
Accelerating Recovery: An Analysis of Senior Preferences to Guide COVID-19 Vaccine Planning

Tivity Health, the company that brings you SilverSneakers®
Avalere Health

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Table of Contents

Table of Contents	2
Executive Summary	3
Introduction	3
Rationale for Research	4
Survey Methodology	4
Impact of COVID-19	6
Burden on Mental and Physical Health	6
Attitudes Toward COVID-19 Vaccine	6
Key Factors Affecting Vaccine Uptake and Adoption	7
Relevant Learnings from Flu and Pneumonia Vaccine Uptake	10
Key Considerations for Implementation	11
Findings	12
Conclusion	13
Acknowledgements	13

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Executive Summary

The nation's response to the COVID pandemic will require evidence-based approaches to ensure a comprehensive planning process, particularly for populations most impacted by COVID-19. However, the existence of timely and targeted data for these populations has been limited to date. This paper summarizes a targeted survey of US seniors administered by Tivity Health in fall 2020, assessing their perceptions on the development and distribution of a novel COVID-19 vaccine. Key findings include anticipated barriers to vaccine uptake among seniors based on survey responses. Finally, the paper outlines implications for nationwide vaccine planning and other considerations to inform the road to recovery for our nation's seniors. Five takeaways are clear from the insights shared by respondents:

1. Expert recommendations are not all equal in compelling seniors to action regarding vaccine adoption. Primary care providers, health plans, and pharmacists wield outsized influence.
2. Out-of-pocket costs associated with receiving the vaccine are not clear to seniors, which could delay their plans to get the vaccine.
3. The speed of vaccine development is closely tied to concerns and/or skepticism for respondents from a range of political backgrounds.
4. Clear distinctions between "major" and "minor" side effects will be critical to provide for seniors and their immediate families to help guide their decision-making process related to the vaccine.
5. Specific high-risk groups will benefit from targeted communications to better understand local approaches to prioritization in their communities.

Introduction

The COVID-19 pandemic has disproportionately affected seniors nationwide, with this population at an increased risk of hospitalization or death as a result of a COVID-19 diagnosis. To date, 8 in 10 COVID-19 deaths occur in adults aged 65 years and older. The pandemic has also exacerbated previous challenges related to social isolation, loneliness, and coordination of care for seniors.¹ The effects of limited social connections, increased mental distress, changes in patterns of physical activity, and reduced preventive care during 2020 will burden seniors and their caregivers, as well as the broader healthcare system, for years to come.

The path to comprehensive national recovery will require broad uptake of a novel COVID-19 vaccine. Estimates suggest that herd immunity will require approximately 70%-90% of the population in the United States to gain immunity to COVID-19 through vaccination or infection.²

¹ Holt-Lunstad, Julianne. "The Double Pandemic of Social Isolation and COVID-19: Cross-Sector Policy Must Address Both." *Health Affairs Blog*, June 2020. Accessed at: <https://www.healthaffairs.org/doi/10.1377/hblog20200609.53823>

² Strazewski, Len. "Why hopes for fast track to coronavirus herd immunity don't add up." *American Medical Association*, October 2020. Accessed at: <https://www.ama-assn.org/delivering-care/public-health/why-hopes-fast-track-coronavirus-herd-immunity-don-t-add>

Despite the pandemic's far-reaching ramifications and the importance of widespread vaccine uptake, several demographics have expressed hesitancy regarding the vaccine due to concerns about its development and questions regarding the distribution process.

Given the well-documented challenges with broadly administering established vaccines (e.g., annual flu vaccinations, pneumococcal vaccines), it is critical to directly address the questions and concerns of older adults to accelerate vaccine uptake. Moreover, alleviating the toll of the COVID-19 pandemic on seniors' mental, physical, and emotional health will require dedicated efforts by community and healthcare leaders in the coming months as vaccines become more widely available.

