollout Learning Template

Use these tables to summarize what worked and what did not work during previous phases of COVID-19 vaccine rollout.

Rollout Successes: What Worked

Main Population	Sub-Population	Rollout Successes: What worked?	Why did it work?	Issues to explore during the RCA
e.g., Healthcare workers	e.g., Nurses in major hospital			

Rollout Challenges: What Didn't Work

Main Population	Sub-Population	Rollout Challenge	Solutions Tried	Level of Success 0= not successful 1= somewhat successful 2= successful	Potential Solutions: Identified but Not Tried	Issues to explore during the RCA
e.g., Healthcare workers	e.g., Nurses in major hospital					

Appendix B:
Implementation Guide for Community Interviews and Listening Sessions

Implementation Guide for Community Interviews and Listening Sessions

Use the guide below to plan and implement community interviews and/or listening sessions with key individuals or small groups from the community that can provide information on community perceptions and experiences related to COVID-19 vaccination.

The guide includes:

- A script for opening a community interview/listening session,

- Sample informed consent, and

- Core questions you can use as a discussion guide.

The sessions should generally last about 60 minutes. A notetaker should accompany the facilitator to take detailed notes even if the session is recorded. You may also want to consider having a certified interpreter present in case the facilitator is not able to communicate in the language of limited English proficient populations. **You should adapt this guide—including the script, informed consent, and core discussion questions—based on the community context.**

Planning a Community Interview/Listening Session

1. **Organize an internal meeting to discuss ideas for a community interview/listening session.**

- Identify potential partners, organizations, and individuals to participate in the session. Get contact information through relevant in-person connections or research organizations in the local community or on the internet.

- Identify and list key questions to discuss. Note any potential dates to propose to potential participants.

- Identify community interview/listening session facilitators and notetakers from within your organization.

2. **Contact community-based staff, organizations, and/or key figures to schedule the community interview/ listening session.**

- Identify and secure interpreter(s) if participants will have limited English proficiency and if facilitators aren't able to speak the participants' language(s).

- Contact organizations via telephone or email, as appropriate. Introduce yourself and explain the assessment goals and objectives.

- Explain to the participants how the information they provide will be useful for the assessment and the expected outcome of this interview/listening session.

- Propose potential dates and meeting mode (e.g., teleconference service).

- Ask for the participant's preference for participation (call/online session).

- Confirm dates and follow up prior to the session as a friendly reminder.

3. Conduct the community interview/listening session as follows:

- Get consent for participation and recording if applicable.

- Make sure to reserve the first few minutes for an introduction and explain the objective(s) of the session to the participant(s).

- Take copious notes on the key themes/ideas presented in each session.

4. After the listening session:

- Send a thank-you note to the organizer/trusted community member and participant(s), if applicable.

- Review and discuss the feedback/notes/translation among facilitators and notetakers.

- Summarize key themes/findings and next steps for each session.

Sample Community Interview/Listening Session Guide

Zoom meeting/call: [Enter date]

Agenda

- Welcome and introductions
- Informed consent
- Brief situational update
- Main discussion
- Closing remarks and thank you

Sample Script for Opening a Community Interview/Listening Session

Welcome and Introductions

Hello, my name is _____, and I would like to thank you for joining us today for this interview/listening session on COVID-19 vaccine attitudes and perceptions. Please take a moment to briefly tell us your name and the organization you represent. After introductions, I will turn things over to [FACILITATOR'S NAME] for a brief situational update.

(Introductions around the phone.) Thank you to everyone. We are so glad to have you here today.

We are also pleased to be joined today by [FACILITATOR'S NAME].

- Provide brief bio of local health department facilitator.
- EXAMPLE: Expand on the facilitator's role in the health department and the work they do.

Before we begin with this discussion, we would like to go over a few details.

Informed Consent

Your participation in this interview/listening session is voluntary. We would like to hear your honest opinions about the topics we discuss. Your responses will be written anonymously and reported in aggregate. There are no right or wrong answers to any of our questions. We encourage you to speak openly and honestly about your opinions and experiences. If you don't want to respond to a question, you don't have to. If a question doesn't make sense, stop me so I can clarify. Our discussion should take about 60 minutes.

[IF PLANNING TO RECORD SESSION] In addition to taking notes, would it be okay if we make an audio recording of our discussion? The recording will help us to summarize today's discussion. Just like the notes, any data from the recordings will be anonymous.

Brief Situational Update (by the facilitator)

Provide a brief situational update for the community interview/listening session. An example is found below, but adapt it to the current circumstances surrounding COVID-19 in the community/phase of vaccine rollout.

• Thank you all for being here today. As you all are aware, the COVID-19 vaccine is widely available now across the country. You/your organization are/is an important part of this community, and you may offer insights on what your community is thinking and experiencing related to COVID-19 vaccination. It is important for us as the local health department to understand the different issues that may affect whether people in the community get vaccinated or not, and what we can do to ensure everyone accepts and has access to the vaccine.

• With that, I would like to turn this all back to you and give each of you a chance to share your thoughts and insights with us. We have prepared several questions in advance, so I would like to share a few of them and allow each of you to respond. However, we are also happy to "go off script," so to speak, as needed, if other issues emerge.

Main Discussion: Use the questions below to facilitate the main discussion. Adapt questions and add more probes as needed to elicit detailed information.

A. General Introduction

1. To start, it would be helpful to understand how COVID-19 has affected your community through the course of this pandemic. How do you think COVID-19 has affected your community?

B. COVID-19 Vaccine Attitudes in the Community

2. What do people in your community think about the COVID-19 vaccine?

   » What do you think about the vaccine yourself? What do parents in your community think about the COVID-19 vaccine?

3. Which groups of adults or children tend to not be vaccinated?

C. Barriers and Facilitators of COVID-19 Vaccination in the Community

4. What are the main reasons people in your community would want to get the vaccine?

   » What are the main reasons parents in your community would want to get their children vaccinated?

   » Probe on vaccine availability, free transportation, educational campaigns, etc.

5. What are some of the things that make it easier for people in your community to get the vaccine?

   » What makes it easier for parents to get their children vaccinated?

6. What are some things that make it harder for people or parents in your community to get the vaccine?

   » Probe on vaccine access, lack of paid time off work, misinformation, attitudes toward vaccines, fear of side effects, trust in medical system/healthcare workers, fear of needing to show identification, etc.

7. There's a lot of misinformation about the vaccine circulating on social media and in the news. What have you heard about the COVID-19 vaccine from sources you trust?

    »   What have you heard about vaccination for children?

    »   What are the sources you trust?

D. Strategies to Improve Vaccine Confidence in the Community

8. How do you think that community organizations, schools, and faith-based organizations can build vaccine confidence and make vaccines more accessible?

9. How do you think the state or local health department is doing at building vaccine confidence and making COVID-19 vaccines accessible?

