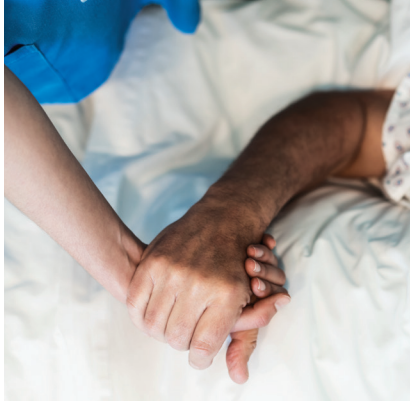
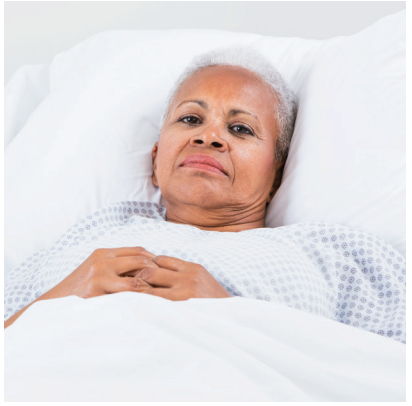



Society of Hospital Medicine

Improving Vaccine Hesitancy Among Hospitalized Patients

A Discussion Guide for Hospitalists to Support COVID-19 Vaccination in the Hospital



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Background

The coronavirus disease 2019 (COVID-19) pandemic has killed over 6.5 million people worldwide and over a million in the United States since the disease outbreak in December 2019. The pandemic has evolved over the past two years with numerous mutating strains and prevalent surges nationwide. Hospitalists, specialists in inpatient medicine, have been at the forefront of the COVID-19 pandemic, providing inpatient care for patients with COVID-19 and also leading hospitalist, hospital, and system-level adaptations in response to the growing pandemic.[1-2] They have played a critical role in caring for acutely ill patients hospitalized with a novel virus. At the very beginning of the pandemic, hospitalists treated patients with a limited arsenal of therapeutic treatments and interventions. Interventions for preventing COVID-19 and mitigating the risk of severe disease were virtually nonexistent. In December of 2020, the United States Food and Drug Administration (FDA) issued emergency use authorizations (EUAs) for two extremely effective COVID-19 vaccines from Pfizer-BioNTech and Moderna. Later, the FDA issued an EUA for the single-dose Johnson and Johnson COVID-19 vaccine in February of 2021. The advent and availability of the COVID-19 vaccines fundamentally altered the course of the pandemic.[3] The efficacy and reliability of the COVID-19 vaccines has been one of the only constants in a very unpredictable worldwide pandemic.

In early 2022, one study of more than 192,000 COVID-19 hospitalizations, rates of hospitalization were approximately 10.5 times higher in unvaccinated adults compared with adults vaccinated with a primary series and booster dose.[4] COVID-19 vaccination in the United States has provided substantial protection against infections, hospitalizations, and deaths among those who have been vaccinated.[5] We now know that vaccination is a reliable intervention for reducing the risk of death and alleviating severe disease in many individuals who contract COVID-19. However, there is documented hesitancy by many, even today, to accept vaccination. The World Health Organization defines vaccine hesitancy as a "delay in acceptance or refusal of safe vaccines despite availability of vaccine services."[6] There are many contributing factors to vaccine hesitancy including misperceptions of

COVID-19 vaccine safety, efficacy, risks, and mistrust in institutions responsible for vaccination campaigns.[7] It is essential to explore the root cause of hesitancy to support the identification of the most efficacious strategies for mitigating hesitancy. It is important to underscore that vaccine hesitancy represents a time of opportunity.[8]

This guide was developed for hospitalists and other hospital-based clinicians who encounter acutely ill patients, some of whom may only ever enter the health care system through an episode of hospitalization. Nearly 25% of Americans do not have a primary care physician they see regularly for their health care needs.[9] For these and many other patients, hospitals are a primary venue for accessing health care. The objective of this guide is to offer a brief overview regarding opportunities to facilitate critical conversations about the benefits of vaccination against COVID-19. Hospitalists are well-positioned to conduct these discussions with their patients because as trusted clinicians, who have the requisite education, strategies and resources, they are best equipped to have an impact when offering the COVID-19 vaccine at the bedside.[10] A positive interaction between the patient and clinician is the keystone in maintaining confidence regarding vaccination.[11]

It is essential to remember that vaccine hesitancy is a continuum of beliefs and behaviors about whether to accept vaccination[12] and that the continuum ranges from complete refusal to complete acceptance.[13]

A helpful strategy is to think about vaccine hesitancy as an attitude rather than a behavior.