Rationale for Research

Seniors are commonly identified in the United States as a priority population for vaccine uptake. This is further compounded by the fact that long-term care facilities have been ravaged by the pandemic, with more than 100,000 deaths reported as of November 2020.³ However, existing studies have not specifically examined the factors driving seniors' decision-making process related to the COVID-19 vaccine. In fall 2020, Tivity Health, through their SilverSneakers® brand, sought to understand the key factors driving vaccine hesitancy and adoption among this population. Tivity Health and Avalere Health partnered to disseminate findings from this research and outline data-driven approaches to address the needs and preferences of seniors regarding acceptance of a COVID-19 vaccine.

Survey Methodology

SilverSneakers by Tivity Health is the nation's leading community fitness program for older adults. As of 2021, the SilverSneakers program is available to 18 million Americans through more than 70 Medicare Advantage plans, Medicare Supplement carriers, and group retiree plans. From March 2020, the SilverSneakers newsletters included periodic pulse surveys to better understand the problems facing seniors as a result of the pandemic. Building on this effort, Tivity Health sought to understand the challenges and opportunities associated with uptake of a COVID-19 vaccine among this population. In October – November 2020, Tivity Health developed a 32-item questionnaire that asked about consumers' perceptions of a COVID-19 vaccine. Drafts of the survey questionnaire were reviewed for content validity and ease of comprehension prior to fielding. External feedback on the survey questionnaire was invited from multiple stakeholder groups with deep expertise in health and wellness for older adults nationwide.

The survey was fielded to 700,000 SilverSneakers newsletter subscribers from November 11 – 16 (after the announcement of Pfizer Phase 3 interim analyses⁴ and prior to the announcement

³ "COVID-19 Has Claimed the Lives of 100,000 Long-Term Care Residents and Staff" *Kaiser Family Foundation*, November 2020. Accessed at: <https://www.kff.org/policy-watch/covid-19-has-claimed-the-lives-of-100000-long-term-care-residents-and-staff/>

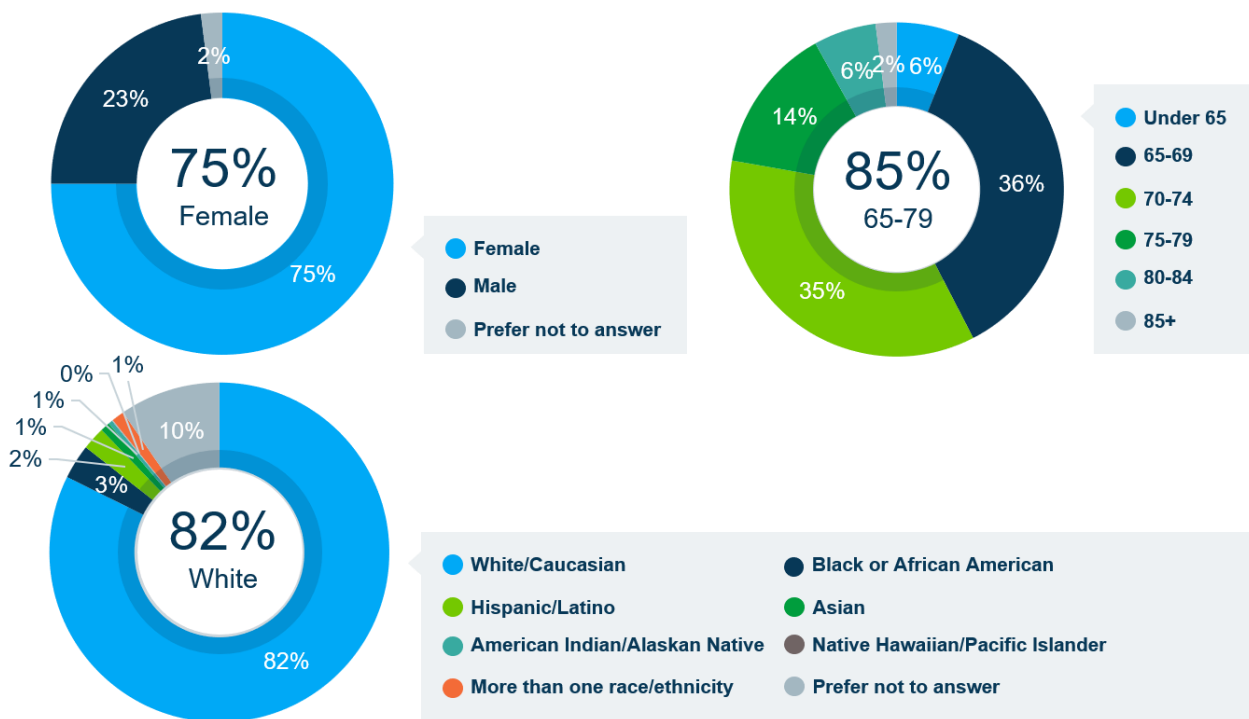
⁴ Pfizer and BioNTech Announce Vaccine Candidate Against COVID-19 Achieved Success in First Interim Analysis From Phase 3 Study". *Pfizer*, November 2020. Accessed at: <https://www.pfizer.com/news/press-release/press-release-detail/pfizer-and-biontech-announce-vaccine-candidate-against>