    »   Probe on messaging content (making sure it is culturally and linguistically appropriate), information sources, managing misinformation, other communication materials, access to vaccination provider sites (including having medical interpretation services available), any virtual events, or campaigns.

Closing Remarks and Thank You

End of discussion. Thank the participants for their time and ask them if they have any questions. Provide brief information about how findings from this session will be shared with the participants.

Notetaking Template for Community Interviews and/or Listening Sessions

Use and adapt this template as needed, but make sure the areas below are covered in addition to any other issues the discussion may have generated.

Community Interview/Listening Session Title or Number:

Community Interview/Listening Session Date and Time:

Community Interview/Listening Session Participant(s) (do not use personal names):

FOR LISTENING SESSION ONLY

- Number of groups/organizations on this call: _____
- Number of individuals in this listening session: _____

Notes to Be Taken During a Specific Community Interview/Listening Session

Questions	Summary of key issues, important points, discussed action items, other interesting points
1. What effect has COVID-19 had on this community?	
2. What are participants' thoughts about COVID-19 vaccination?	
3. Who tends not to be vaccinated?	
4. What makes it easier for people to get vaccinated?	
5. What makes it harder for people to get vaccinated?	
6. What types of misinformation are circulating?	
7. Who are trusted messengers in this community?	
8. What role can the health department, community-based organization, or other organization play to make sure everyone gets the vaccine?	

Synopsis of Above Discussions Based on Debriefing After a Specific Community Interview/Listening Session

Questions	Summary of key issues, important points, discussed action items, other interesting points
1. What are some summarized key themes from this community Interview/listening session?	
2.	

Appendix C:
Observation

This form can be used to record observations for any meetings or gatherings where the audiences of focus congregate or for listening sessions facilitated by others. Note: Tailor these questions and probes as needed for your specific community circumstances.

Observations may provide you with the opportunity to do intercept interviews in some settings. For more information about Intercept Interviews, see section following Observation Questions.

Event name (if applicable): _____

Date: _____

Hosting organization (if applicable): _____

Location: _____

Observer: _____

Observation Questions

1. How many people/participants were there?

2. How would you describe the people/participants?

3. What was the atmosphere of the event/location?

4. What was the tone of the discussion?

5. What did you observe about COVID-19 vaccination services or vaccine education being offered?

6. What did you notice about interactions between the community and public health staff or healthcare providers?

7. What types of information were being shared about COVID-19 vaccines, if any? Who was sharing it?

8. Did you hear any misinformation about COVID-19 vaccines? What did you hear?

Appendix D:
Intercept Interviews

An intercept interview is a qualitative research method used to gather feedback from a community of focus in a central location. The interview is conducted by approaching respondents in public places such as parks, farmers markets, street corners, restaurants/bars, or grocery stores. An intercept interview is an informal conversation that includes a brief set of open-ended questions. Once feedback is received from the respondent, a clearer view of each of their perspectives are captured regarding COVID-19 vaccination.

7 Tips for Conducting Intercept Interviews

- Intercept interviews should be kept brief; no more than 5 minutes.

- Look for people who may offer **a unique perspective** on community life, such as a pawn shop owner, gas station attendant, local artist, or community garden manager.

- If your assessment is focused on pediatric vaccines, seek out parents.

- If your assessment is focused on adolescent vaccination, you could also speak with teens as they are often involved in vaccine decision-making along with their parents. Remember to get permission before speaking with minors.

- Always identify yourself, state your purpose for approaching the respondent, and provide the purpose of the intercept interview.

- First impressions matter. **Consider who may be best placed to strike up a chat in your group.** It may be most appropriate for a community health worker or someone from the community to start the conversation.

- Your entry conversation may not be vaccine related. Start with any relevant topic and be engaged, then transition to, "We're here working with [NAME OF ORGANIZATION] to understand what's happening here in the community about COVID-19 vaccinations. Do you mind if I ask you a few questions?"

- Assume that a lot of your interactions will be standing, and so where possible, carry a small notebook or handheld device for note taking during or **immediately afterward**.

- Sometimes it is helpful to have fewer members of the interview team standing around, so the conversation doesn't feel intimidating. **Step back** or leave if someone else does not need additional support.

- Understand that intercept interviews are to be used as "pulse checks" on community perceptions and are not meant to be comprehensive or representative of the entire population – convenience samples are fine.

Sample Intercept Interview

Hi, my name is _____. I am with the local health department. We are talking to people in [NAME OF CITY] about COVID-19 vaccinations. Do you have a few minutes to chat with me? I don't need your name or any personal information.

- What have you heard about vaccines?

- Have you gotten a vaccination yourself? If yes, what motivated you to get vaccinated? If no, what is keeping you from getting vaccinated?

- If you have children, do you plan to get them vaccinated? Why or why not?

- Do you have any suggestions for the health department about how to encourage more people to get a COVID-19 vaccine?

-

Appendix E:
Surveys

Surveys

This document contains CDC's recommended survey items on COVID-19 vaccine confidence and uptake. Select questions relevant to your population or study design. There are three sets of tables: adult-focused, parent/caretaker-focused, and healthcare worker-focused.

Adult-Focused Questions

Domain: Thinking and Feeling

Construct	Question	Response Scale
Perceived susceptibility	How concerned are you about getting COVID-19?	• Not at all concerned • A little concerned • Somewhat concerned • Very concerned
Confidence in vaccine effectiveness	How important do you think getting a COVID-19 vaccine is to protect yourself against COVID-19?	• Not at all important • A little important • Somewhat important • Very important
Confidence in vaccine safety	How safe do you think a COVID-19 vaccine is for you?	• Not at all safe • Somewhat safe • Very safe • Completely safe
Had COVID-19	To your knowledge, have you ever had COVID-19?	• Yes • No • Not sure
Anticipated regret	How much do you agree with the following statement? *If no vaccine doses received* If I do not get a COVID-19 vaccine, I will regret it. *If any vaccine doses received* If I had not gotten a COVID-19 vaccine, I would have regretted it.	• Do not agree • Somewhat agree • Strongly agree • Very strongly agree

Construct	Question	Response Scale
Perceived vaccine benefits	[Do / Did] you feel the need to get a COVID-19 vaccine so that you [can / could] do the following? *Select all that apply.*	• Socialize with family • Socialize with friends • Attend mass public gatherings (such as sporting events or music festivals) • Travel by plane • Attend religious services • Go to a healthcare facility • Receive medical care • Go to work or school • Not wear a mask • None of the above
Trust	How much do you trust the healthcare providers who gave you a COVID-19 vaccine?	• Do not trust • Somewhat trust • Mostly trust • Fully trust
Trust	How much do you trust the public health agencies that recommend COVID-19 vaccines?	• Do not trust • Somewhat trust • Mostly trust • Fully trust