As a clinician caring for a hospitalized patient that could benefit from vaccination, consider the continuum and readily identify if the patient might be part of the movable middle. If they are vaccine hesitant when offered the COVID-19 vaccine at the bedside or upon discharge, it is valuable to assess if their refusal might change if their concerns about receiving the vaccination are adequately addressed. The moveable middle is now a sizeable portion of the unvaccinated population.[14]

CASE STUDY

A 55-year-old female patient with COPD is hospitalized due to her exacerbations. She resides in a region which is currently experiencing high community spread. In addition to her COPD, she has other comorbidities including diabetes and obesity. When the nurse offers her a COVID-19 vaccine as the hospitalist is entering the room, she declines citing that she has heard about the terrible side effects including fever and fatigue. She explains that after this hospitalization, she just cannot afford more days in bed or days away from her grandchildren. Additionally, she shares that she has heard that COVID-19 really is not all that bad and she expects that she would recover just fine. What might the hospitalist say to her patient given finite time and patient's hesitancy to receive the vaccine?

CASE RESOLUTION

The hospitalist listens to the patient's concerns about potential side effects and reassures her that the immune responses some people experience are a demonstration the vaccine is working. Additionally, she explains that COVID-19 vaccines were evaluated in tens of thousands of participants in clinical trials and that these vaccines have undergone the most intensive safety monitoring in history.[15] Finally, the hospitalist shares with her patient that being vaccinated against COVID-19 is one of the best ways to support better outcomes should she contract COVID-19 after discharge and explains that getting vaccinated is a preventative and important tool for helping her stay as healthy as she can so that she can spend time with her grandchildren.

The case above demonstrates an opportunity for the hospitalist to empathetically listen to the concerns of her patient while relaying the most important benefits of receiving the COVID-19 vaccine and realizing better health outcomes.

Structural and Attitudinal Barriers to Vaccination

Two key categories help to describe barriers to vaccination.[16] Barriers are typically structural or attitudinal.[17] Structural barriers are related to systemic issues that limit access to vaccinations. These factors range from an inability to take time away from work for a vaccination appointment, to constraints with physically accessing vaccines or paying for a doctor's visit to receive a vaccine. Attitudinal related barriers are aligned with an individual's beliefs which may make them less inclined to choose vaccination. These attitudinal barriers may include mistrust of the government or medical institutions or may be associated with perceived risk about severity of the disease. Attitudinal vaccine hesitancy is complex. These are behaviors influenced by many different factors including societal norms, health literacy, mistrust and knowledge.[18] Attitudes regarding vaccines are particularly affected by personal health, circumstances, and emotions, as well as new information, changes in the economic climate, and observation of the behaviors of others. Some patients question whether the scientific community, governmental bodies, technological and medical institutions, really represent their needs and priorities. It is important to differentiate between these two root causes of barriers to vaccination. But most importantly, it is helpful to consider these barriers to support productive conversations with the vaccine hesitant patient.

Structural and systemic factors have further disadvantaged so many individuals from marginalized and minority groups. Lack of adequate housing, transportation, employment, and health insurance all hinder everyday Americans in some of our most at risk communities.[19] The Centers for Disease Control and Prevention (CDC) represents these factors using the Social Vulnerability Index. The pandemic magnified those disparities and increased feelings of racism, exploitation, and helplessness.[20] Evidence-based strategies to appropriately tackle these barriers in communities by enhancing access to care and deploying vaccine resources to the most isolated individuals must be prioritized.[21]