of Moderna’s Phase 3 interim analyses⁵). Sixty-eight percent of SilverSneakers members are ages 65 – 79, with 49% located in a rural area. On average, the survey required 10 – 15 minutes to complete. Specific areas of inquiry included:

- Vaccine adoption and timing
- Perceived safety and price
- Anticipated distribution
- Trusted sources of information
- Personal experiences with COVID-19
- Flu and pneumonia vaccine adoption

A total of 3,734 responses were received from 49 states. Of the respondents who elected to provide demographic information (91%), most respondents were female (75%) and ages 65 – 79 (85%). 82% of respondents identified as White compared to 76.3% of the overall US population. Almost half of all respondents (46%) reported to live in a suburb of a large city and 23% have a household income under \$50,000.

Figure 1. Demographics of Survey Respondents



Several important limitations should be noted as these data are used as a reference for planning efforts. All reported preferences and opinions reflect feedback specific to the SilverSneakers membership and should not be interpreted as a nationally representative sample. However, findings that reflect broader national trends related to seniors’ preferences

⁵ “Moderna Announces Primary Efficacy Analysis in Phase 3 COVE Study for Its COVID-19 Vaccine Candidate and Filing Today with U.S. FDA for Emergency Use Authorization” *Moderna*, November 30, 2020. Accessed at: <https://investors.modernatx.com/news-releases/news-release-details/moderna-announces-primary-efficacy-analysis-phase-3-cove-study>

have been supplemented with additional external references where relevant.

Furthermore, the electronic mode of survey administration may have limited responses from older adults with limited access to technology, lower incomes, or those living in rural areas.

Impact of COVID-19

Burden on Mental and Physical Health

To date, the pandemic has significantly altered seniors' daily lives. It is anticipated that the repercussions may be felt for the foreseeable future. Survey results revealed that 74% of all respondents agree that the worst of COVID-19 is not yet over. Additionally, 43% delayed or avoided medical or dental appointments due to COVID-related concerns within the preceding 3 months. Ongoing Tivity pulse surveys further confirm concerns regarding seniors' mental health and well-being. In a pulse survey administered in Q4 2020, more than half of respondents reported experiences of stress and anxiety for several days or more over a two-week period.⁶ This trend towards increasing reports of mental health concerns aligns with other recent analyses focused on older adults. An October 2020 analysis by the Kaiser Family Foundation found that reported symptoms of anxiety and depression among adults ages 65 and older more than doubled from 2018 to 2020 (11% and 24%, respectively).⁷ Importantly, rates of depression and anxiety symptoms were substantially higher in this analysis among individuals reporting an income under \$25,000 (37%) and those in "fair or poor health" (48%).