Domain: Social Processes

Construct	Question	Response Scale
Social norms	If you had to guess, about how many of your family and friends have received a COVID-19 vaccine?	• None • Some • Many • Almost all
Provider recommendation	Has a doctor, nurse, or other health professional ever recommended that you get a COVID-19 vaccine?	• Yes • No • Not sure
Exposure to misinformation	In the last month, have you seen or heard any negative information about the safety or effectiveness of COVID-19 vaccines?	• Yes • No • Not sure

Construct	Question	Response Scale
Vaccine information	In the past month, how often have you tried to find information about COVID-19 vaccines?	• Never • Rarely • Sometimes • Often • Not sure
Social pressure	[Do / Did] you feel any of the following tried to influence you to get a COVID-19 vaccine?	• Family • Friends • Your employer • Coworkers • Schools • Businesses you go to (such as restaurants or grocery stores) • Celebrities or influencers • Religious leaders • Doctors or other healthcare providers • Government officials • None of these
Social pressure	[Do / Did] you feel any of the following tried to influence you to AVOID getting a COVID-19 vaccine?	• Family • Friends • Your employer • Coworkers • Schools • Businesses you go to (such as restaurants or grocery stores) • Celebrities or influencers • Religious leaders • Doctors or other healthcare providers • Government officials • None of these
Social responsibility	How much do you agree with the following statement? I have a responsibility to get vaccinated for COVID-19 to protect others.	• Do not agree • Somewhat agree • Strongly agree • Very strongly agree

Domain: Practical Issues

Construct	Question	Response Scale
Perceived access	How difficult [would it be for you / was it for you] to get a COVID-19 vaccine?	• Not at all difficult • A little difficult • Somewhat difficult • Very difficult
Incentives	Have you heard of cash prizes or other rewards being offered in your area to people who get a COVID-19 vaccine?	• Yes • No • Not sure
Requirements	Does your work or school require you to get a COVID-19 vaccine?	• Yes • No • Unemployed/Not applicable (Not in school, home schooled) • Not sure
Self-efficacy	How much do you agree with the following statement: I can get a COVID-19 vaccine if I want to.	• Do not agree • Somewhat agree • Strongly agree • Very strongly agree
Perceived barriers	Many things might make it difficult to get a COVID-19 vaccine. Which of the things in this list [made]/[makes] it difficult for you?	• Getting an appointment online • Not knowing where to get vaccinated • Hard to get to vaccination sites • Vaccination sites aren't open at convenient times • None of these
Incentives	Have you been / Were you] offered cash prizes or other rewards [to get a / before you got your first] COVID-19 vaccine?	• Yes • No • Not sure
Incentives	How does offering cash prizes or other rewards to get a COVID-19 vaccine affect your trust in the vaccine?	• Decreases my trust • Has no influence on my trust • Increases my trust

Domain: COVID-19 Vaccination

Construct	Question	Response Scale
Behavior	Have you received at least one dose of a COVID-19 vaccine?	• Yes • No • Not sure
Behavior	How many doses of a COVID-19 vaccine have you received?	• One • Two • More than two • Not sure
Brand	Which brand of COVID-19 vaccine did you receive?	• Pfizer-BioNTech • Moderna • Johnson & Johnson/ Janssen • Other • Not sure
Intentions	*If no vaccine doses received* How likely are you to get a COVID-19 vaccine?	• Definitely get a vaccine • Probably get a vaccine • Not sure • Probably not get a vaccine • Definitely not get a vaccine
Other vaccinations	Other vaccinations	• Yes • No • Not sure
Behavior	During what month and year did you receive your first COVID-19 vaccine?	• Month/Year • Not sure

Domain: Demographic

Construct	Question	Response Scale
Age	What is your current age?	• [Numeric entry]
Age	What is the age of your child?	• [Numeric entry]
Gender	What is your gender?	• Male • Female • Non-binary • Something else
Transgender identity	Do you consider yourself transgender?	• Yes • No
Sexual orientation	What best describes your sexual orientation?	• Heterosexual/straight • Lesbian or gay • Bisexual • Something else
Pregnancy/lactation	Are you currently trying to get pregnant, pregnant, or breastfeeding?	• Trying to get pregnant • Pregnant • Breastfeeding • None of the above
Hispanic ethnicity	Are you of Hispanic or Latino origin?	• Yes • No
Race	Please choose one or more of the following categories to describe your race.	• White • Black or African American • American Indian • Alaska Native • Native Hawaiian • Pacific Islander • Something else _____
ZIP code	What is your ZIP code?	• [Text entry]
Household size	Including the adults and all the children, how many people live in your household?	• [Numeric entry]

Construct	Question	Response Scale
Nativity	Were you born in the United States?	• Yes • No
Education	What is the highest grade or year of school you have completed?	• 8th grade or less • 9th-12th grade, no diploma • High school graduate or GED completed • Completed a vocational, trade, or business school program • Some college credit but no degree • Associate degree (AA, AS) • Bachelor's degree (BA, BS, AB) • Master's degree (MA, MS, MSW, MBA) • Doctorate (PHD, EDD) or professional degree (MD, DDS, DVM, JD)
Essential worker	Are you a frontline or essential worker according to your state or region?	• Yes • No • Not sure
Occupation	In what location or setting do you currently work?	• Healthcare (such as hospital, doctor, dentist or mental health specialist office, outpatient facility, long-term care, home health care, pharmacy, medical laboratory) • Social service (such as child, youth, family, elderly, disability services) • Preschool or daycare • K-12 school • Other schools and instructional settings (such as, college, university, professional, business, technical or trade school, driving school, test preparation, tutoring) • First response (such as police or fire protection, • Emergency relief services) • Death care (such as funeral home, crematory, cemetery) • Correctional facility (such as jail, prison, detention center, reformatory) • Food and beverage store (such as grocery store, warehouse club, supercenters, convenience store, specialty food store, bakery)

Construct	Question	Response Scale
Occupation	In what location or setting do you currently work?	• Agriculture, forestry, fishing, or hunting Food manufacturing facility (such as meat-processing, produce packing, food or beverage manufacturing) • Non-food manufacturing facility (such as metals, equipment and machinery, electronics) • Public transit (such as bus, commuter rail, subway, school bus) • United States Postal Service • Other • Not sure
Income	Please think about your total combined family income during 2020 for all members of the family. Include money for jobs, social security, retirement income, unemployment payments, public assistance, and so forth. Also include income from interest, dividends, net income from business, farm, rent, or any other money income received. Can you select that amount before taxes?	• Less than $5,000 • $5,001-$10,000 • $10,001-$20,000 • $20,001-$40,000 • $40,001-$60,000 • $60,001-$75,000 • $75,000-$150,000 • $150,001 or more • Not sure
Insurance	Do you have any kind of health care coverage? This includes health insurance, prepaid plans such as HMOs, or government plans such as Medicare, or Indian Health Service.	• Yes • No • Not sure
Experience of discrimination	When seeking health care in the last 2 years, do you feel your experiences were worse than, the same as, or better than people of other races or ethnicities?	• Worse than other races or ethnicities • The same as other races or ethnicities • Better than other races or ethnicities
Eligibility	Do you have a health condition that may put you at a higher risk for COVID-19?	• Yes • No • Not sure
Eligibility	*If yes or not sure of health condition* Can you tell me what that is? Please specify _____	• Cancer • Chronic kidney disease • Chronic lung diseases (chronic obstructive pulmonary disease or COPD) • Asthma (moderate to severe)