A framework called the 5C Model of Drivers of Vaccine Hesitancy provides five main individual-level determinants of vaccine hesitancy.[22] The model identifies psychological antecedents that may indicate whether a patient will choose to receive a vaccine or not. The antecedents are confidence, complacency, constraints, calculation, and collective responsibility. The model is a validated measure to support monitoring of the antecedents of vaccination behavior.[23] The model may assist hospitalists and other frontline clinicians in thoughtful approaches to addressing the 5Cs when communicating with vaccine hesitant patients. For example, when addressing complacency, and a patient's perception of the minimal risk of contracting COVID-19, the hospitalist or nurse practitioner might underscore the infectiousness of COVID-19, the high rate of community spread and the risk of long COVID-19 or risk of reinfection. When addressing confidence, the frontline clinician caring for the hospitalized patient might share about the efficacy of the COVID-19 vaccines in preventing severe illness and death.

5C Model of Drives of Vaccine Hesitancy	
Confidence	Patients trust that vaccines are safe and efficacious
Complacency	Patients do not perceive vaccination to be necessary
Constraints	Vaccines are not accessible, or the patient cannot afford to pay for a visit to receive a vaccine.
Calculation	The patient gathers or seeks information prior to making a definitive decision about willingness to be vaccinated.
Collective Responsibility	The patient understands his or her role in helping to protect others through vaccination.

Additional Factors that Contribute to Vaccine Hesitancy

Some of the major reasons for vaccine hesitancy are concerns regarding the safety and efficacy of mRNA vaccines. Perceptions about vaccine efficacy are an integral factor in vaccine decision making.[24] The novel technology and condensed timeline in which the vaccines were developed and authorized provoked concern for many patients. Although the mRNA vaccine technology has been studied for over 35 years, starting with the initial experiment by Robert Malone in Salk Institute in 1987[25], there are many common misconceptions about mRNA vaccines including their ability to alter DNA. One of the fundamental challenges in talking to a vaccine hesitant patient at the bedside, is how to convey how mRNA vaccines work which is by instructing the body to produce a protein found on the surface of the coronavirus and training the immune system to recognize and produce antibodies against that protein.

Another significant contributing factor to the prevalence of vaccine hesitancy is the persistent spread of misinformation. The misinformation phenomena[26] has had adverse and deleterious consequences for uptake of the COVID-19 vaccine with many experiencing poor outcomes upon contracting COVID-19 and realizing preventable harm because of vaccine refusal. There are numerous examples of members of the medical and scientific community including British Gastroenterologist Andrew Wakefield who published a falsified report in the *Lancet* alleging that the measles-mumps-rubella, or MMR vaccine caused autism spectrum disorder in 12 children. This article was eventually withdrawn by the journal, but the impact has been far reaching and persists today, many years after the retraction of the article.

Misinformation during the time of the COVID-19 pandemic has been particularly prolific. The deluge of information, including the spread of conspiracy theories, has introduced confusion among the public in terms of which sources of information are trustworthy.[27]

Mistrust has played a significant role in vaccine hesitancy among patients. Medical mistrust is defined as distrust of the healthcare system, providers and treatments.[28,29] While medical mistrust is problematic for vaccine uptake in all communities, it has been particularly profound in communities of color. For example, among Black individuals in the US, historical racism and institutional racism have had a profound impact on vaccine distrust.[30] Institutional racism has contributed to health inequities for many Americans. Exploitation, like that seen during the Tuskegee Syphilis Study, created a division between the healthcare research community and the Black American community.[31] Deliberate engagement of members of underrepresented groups and marginalized communities through extensive outreach efforts and emphasis on facilitating greater access has fostered a rise in the rate of vaccination for the Black American community bringing vaccination rates closer to averages of other communities.[32-33] In the Latinx community, people have had a high burden of COVID-19 cases, hospitalizations and death but lower uptake of the vaccine. One noted trend was a generational confidence gap with older adults wanting the COVID-19 vaccine, but younger adults expressing hesitancy.[34] Public service announcements, social media campaigns, and forums with healthcare clinicians have been effective strategies in enhancing vaccine uptake.[35]