The surveys also explored social and health-related needs for the senior population extending beyond vaccine uptake (i.e., fitness, nutrition, social connection). Overall, results from the Q4 2020 pulse survey are in line with those from earlier 2020 pulse surveys. Physical activity levels remain consistent throughout the pandemic, with roughly half reporting decreased activity levels compared to prior to the pandemic.⁶ This increased sedentary behavior could have considerable consequences for older adults, with higher risks of frailty, aging-related muscle loss (sarcopenia), and multiple chronic diseases.⁸ Eating habits reflect pre-pandemic behavior, but the proportion of respondents feeling socially isolated has continued to increase since the start of the pandemic.⁶

Attitudes Toward COVID-19 Vaccine

Vaccine hesitancy has been declared one of the top 10 global health threats by the World Health Organization. Consumers generally report a range of factors driving their lack of acceptance for established vaccines, including complacency, inconvenient access, and a lack of confidence.⁹ These decision-making factors are further magnified by the novelty of the COVID-19 vaccine. The timing of development and distribution of the new COVID-19 vaccine has occurred during major nationwide challenges related to public trust and equity across sectors.¹⁰

⁶ Barclay, J. & Sussman, M. "Tivity Health: Mission-Driven During the Pandemic. Q4 2020 Update." (December 2020).

⁷ Koma, Wyatt et. al., "One in Four Older Adults Report Anxiety or Depression Amid the COVID-19 Pandemic" *Kaiser Family Foundation*, October 2020. Accessed at: <https://www.kff.org/medicare/issue-brief/one-in-four-older-adults-report-anxiety-or-depression-amid-the-covid-19-pandemic/>

⁸ Roschel, Hamilton et. al., "Risk of Increased Physical Inactivity During COVID-19 Outbreak in Older People: A Call for Actions" *Journal of the American Geriatrics Society*, May 2020. Accessed at: <https://agsjournals.onlinelibrary.wiley.com/doi/full/10.1111/jgs.16550>

⁹ "Ten Threats to Global Health in 2019" *World Health Organization*. Accessed at: <https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019>

¹⁰ "Global Report: Edelman Trust Barometer 2020" *Edelman*. Accessed at: <https://www.edelman.com/trust/2020-trust-barometer>

Despite these challenges, many survey respondents recognized the value of broad vaccine uptake as a tool for economic and social recovery. Six out of 10 seniors surveyed agree that a COVID-19 vaccine is important to establish a “new normal” in their lives. In a previous pulse survey focused on the effects of COVID-19 on seniors’ overall health and wellbeing, respondents noted the inability to visit friends and family in person and disruption to their normal routines as the greatest interruption to their daily lives.

In spite of respondents’ acknowledgement of the vaccine as a tool to establish a new normal, many are opting for a “wait and see” approach to vaccine uptake with a spectrum of perspectives on how quickly they are willing to take a vaccine once available. Forty-seven percent of survey respondents report a willingness to take a new COVID-19 vaccine within one month after it becomes available. However, a majority (74%) of respondents report a willingness to take a new COVID-19 vaccine within 6 months of its availability. Given this range in perspectives, a detailed understanding of the reasoning behind barriers limiting the uptake of the COVID-19 vaccine among older adults is critical to refine tactics for public health messaging and to expedite pandemic recovery planning.

Key Factors Affecting Vaccine Uptake and Adoption

Five overarching themes related to vaccine uptake and adoption emerged from seniors’ survey responses.

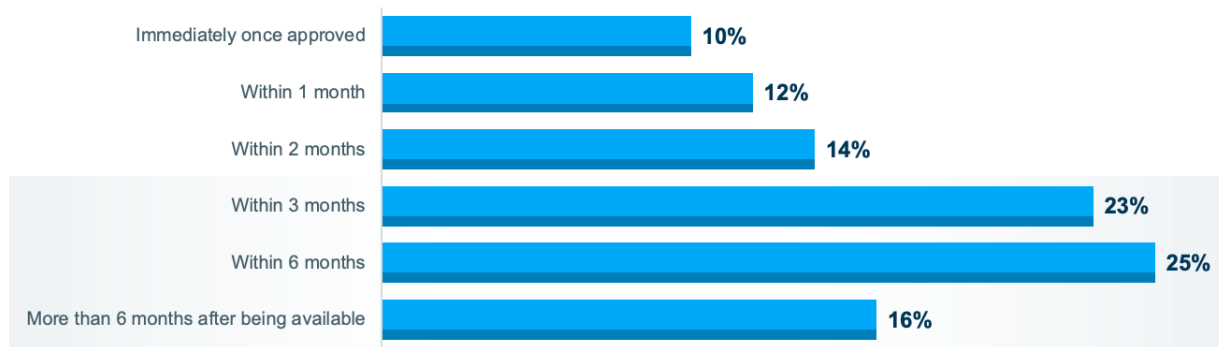
Factor 1: Perceived Availability of the Vaccine