Construct	Question	Response Scale
Eligibility	*If yes or not sure of health condition* Can you tell me what that is? Please specify _____	• Cancer • Chronic kidney disease • Chronic lung diseases (chronic obstructive pulmonary disease or COPD) • Asthma (moderate to severe) • Interstitial lung disease, cystic fibrosis, or pulmonary hypertension • Dementia or other neurological conditions • Diabetes (type 1 or 2) • Down syndrome • Heart conditions (such as heart failure, coronary artery disease, cardiomyopathies or hypertension) • HIV infection • Immunocompromised state (weakened immune system) • Liver disease (chronic liver disease, such as alcohol-related liver disease, nonalcoholic fatty liver disease, and cirrhosis [scarring of the liver]) • Overweight (high BMI) • Pregnancy • Sickle cell disease or thalassemia (hemoglobin blood disorder) • Smoking (current or former) • Solid organ or blood stem cell transplant (including bone marrow transplant) • Stroke or cerebrovascular disease • Substance use disorders (such as alcohol, opioid, or cocaine use disorder) • Other • Not sure
Cognitive difficulty	Do you have serious difficulty seeing, hearing, walking, remembering, making decisions, or communicating?	• Yes • No • Not sure
Mental health	Would you say your mental health is excellent, very good, good, fair, or poor?	• Excellent • Very good • Good • Fair • Poor

Parent-Focused Questions

Domain: Thinking and Feeling — Parent/Caretaker

Construct	Question	Response Scale
Perceived susceptibility	How concerned are you about your child getting COVID-19?	• Not at all concerned • A little concerned • Somewhat concerned • Very concerned • Don't know • Refused
Confidence in vaccine effectiveness	Once your child is eligible for the vaccine, how important do you think getting a COVID-19 vaccine is to protect [child's name] against COVID-19?	• Not at all important • A little important • Somewhat important • Very important • Don't Know • Refused
Confidence in vaccine safety	How safe do you think a COVID-19 vaccine is for your child?	• Not at all safe • Somewhat safe • Very safe • Completely safe • Don't Know • Refused
Had COVID-19	To your knowledge, has your child ever had COVID-19?	• Yes • No • Don't Know • Refused
Anticipated regret	How much do you agree with the following statement: "If I do not get [child's name] a COVID-19 vaccine, I will regret it." "If I had not gotten my child a COVID-19 vaccine, I would have regretted it."	• Do not agree • Somewhat agree • Strongly agree • Very strongly agree • Don't Know • Refused

Construct	Question	Response Scale
Perceived vaccine benefits	[Do / Did] you feel the need to get your child a COVID-19 vaccine so that he/she could do the following? Check all that apply.	• Socialize with family • Socialize with friends • Attend mass public gatherings (such as sporting events or music festivals) • Travel by plane • Attend religious services • Go to a healthcare facility • Receive medical care • Go to work or school • Not wear a mask • None of the above
Trust	How much do you trust the healthcare providers who gave your child a COVID-19 vaccine?	• Do not trust • Somewhat trust • Mostly trust • Fully trust
Trust	How much do you trust the public health agencies that recommend COVID-19 vaccines?	• Do not trust • Somewhat trust • Mostly trust • Fully trust

Domain: Social Processes — Parent/Caretaker

Construct	Question	Response Scale
Social norms	If you had to guess, about how many of your family and friends have gotten a COVID-19 vaccine for their children aged [XX-XX] years?	• None • Some • Many • Almost all • Don't Know • Refused
Provider recommendation	Has a doctor or nurse, or other health professional ever recommended that you get a COVID-19 vaccine for your child?	• Yes • No • Don't Know • Refused
Exposure to misinformation	In the last month, have you seen or heard any negative information about the safety or effectiveness of COVID-19 vaccines?	• Yes • No • Not sure
Vaccine information	In the past month, how often have you tried to find information about COVID-19 vaccines?	• Never • Rarely • Sometimes • Often • Not sure
Social pressure	[Do / Did] you feel any of the following tried to influence you to get your child a COVID-19 vaccine?	• Family • Friends • Your employer • Coworkers • Schools • Businesses you go to (such as restaurants or grocery stores) • Celebrities or influencers • Religious leaders • Doctors or other healthcare providers • Government officials • None of these

Construct	Question	Response Scale
Social pressure	[Do / Did] you feel any of the following tried to influence you to AVOID getting your child a COVID-19 vaccine?	• Family • Friends • Your employer • Coworkers • Schools • Businesses you go to (such as restaurants or grocery stores) • Celebrities or influencers • Religious leaders • Doctors or other healthcare providers • Government officials
Social responsibility	How much do you agree with the following statement: I have a responsibility to get my child vaccinated for COVID-19 to protect others.	• Do not agree • Somewhat agree • Strongly agree • Very strongly agree

Domain: Practical Issues — Parent/Caretaker

Construct	Question	Response Scale
Perceived access	How difficult would it be for you/was it for you to get your child a COVID-19 vaccine?	• Not at all difficult • A little difficult • Somewhat difficult • Very difficult
Incentives	Have you heard of cash prizes or other rewards being offered in your area to people who get a COVID-19 vaccine?	• Yes • No • Not sure
Incentives	[Have you been / Were you] offered cash prizes or other rewards [to get a / before your child got his/her first] COVID-19 vaccine?	• Yes • No • Not sure
Incentives	How does offering cash prizes or other rewards to get a COVID-19 vaccine for your child affect your trust in the vaccine?	• Decreases my trust • Has no influence on my trust • Increases my trust

Construct	Question	Response Scale
Requirements	Does your child's school require them to get a COVID-19 vaccine to attend in-person classes?	• Yes • No • Not in school, home schooled • Not Know • Refused
Self-efficacy	How much do you agree with the following statement: I can get my child a COVID-19 vaccine if I want to.	• Do not agree • Somewhat agree • Strongly agree • Very strongly agree
Perceived barriers	Many things might make it difficult to get a COVID-19 vaccine for your child. Select which of the following make it difficult for your child.	• Getting an appointment online • Not knowing where to get vaccinated • Hard to get to vaccination sites • Vaccination sites aren't open at convenient times • None of these

Domain: COVID-19 Vaccination — Parent/Caretaker

Construct	Question	Response Scale
Behavior	Has your child received at least one dose of a COVID-19 vaccine?	• Yes • No • Don't Know • Refuse
Behavior	How many doses of a COVID-19 vaccine has your child received?	• One • Two • More than two • Don't Know • Refused
Behavior	During what month and year did your child receive their first COVID-19 vaccine?	• Month/Year • Not sure

Construct	Question	Response Scale
Brand	Which brand of COVID-19 vaccine did your child receive?	• Pfizer-Biontech • Moderna • Johnson & Johnson/ • Janssen • Other • Not sure
Intentions	ASK IF NO VACCINE DOSES RECEIVED Once your child is eligible for the vaccine, how likely are you to get your child a COVID-19 vaccine?	• Definitely get a vaccine • Probably get a vaccine • Not sure • Probably not get a vaccine • Definitely not get a vaccine • Not Sure • Don't Know • Refused
Other vaccinations	In the past two years, has your child received any type of vaccine that was not a COVID-19 vaccine, such as seasonal flu?	• Yes • No • Not sure

Domain: Demographic — Parent/Caretaker

Construct	Question	Response Scale
Eligibility	What age is your child?	• [Numeric entry]
Eligibility	Does your child have a health condition that may put him/her at a higher risk for COVID-19?	• Yes • No
Eligibility	ASK IF YES OR NOT SURE ABOUT HEALTH CONDITION Can you tell me what that is? Please specify _____	• Cancer • Chronic kidney disease • Chronic lung diseases (chronic obstructive pulmonary disease or COPD) • Asthma (moderate to severe), • Interstitial lung disease, cystic fibrosis, or pulmonary hypertension • Dementia or other neurological conditions • Diabetes (type 1 or 2) • Down syndrome

Construct	Question	Response Scale
Eligibility	ASK IF YES OR NOT SURE ABOUT HEALTH CONDITION Can you tell me what that is? Please specify _____	• Down syndrome • Heart conditions (such as heart failure, coronary artery disease, cardiomyopathies or hypertension) • HIV infection • Immunocompromised state (weakened immune system) • Liver disease (chronic liver disease, such as alcohol-related liver disease, nonalcoholic fatty liver disease, and cirrhosis [scarring of the liver]) • Overweight (high BMI) • Pregnancy • Sickle cell disease or thalassemia (hemoglobin blood disorder) • Smoking (current or former) • Solid organ or blood stem cell transplant (including bone marrow transplant) • Stroke or cerebrovascular disease • Substance use disorders (such as alcohol, opioid, or cocaine use disorder) • Other • Not sure
Mental health	Would you say you child's mental health is: excellent; very good; good; fair; or poor?	• Excellent • Very good • Good • Fair • Poor
Age	What is your child's current age?	• [Numeric entry]
Gender	What is your child's gender?	• Male • Female • Non-binary • Something else
Transgender identity	Would you consider your child as transgender or non-binary?	• Yes • No • Not sure

Construct	Question	Response Scale
Sexual orientation	What best describes your child's sexual orientation?	• Heterosexual/straight • Lesbian or gay • Bisexual • Something else • Not Applicable
Hispanic Ethnicity	Is your child of Hispanic or Latino origin?	• Yes • No
Race	Please choose one or more of the following categories to describe your child's race.	• White • Black or African American • American Indian • Alaska Native • Native Hawaiian • Pacific Islander • Something else _____
Experience of discrimination	When seeking health care in the last 2 years, do you feel your child's experiences were worse than, the same as, or better than people of other races or ethnicities?	• Worse than other races or ethnicities • The same as other races or ethnicities • Better than other races or ethnicities
Insurance	Does your child have any kind of health care coverage? This includes health insurance, prepaid plans such as HMOs, or government plans such as Medicare, or Indian Health Service.	• Yes • No • Not sure
Income	Please think about your total combined family income during 2020 for all members of the family. Include money for jobs, social security, retirement income, unemployment payments, public assistance, and so forth. Also include income from interest, dividends, net income from business, farm, rent, or any other money income received. Can you select that amount before taxes?	• Less than $5,000 • $5,001-$10,000 • $10,001-$20,000 • $20,001-$40,000 • $40,001-$60,000 • $60,001-$75,000 • $75,001-$150,000 • $150,001 or more • Not sure
ZIP code	What is your ZIP code?	• Enter _____
Nativity	Was your child born in the United States?	• Yes • No
Household size	Including the adults and all the children, how many people live in your household?	• [Numeric entry]

Healthcare Worker Questions

Domain: Demographic

Construct	Question	Response Scale
Health worker role	What is your current role?	• Physician (MD/DO) • Nurse • Paramedic/first responder • Physician assistant • Nurse practitioner • Allied health (e.g., MAs, tech, CNAs) • Community health worker • Pharmacist • Other health worker_____
Health worker setting	Do you currently work in any of the following locations? *Select all that apply.*	• Hospital • Physician's office, or other non-hospital setting (e.g., medical clinic, urgent care outpatient surgery center, or any other outpatient or ambulatory care setting) • Dentist office or dental clinic • Pharmacy • Nursing home, assisted living facility, or other long-term care facility • Home health agency or home health care • Emergency medical service (EMS) setting (e.g., pre-hospital EMS setting, ambulance, paramedic, or patient transport service, or fire department) • Other_____

Domain: Motivation — Healthcare Worker

Construct	Question	Response Scale
Willingness to recommend	How comfortable do you feel addressing patient concerns about the COVID-19 vaccine (e.g., concerns about side effects)?	• Very comfortable • Somewhat comfortable • Comfortable • Somewhat uncomfortable • Very uncomfortable

Domain: Social Processes — Healthcare Worker

Construct	Question	Response Scale
HCP stigma	Have you been treated poorly by others during the COVID-19 pandemic because you are a healthcare worker?	• Yes • No

Appendix F:
Social Listening and Monitoring Tools

Social Listening and Monitoring Tools

Social and traditional media listening is a key strategy to quickly identify and address misinformation about COVID-19 vaccines. This includes identifying trending inaccurate information, which, if not addressed, can lead to the spread of misinformation. Catching misinformation early can help you develop and get out accurate information to address concerns and questions ahead of time and close information gaps before they are filled with inaccurate information. For more guidance, consult How to Address COVID-19 Vaccine Misinformation.

Steps for Conducting Effective Social Listening

1. **Identify existing monitoring tools:** Your organization may have existing tools available to conduct social listening. If your organization has social media accounts, platforms such as Twitter and Facebook have some level of built-in analytics that are quick and easy to gather. An organization's website is another valuable resource that can provide insight about audience use and habits. If your organization has a hotline where people can submit questions, a quick scan of call logs could also help you understand concerns and questions of your community of focus.