The timeline for vaccine distribution continues to evolve as multiple organizations across the vaccine supply chain (e.g., pharmaceutical manufacturers, shipping partners, healthcare provider organizations) navigate new challenges related to distribution and storage at scale. When asked for open-ended feedback on factors that would influence their decision to receive the vaccine, several respondents noted the influence of a lack of clarity on the plans for prioritization as a consideration that will shape their plans for vaccination. Select quotes from this feedback are included below.

“Since first responders and health care workers will justifiably be vaccinated first, it will be many months, perhaps even another year until the rest of the world will have access to a vaccine.”

Survey respondents were unsure of what to expect regarding the amount of time between vaccine approval and the widespread availability of the vaccine to seniors. Only 39% of respondents agreed that they would have “quick and easy access” to the vaccine. Participating seniors varied in their estimates of the time required for a new COVID-19 vaccine to be available to seniors.

Figure 2: Perceptions of Anticipated Vaccine Availability



Though estimates of vaccine availability for seniors may continue to shift as distribution logistics are refined at the state and local levels, a well-coordinated communications plan is essential to set accurate expectations for seniors. Inconsistent or outdated messaging to priority populations will harm the credibility of organizations administering vaccines and monitoring distribution among patients.

Factor 2: Side Effects of the Vaccine

Side effects of the COVID-19 vaccine have emerged as a high-priority concern across multiple demographics, with increased publicity surrounding the initial administrations of new COVID-19 vaccines. Among respondents who plan to get the vaccine, 50% of respondents report that they are a “lot less likely” to take a COVID-19 vaccine if some people experience a major side effect. In contrast, 13% of respondents report that they are a “lot less likely” to take a COVID-19 vaccine if many people experience minor side effects.

“I will need to be reassured that the vaccine is safe and side effects are minimal.”

Distinctions between major and minor side effects were not included in the survey questionnaire, allowing respondents to interpret the severity of potential side effects on an individual basis. In light of these findings, clear and evidence-based information on side effects will be essential to appropriately set patients’ expectations for COVID-19 vaccine administration. Further, the distinctions between anticipated major and minor side effects will be an essential component of consumer-facing educational materials.

Factor 3: Cost

Following the passage of the Coronavirus Aid, Relief, and Economic Security (CARES) Act into law in March 2020, the Centers for Medicare & Medicaid Services publicly announced its plans in October 2020 to ensure that any newly approved COVID-19 vaccine would be covered at no

cost to recipients as a preventive vaccine under Medicare. However, seniors continue to report concerns related to costs for the COVID-19 vaccine. More than 6 in 10 respondents expect to pay for a COVID-19 vaccine.

“If I have to pay [for] the vaccine and the price is **out of my reach.**”

“If I had to pay for the vaccine myself and I would have to pay for two doses, the cost could be a factor and **I might think twice about getting the vaccine.**”

Seniors experience increased concerns related to the affordability of healthcare when compared to the overall US population.¹¹ Any uncertainty related to the costs of the vaccine could delay seniors’ desire or perceived ability to receive the vaccine once it is widely available.

Factor 4: Access to Accurate Information

Given the unparalleled speed of development for the COVID-19 vaccine, consumers are in search of information from a variety of sources to better understand the scientific evidence supporting its safety and efficacy. However, challenges related to health literacy and media literacy, particularly among vulnerable populations, exacerbate the effects of misinformation in undermining accurate public health communications.¹²

“I would want the **scientists** to say that the vaccine was good.”