2. **Set up a social and traditional media monitoring system:** You can sign up for many free monitoring tools for tracking social and traditional media. Develop Boolean search queries, which are a type of search allowing users to combine key words with operators (or modifiers) such as AND, NOT, and OR to further produce more relevant results. Use these queries on each platform. For example, to understand questions about whether people know where to get vaccinated, you can search for "COVID vaccine" and "where." The search queries should be informed by the assessment's research questions and should be specific to your community or geographic location of interest (see below).

3. **Check your monitoring tools regularly:** A dedicated team member should log into all monitoring tools at regularly scheduled time points (e.g., once a day) and gather social listening data. If available and needed, use the filtering feature in your monitoring tool to focus on a specific location or language. Use content themes provided below to keep track of what you are seeing on different platforms.

4. **Analyze and develop insights:** After scanning content, try to make sense of what you are finding. Answering the questions below can be a good start. Develop integrated insights by considering findings from other data collection activities.

   » What questions are people asking about COVID-19 vaccination?

   » What are people's attitudes and emotions that may be linked to vaccination behavior?

   » What rumors or misinformation are circulating and how quickly are they spreading?

   » What overarching themes and narratives--beyond individual pieces of content--emerge from widely circulated rumors and misinformation?

   » How are people responding to and interpreting vaccine-related communication from public health authorities?

5. **Report out on a regular basis:** The insights you develop from social listening should be shared with your assessment team and other partners. See below for a template you can use to report findings.

6. **Ensuring continuity and understanding trends:** One of the strengths of social listening is being able to assess trends over time (e.g., how people's concerns change, how misinformation mutates). Steps 3-5 should be repeated regularly throughout the course of COVID-19 vaccine distribution in your community, beyond the three-week assessment time frame if possible. Once you establish a social-listening system and regular reporting rhythm, it should be less resource-intensive to continue these activities long-term. If your organization hasn't already incorporated social listening into its long-term activities or goals, this might be a useful strategy to adopt.

Social Media Monitoring Tools

A host of social media monitoring tools, both free and paid, are available to help organizations in conducting social listening. Some key benefits of using a social media monitoring tool or software include:

- Monitoring social media sentiments in real time

- Tracking conflicting or competitive messages

- Monitoring many accounts across various social platforms

- Saving time from doing manual searches and ensuring you are constantly plugged in

Social Listening Tools

Monitoring Tool Name	Cost? (Amount$)	Covered Platforms	Covers Traditional Media? (Y/N)	Search Capabilities
Google Alerts	Free	Web content (e.g., web pages, forums, blogs, news sites, YouTube) but not social media content	Yes	Key words
Hootsuite Insights	Paid (free demo available)	Twitter, Facebook, Instagram, Reddit, Tumblr, and more	No	Key words, hashtags
CrowdTangle	Free (with paid features)	Facebook, Instagram, Reddit	Yes	Key words, hashtags
TweetDeck	Free	Twitter	Yes	Hashtag, key words, Boolean search capability
Social Mention	Free	Twitter, Facebook, FriendFeed, YouTube, Digg, Google, etc.	No	
Talkwalker Alerts	Free	Blogs, websites, forums, and social media	No	
Meltwater	Paid (free demo available)	Online news, social media, print, broadcast, podcast	Yes	Boolean search capability
Cision	Paid (free demo available)	Online news, all social media, print, broadcast, podcast, radio	Yes	Boolean search capability
Awario	Paid	Facebook, Twitter, Instagram, YouTube, Reddit, news, blogs	Yes	Boolean search capability
TVEyes	Paid (free trial available)	Television and radio	Yes	

Platform Analytics

In addition to various monitoring tools, you can also use native search features built into social media platforms. Using advanced search filters and Boolean operators, you can find specific content easily.

Twitter: Twitter is one of the easiest platforms to monitor but be sure the relevant conversations are happening there. Twitter is often used to identify breaking news. Twitter has an advanced search option, which gives an easy interface to make very specific queries, such as only searching for tweets from or to specific accounts, during certain time periods, or containing particular types of content, such as videos or links.

Facebook and Instagram: Facebook's native search includes a host of filters, including the ability to search for public posts in public Groups and Pages, for example. You can also search by date and by tagged location, as well as by media type, such as videos, photos, or livestreams.

TikTok: Tiktok allows you to easily see the current most popular hashtags simply by pressing the discover icon on the bottom of your screen. You can start searching for a key word at the top of the page. After you enter the key word, TikTok will give you different tabs.

WhatsApp: WhatsApp is the most popular messaging app globally, and its group chat function is well-suited to amplifying the impact of information, but closed chat groups are difficult to monitor. However, you can join some groups through publicly available invitation links, which you can find by searching for "chat.whatsapp.com" on Google.

Google Trends: Google Trends tracks the volume of searches for certain key words on several channels, including general web, Image search, News search, and YouTube. It can compare results for different key words (up to 15). Results can be filtered by time, geography, or even related queries. It can help in signal detection and tracking of conversational shifts.

Choosing Key Words, Building Boolean Search Queries

On many online platforms, Boolean search operators can be used to refine what you are looking for:

- AND: return results with all specified terms

- OR: return results with any specified terms

- NOT: return results without specified terms

- "": return results with the exact phrase contained in quotation marks

- (): group the terms in parentheses to clarify search strings with multiple operators

Example Search String for COVID-19 Vaccination

- Vaccine AND (covid-19 OR covid OR coronavirus OR corona)

- (vaccine OR vaccination OR vaccines OR immunization OR immunizations OR immunize) AND (pfizer OR astrazeneca OR moderna OR oxford) AND (california OR cali OR ca)

# Reporting Findings of Social Media Monitoring

An important step in the social listening process is reporting the findings. Compile results of your organization's social media listening activities into a report that is easy to read and comprehend. Reports should include key findings, emerging trends, and results-driven recommendations to improve your organization's strategies. Reports should be compiled daily, weekly, and monthly depending on organizational need and can range from a simple one-pager of key highlights to multiple pages focused on each social platform. **The template below for reporting findings of social listening activities is customizable and should be adjusted to organization needs.**

Title: COVID-19 Social Listening Insights [Location]: Weekly Update Report [Insert MM.DD.YYYY]

Introduction: Input information about your report's intended goal, your audience of focus, methods used to conduct social and traditional media monitoring, and success metrics to provide context for your reader.

Profiles discussed in the report: First, identify which social profiles you are tracking and measuring, as this will guide what report sections are included.

Primary cross-channel metrics: Begin the report with the primary takeaway or key findings, followed by overall metrics across channels to provide a snapshot of the social listening space.

> Include overall key findings from daily, weekly, or monthly report.
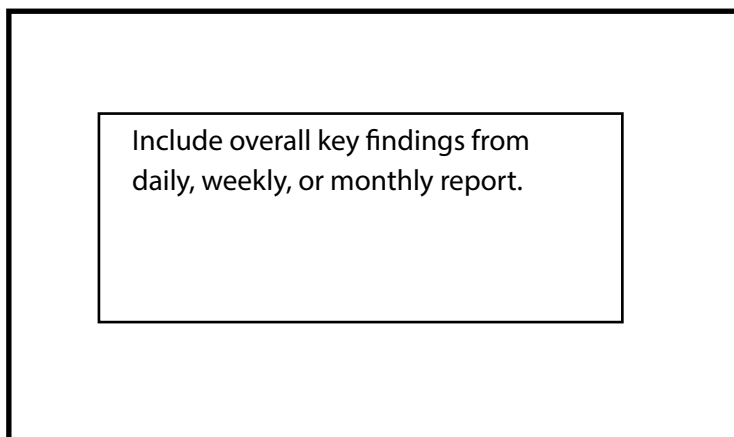
[Insert graphic from cross-channel report]

Key Performance Indicators	Results
Total engagement*	[total engagement goes here]
Total posts	[total posts go here]
Total audience	[total audience goes here]

*Standard metrics used to gauge engagement include likes, comments, social shares, saved items, click-throughs, or retweets.

Top Social Media Themes, Week of MM.DD.YYYY [Day, Week, or Month]

Platform	Top Themes from Current Week	Top Themes from Previous Week
Facebook		
Twitter		
Instagram		

- Include one to three bullets summarizing emerging themes from each week to help readers see changes across time.

- The themes highlighted will depend on programmatic goals and interest. Some example themes to screen for include, but are not limited to:

  » COVID-19 risk perception

  » COVID-19 vaccine hesitancy, demand, or uptake, motivation for and against vaccination (safety issues, access, etc.)

  » Discussions on emotions about vaccination (e.g., anger, sadness, happiness, uncertainty)

  » Prevailing social norms in community of focus

  » Common COVID-19 vaccine-related questions

  » Types of COVID-19 vaccine misinformation

Facebook

[Description of Facebook strategy and high-level results]

Primary Facebook Metrics (Day/Week/Month)

Key Performance Indicators	Results
Total engagement	[total engagement goes here]
Page views	[total net new audience goes here]
Page impressions	[total impression goes here]
Total reach	[total reach goes here]

[Alternatively, or in addition to the table, insert graphic showing total engagement, reach, and impressions over time.]

Top 3 topics/comments/user questions on COVID-19 vaccination this week

- [Insert your audience's top topic, comments, or questions asked on Facebook platform]

- [Insert your audience's second topic, comments, or questions asked on Facebook platform]

- [Insert your audience's third topic, comments, or questions on Facebook platform]

Audience Demographic

[Insert breakdown of audience interacting with your content.]

Top Users and Posts This Week [MM.DD.YYYY]

	Post	Retweets	Clicks	Mentions	Total Engagement
Most reach					
Most shared					

Top Users and Post from Previous Week [MM.DD.YYYY]

	Post	Retweets	Clicks	Mentions	Total Engagement
Most reach					
Most shared					

Traditional Media

Key findings: Begin the report with the week's overall key findings. This can include one of the week's most impactful stories with high social engagement covered in your regional, state, and local print or broadcast media.

Media landscape: This section should display the breakdown of COVID-19-specific coverage against all other coverage in your region, state, or local community, if provided by your social listening tool.

Most Shared Articles Published This Week

[Include a blurb summarizing the emerging themes of the most-shared articles.]

Coverage Topics by Category This Week

Include graphic displaying COVID-19 topic areas by category.

[Accompany the graphics with a box showing any changes in coverage from a previous week. This will clearly identify what topics (e.g., general vaccination, access to vaccination, social norms, hesitancy, cultural factors influencing vaccination, adverse effects) are dominating traditional media space.]

Discussion Boards, Forums, Blogs

Top topics covered in discussion boards, forums, and blogs [Day, Week, Month]

	Top Topic	Relevant Comments
[Insert discussion board tracked by your organization.]		
[Insert forums tracked by your organization.]		
[Insert blogs tracked by your organization.]		

Appendix G:
Insights Synthesis Tool

Insights Synthesis Tool

Use this tool to compare and contrast your survey findings with findings from interviews, focus groups, and observations. What themes can you identify across all findings? Which findings reinforce each other? Which ones contradict each other? Are examples that illustrate something working well?

Population of Focus	Summary of Key Findings Across Data Collection Activities	Summary of Barriers to Vaccination	Summary of Facilitators of Vaccination	Summary of Proposed Solutions
e.g., Parents of young children				
e.g., African American residents in urban areas				
e.g., Hispanic/Latino residents in urban areas				
e.g., Members of a particular religious community				
e.g., Migrant farmworkers				

Appendix H:
Intervention Tables

Intervention Tables

The table below suggests potential interventions for the COVID-19 surveys included in this guide for adults and healthcare providers.

Please note that you would only suggest these interventions or solutions when the indicators are faring poorly--for example, when the indicator corresponding to the construct general vaccination knowledge (row 2) shows a high percent of adults who do not know where to get vaccines for themselves.

Domain	Indicator (Problem Areas)	Intervention Category and Description
What people think and feel	• Community members have low trust in vaccines. • Community members do not feel that vaccines are safe or effective. • Community members do not feel that vaccines are important for COVID-19 prevention.	**1. Educational campaign:** a. Educational campaign consisting of informational posters with disease risk, letters, educational materials, group educational session highlighting disease salience and importance of vaccine, posters encouraging vaccination to protect yourself [1, 2] b. Personalized education about vaccine[3] c. Employee health education in workplace settings[4] d. Decision aid that guides individual through vaccination decision-making process[5] e. Health risk appraisal (assessing health risk behaviors and uptake of preventative care)[6] f. TV/media ads to raise awareness about disease and response efficacy for a specific population (e.g., 65+ and 50+)[7] **2. Institutional recommendation:** a. Institutions and workplaces encourage vaccination and provide vaccination stickers[2, 8, 9] **3. Not categorized:** a. Vaccination campaign in a workplace or congregate setting consisting of a mandatory declination policy where HCWs sign a form saying they are declining the vaccine and understand the risks of non-vaccination to themselves and others[9]