“I think it is insane to think it could be developed so quickly and be safe and effective. **A vaccine needs years of study to know safety and efficacy.**”

Among respondents noting that they do not plan to take the vaccine, 63% indicate that they want to know more about how well it works before taking it. Direct engagement between senior populations and trusted experts will be crucial. Future communications should summarize key information related to the vaccine development process and notable evidence emerging from clinical trials in an accessible manner.

¹¹ “The U.S. Healthcare Cost Crisis”, *Gallup* (2019). Accessed at: <https://news.gallup.com/poll/248123/westhealth-gallup-us-healthcare-cost-crisis-report.aspx>

¹² Abdel-Latif, M. “The enigma of health literacy and COVID-19 pandemic” *Public Health*, June 2020. Accessed at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7303647/>

Factor 5: Trust

Trust among the American public in both government and non-government entities has been challenged in new ways during the pandemic. Conflicting information in public reporting and a rise in partisanship has undermined the public's confidence in the details surrounding the vaccine development and approval process. In open-ended feedback shared by survey respondents, multiple individuals representing a range of political ideologies remarked on the politicization of the COVID-19 vaccine development process.

“I would be less likely to get the vaccine if I thought **undue political influence was used to advance the timing of the vaccine, thus creating doubt about the safety of the vaccine.”**

Among government agencies, respondents identified federal health agencies as the most trusted government source of information. Sixty-eight percent of respondents report they are likely to get the COVID-19 vaccine if recommended by the Centers for Disease Control and Prevention, compared to 44% of respondents if recommended by local authorities. Among non-government entities, primary care physicians (PCPs) were identified as the most highly trusted source of all stakeholder groups assessed in the survey. Seventy-eight percent of respondents said they would be likely to get the COVID-19 vaccine following a suggestion from their PCP. Health plans and pharmacists were also flagged as a trusted source, with 63% of respondents reporting they would be likely to get the vaccine based on suggestions from their health plan and 53% of respondents based on suggestions from their pharmacist. These “trusted messengers” are well-positioned to directly address seniors’ concerns related to the vaccine & identify blind spots for public-facing communications. Given the novelty of the COVID-19 vaccine, learnings from the administration of more established vaccines to broader populations (e.g., seasonal flu vaccinations, pneumonia vaccines) can help to refine communication and outreach plans for older adults.