Domain	Indicator (Problem Areas)	Intervention Category and Description
Social processes	Community lacks strong social norm emphasizing vaccination.	**1. Vaccination on site:** a. Increase convenient access to and affordability of vaccine by providing vaccination on site or at workplace[4] **2. Institutional recommendation:** a. Institutions and workplaces encourage vaccination[9-11] and provide vaccination stickers[9, 10]
Motivation	Community is not motivated to get vaccinated or does not intend to get vaccinated despite recommendation.	**1. Educational campaign:** a. Educational campaign consisting of informational posters with disease risk, letters, educational materials, group educational session highlighting disease salience and importance of vaccine, posters encouraging vaccination to protect yourself[1, 2] b. Personalized education about COVID-19 vaccination[3, 12, 16] c. Employee health education in workplace settings[1-4, 10] **2. Reminders and recall:** a. Letter, telephone, and email reminders[11, 15-17] b. Wall-in clinics[14, 16] c. Patient outreach for reminder and assistance with follow-up and appointments[16] **3. Message framing:** a. Messaging that emphasizes the disadvantages of not getting vaccinated[18] b. Letters/messaging that emphasize vaccination norms (that most people get vaccinated)[19] **4. Incentives:** a. Incentives for vaccination, including free lunches, raffles, lottery tickets, and cash prizes[4] b. Monetary incentives for vaccination[9, 20] **5. Institutional recommendation:** a. Institutions and workplaces encourage vaccination and provide vaccination stickers, thereby creating an institutional norm to get vaccinated[2, 9-11] **6. Vaccine champions:** a. Vaccine champions: Influential figures get vaccinated and promote vaccination[15]

Domain	Indicator (Problem Areas)	Intervention Category and Description
Practical issues	Community experiencing barriers to accessing the vaccine	**1. On-site vaccination:** a. Increasing vaccination access with vaccination offered near hospital/clinic entrances[9] b. Increasing vaccine accessibility in work site/high traffic areas[8] c. Vaccination at clinics, conferences, and house staff lounges[11] d. Increasing accessibility (e.g., mobile carts, during night and weekend shifts)[1,4] e. Offer an option of getting vaccinated at home[12] **2. Free/affordable vaccines:** a. Free vaccines, free vaccination services[2, 4, 13, 14]

References

1. Bryant KA, Stover B, Cain L, Levine GL, Siegel J, Jarvis WR. Improving influenza immunization rates among healthcare workers caring for high-risk pediatric patients. Infect Control Hosp Epidemiol. 2004;25:912-7.

2. Mustafa M, Al-Khal A, Al Maslamani M, Al Soub H. Improving influenza vaccination rates of healthcare workers: a multipronged approach in Qatar. East Mediterr Health J. 2017;23:303-10.

3. Arthur AJ, Matthews RJ, Jagger C, Clarke M, Hipkin A, Bennison DP. Improving uptake of influenza vaccination among older people: a randomised controlled trial. Br J Gen Pract. 2002;52:717-8, 20-2.

4. Sand KL, Lynn J, Bardenheier B, Seow H, Nace DA. Increasing influenza immunization for long-term care facility staff using quality improvement. J Am Geriatr Soc. 2007;55:1741-7.

5. Chambers LW, Wilson K, Hawken S, Puxty J, Crowe L, Lam P-P, et al. Impact of the Ottawa Influenza Decision Aid on healthcare personnel's influenza immunization decision: a randomized trial. J Hosp Infect. 2012;82:194-202.

6. Dapp U, Anders JA, von Renteln-Kruse W, Minder CE, Meier-Baumgartner HP, Swift CG, et al. A randomized trial of effects of health risk appraisal combined with group sessions or home visits on preventive behaviors in older adults. J Gerontol A Biol Sci Med Sci. 2011;66:591-8.

7. Wallace C, Corben P, Turahui J, Gilmour R. The role of television advertising in increasing pneumococcal vaccination coverage among the elderly, North Coast, New South Wales, 2006. Aust N Z J Public Health. 2008;32:467-70.

8. Jiang C, Whitmore-Sisco L, Gaur AH, Adderson EE. A quality improvement initiative to increase Tdap (tetanus, diphtheria, acellular pertussis) vaccination coverage among direct health care providers at a children's hospital. Vaccine. 2018;36:214-9.

9. Drees M, Wroten K, Smedley M, Mase T, Schwartz JS. Carrots and sticks: achieving high healthcare personnel influenza vaccination rates without a mandate. Infect Control Hosp Epidemiol. 2015;36:717-24.

10. Gilardi F, Castelli Gattinara G, Vinci MR, et al. Seasonal influenza vaccination in health care workers. A pre-post intervention study in an Italian paediatric hospital. Int J Environ Res Public Health. 2018;15.

11. Ohrt CK, McKinney WP. Achieving compliance with influenza immunization of medical house staff and students. A randomized controlled trial. Jama. 1992;267:1377-80.

12. Arthur AJ, Matthews RJ, Jagger C, Clarke M, Hipkin A, Bennison DP. Improving uptake of influenza vaccination among older people: a randomised controlled trial. Br J Gen Pract. 2002;52:717-8, 20-2.

13. Oguz MM. Improving influenza vaccination uptake among healthcare workers by on-site influenza vaccination campaign in a tertiary children hospital. Hum Vaccin Immunother. 2019;15:1060-5.

14. Zimmerman RK, Nowalk MP, Raymund M, Tabbarah M, Hall DG, Wahrenberger JT, et al. Tailored interventions to increase influenza vaccination in neighborhood health centers serving the disadvantaged. Am J Public Health. 2003;93:1699-705.

15. Abramson ZH, Avni O, Levi O, Miskin IN. Randomized trial of a program to increase staff influenza vaccination in primary care clinics. Ann Fam Med. 2010;8:293-8.

16. Humiston SG, Bennett NM, Long C, Eberly S, Arvelo L, Stankaitis J, et al. Increasing inner-city adult influenza vaccination rates: a randomized controlled trial. Public Health Rep. 2011;126(Suppl 2):39-47.

17. Hull S, Hagdrup N, Hart B, Griffiths C, Hennessy E. Boosting uptake of influenza immunisation: a randomised controlled trial of telephone appointing in general practice. Br J Gen Pract. 2002;52:712-6.

18. Nan X, Xie B, Madden K. Acceptability of the H1N1 vaccine among older adults: the interplay of message framing and perceived vaccine safety and efficacy. Health Commun. 2012;27:559-68.

19. Yokum D, Lauffenburger JC, Ghazinouri R, Choudhry NK. Letters designed with behavioural science increase influenza vaccination in Medicare beneficiaries. Nat Hum Behav. 2018;2:743-9.

20. Tao L, Lu M, Wang X, Han X, Li S, Wang H. The influence of a community intervention on influenza vaccination knowledge and behavior among diabetic patients. BMC Public Health. 2019;19:1747.

Appendix I:
RCA Findings PowerPoint Presentation Template

The images below are examples of a PowerPoint template developed for you to use to report the finding of your RCA. You can download the actual template from the RCA webpage. Be sure that you have permission to use any photos or images that you use in your presentation. You should also provide a source line under the photo or in the slide footer.

Examples of PowerPoint Presentation Slides