Relevant Learnings from Flu and Pneumonia Vaccine Uptake

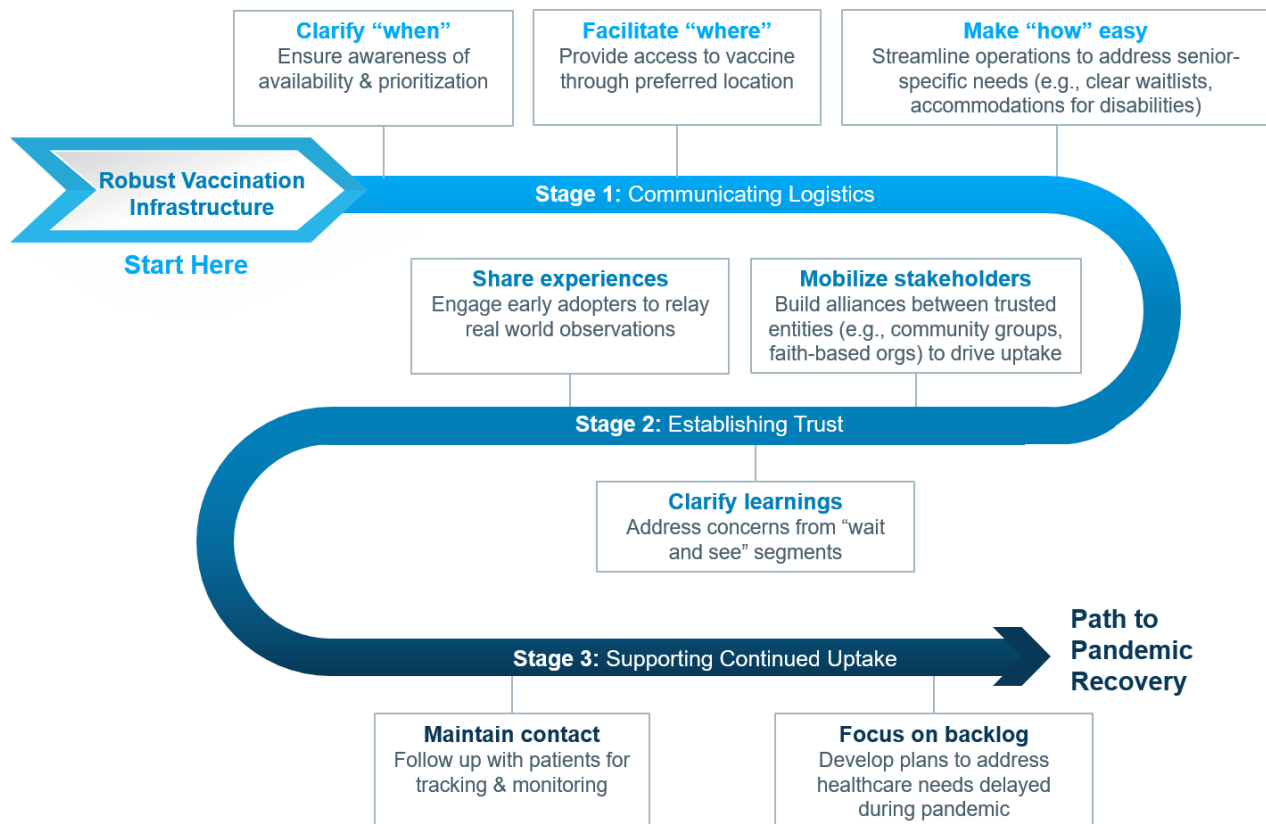
Overall, uptake for flu and pneumonia vaccines is high among survey respondents. Eighty-one percent of respondents reported that they had already received their flu vaccine. Similarly, 80% of seniors reported that they have had a pneumonia vaccine in the past 5 years. Uptake of the flu vaccine among minority and low-income respondents is lower (76% and 66% respectively), underscoring an existing gap in vaccine uptake among vulnerable groups. Awareness of vaccine adoption is highly local (i.e., within immediate family units); while 69% were aware of their family members’ receipt of the flu vaccine, 68% of respondents did not know whether their neighbors have received it.

High rates of flu and pneumonia vaccine uptake among this population offer an opportunity to adapt best practices for the COVID-19 vaccine dissemination strategy. As most in-development and currently available COVID-19 vaccines require two doses, compliance with both doses will require a multi-pronged approach to reach and encourage seniors to return for a second dose (e.g., telephone communications, email or text messages, scheduling follow up appointments in advance). Separately, it will be important to convey clear and consistent recommendations from clinicians and other trusted sources of information to patients (e.g., in-person visits, educational materials, phone and email communications).¹³ Providers can serve as important experts in translating and communicating vaccine recommendations to patients.

Key Considerations for Implementation

The road to comprehensive pandemic recovery is uncharted and will require a focus on the concerns and preferences of high-priority populations (e.g., residents of long-term care facilities, health care workers, individuals with chronic medical conditions). Broad uptake of the COVID-19 vaccine across populations will require successful completion of multiple steps.

Figure 3. Key Milestones for Successful Vaccine Uptake



¹³ Thomas, Roger E and Lorenzetti, Diane L. “Interventions to Increase Influenza Vaccination Rates of Those 60 Years and Older in the Community”. Cochrane Database Syst Rev. July 2014. Accessed at: <https://pubmed.ncbi.nlm.nih.gov/24999919/>

Findings

Diverse partnerships will help stakeholders to comprehensively address the concerns of older adults and ensure a high degree of vaccine uptake. Additional research exploring the needs and preferences of rural, underserved, and minority seniors could help to fill critical gaps in the existing data supporting pandemic recovery planning. For example, a September 2020 study conducted by a group of diverse stakeholders, including the COVID Collaborative and the NAACP, found that Black respondents were twice as likely to report that they would trust a messenger from their own racial / ethnic group as compared to White respondents.¹⁴ A data-driven understanding of the root causes driving vaccine hesitancy among specific communities will be important to inform effective plans for communications and targeted outreach.

Future policies pertinent to the distribution and administration of COVID-19 vaccines can address four key areas to ensure a sustainable strategy for recovery through widespread vaccine acceptance.

Focus Area 1: Consumer Education

- Create easy-to-read educational materials in multiple languages on the COVID-19 vaccine through trusted stakeholders (e.g., health plans, primary care providers, pharmacists) and in a variety of mediums (e.g., electronic, printed, and other formats)
- Identify opportunities to apply “train the trainer” strategies to stakeholders providing consumer-facing education to outline tactics for effective communication and empower these trusted messengers to directly address vaccine hesitancy
- Facilitate public Q&A sessions on COVID-19 and the new vaccines with established experts to address concerns related to misinformation among older adults
- Consider use of a telephone hotline for seniors to ask questions about COVID-19 vaccination planning and receive education and counseling related to critical concerns (e.g., costs, potential side effects)

Focus Area 2: Financial Responsibility

- Equip community leaders with timely information on anticipated costs associated with administration of the COVID-19 vaccine
- Develop proactive communication materials in partnership with provider organizations and health plans regarding cost-sharing obligations at each stage of vaccine administration
- Identify potential non-traditional collaborations to address the non-medical costs

¹⁴ “Coronavirus Vaccine Hesitancy in Black and Latinx communities” COVID Collaborative, September 2020. Accessed at: <https://www.covidcollaborative.us/content/vaccine-treatments/coronavirus-vaccine-hesitancy-in-black-and-latinx-communities>

associated with vaccine access and uptake (e.g., transportation, caregiver support)

Focus Area 3: Convenience

- Engage trusted community leaders (e.g., leaders of faith-based organizations, local non-profits) to identify accessible locations for COVID-19 vaccine administration in addition to traditional vaccine administration locations such as providers and pharmacies
- Explore opportunities for mobile clinics and vaccination clinics (similar to seasonal flu vaccine administration) to administer vaccines at locations that seniors routinely attend, such as gyms, community centers, and religious institutions

Focus Area 4: Data Infrastructure

- Consider opportunities to incentivize or reimburse providers and pharmacists for following up with patients with regular reminders to ensure compliance with full dosage schedule
- Pinpoint opportunities to expand investments in immunization information systems managed at the state and local levels to ensure adequate resources for consistently tracking COVID-19 vaccinations, including identifying patients who require additional support to ensure dosage completion

Conclusion

The survey results highlight seniors' needs and preferences related to administration of the COVID-19 vaccine, alongside potential concerns related to its uptake. The findings from this research can support healthcare providers, health plans, policymakers, community leaders, and other stakeholders in tailoring action plans for pandemic recovery to the needs of their communities. As a majority of respondents report, broad uptake of COVID-19 vaccines will be critical to achieve a "new normal."

Additional research may be beneficial to provide more detailed information on ways to support specific subgroups, including low-income and minority seniors. Given the impact of the pandemic on older adults, additional data on seniors' lived experiences with COVID-19 will help refine strategies for near-term recovery planning and long-term improvements in care delivery.

Acknowledgements

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Tivity Health would like to acknowledge the valued SilverSneakers membership for their responses to regular pulse surveys throughout 2020.

About Us

Avalere Health is a vibrant community of innovative thinkers dedicated to solving the challenges of the healthcare system. We deliver a comprehensive perspective, compelling substance, and creative solutions to help you make better business decisions. As an Inovalon company, we prize insights and strategies driven by robust data to achieve meaningful results.

Tivity Health is a leading provider of health improvement solutions, including Prime Fitness, Wisely Well, WholeHealth Living, and SilverSneakers, the nation's leading community fitness program for older adults with 18 million eligible members nationwide. From improving health outcomes to reversing the narrative on inactivity, food insecurity, social isolation and loneliness, Tivity Health is making a difference and transforming the way health is done.