Individuals in rural communities are also a swath of the American population that have articulated hesitancy about the COVID-19 pandemic.[36] Patients in rural communities have a higher COVID-19 incidence and mortality rates.[37] This is likely attributable to several factors including the prevalence of older populations (aged ≥65 years) and rates of underinsured individuals. Additionally, rural Americans and are more likely to have underlying medical conditions and live farther from facilities that provide tertiary medical care, placing them at higher risk for adverse COVID-19 outcomes.[38] There has been a well-documented disparity in viewpoints regarding the severity of the COVID-19 infection which, in some instances, has been impacted by sociocultural identities and political ideologies. These communities are representative of many unvaccinated Americans and represent a significant opportunity.[39] Also, physicians should refer to personal experiences and identify commonalities to build trust with rural patients. The disparity in rural populations currently remains and hospitalists should leverage opportunities to facilitate conversations about vaccination at the bedside.

There has been hesitancy by some members of religious communities to accept the COVID-19 vaccination. For some, accepting the vaccine is believed to be in direct contradiction with their religious beliefs.[40] Religious leaders are effective thought leaders to effectively address hesitancy. Trusted clinicians can also encourage patients to obtain the vaccine while adhering to their spiritual beliefs.

Mattie Pringle, a 57-year old Black woman in Myrtle Beach, South Carolina expressed hesitancy about receiving the COVID-19 vaccine due to her pre-existing conditions. When she heard about Dr. Kizzmekia Corbett, PhD a Black scientist that was part of the team at the National Institutes of Health who worked with Moderna to develop the vaccine, she was inclined to receive the vaccine.

CASE STUDY

A 75-year-old male, who has been hospitalized for the last week, is offered a COVID-19 vaccine after his care team deemed it appropriate for him to be vaccinated. He immediately grows agitated and uneasy and shares that this is not the first time he has been offered the vaccine. Just last month, he was offered the vaccine at his primary care physician's office and there was also a COVID-19 vaccine clinic the month before at his church. He says he does not understand why it seems as if the vaccine is being pushed upon him. He also shares that he is blatantly mistrustful of why the vaccine is being offered so broadly, especially in his community. He articulates his concern about it's safety and says that he does not think he intends to take it.

CASE RESOLUTION

The attending physician acknowledges the patient's concerns about its safety as well as his perception that vaccine distribution is being targeted to his community. The hospitalist shares an alternative perspective based on research and clinical experience, adding that as his physician, who has cared for him over the last few days of his hospitalization, he thinks the best way to ensure good outcomes is through vaccination against a virus that could cause serious illness. After offering to answer any additional questions about the vaccine, the physician mentions that he, as a fellow member of the community, has personally opted to receive the vaccine knowing it is the best way to prevent severe illness from COVID-19.

Strategies to Address Vaccine Hesitancy in the Hospital

Engaging and Empowering Clinicians to Discuss Opportunities for Vaccination with the Hospitalized Patient

Hospitalists should be empowered and comfortable enough to have conversations at the bedside with their unvaccinated patients. Healthcare clinicians are the cornerstone of public acceptance of vaccination. They need to know this and to be equipped to help people make healthy decisions like vaccinating.[42] While there are significant time constraints given pressing patient needs, competing priorities and significant patient surges, the hospitalist or hospital-based clinician can employ key rudimentary strategies to initiate these discussions, encourage vaccination and mitigate poor health outcomes. Employing empathetic listening, attempting to understand what a hospitalist hears from her patient and her patient's viewpoint and being nonjudgmental is essential to keeping the door open to improving uptake of the vaccine by hesitant patients in the hospital. Empathic communication can lead to the patient feeling listened to, valued as an individual, and understood and accepted.[43]

Motivational interviewing, originally developed to address substance abuse disorders is one tactic clinicians might utilize to facilitate discussions at the bedside with vaccine hesitant patients. The objective of motivational interviewing is to support decision making by eliciting and strengthening a person's motivation to change their behavior based on their own arguments for change. This approach is based on three main components: the spirit to cultivate a culture of partnership and compassion; the processes to foster engagement in the relationship and focus the discussion on the target of change; and the skills that enable health care providers to understand and address the parent/caregiver's real concerns.[44] Motivational interviewing is free from judging patients for their decisions.[45] This alternative strategy has been effective in increasing rates of vaccine coverage.[46, 47]

Motivational Interviewing Best Practices

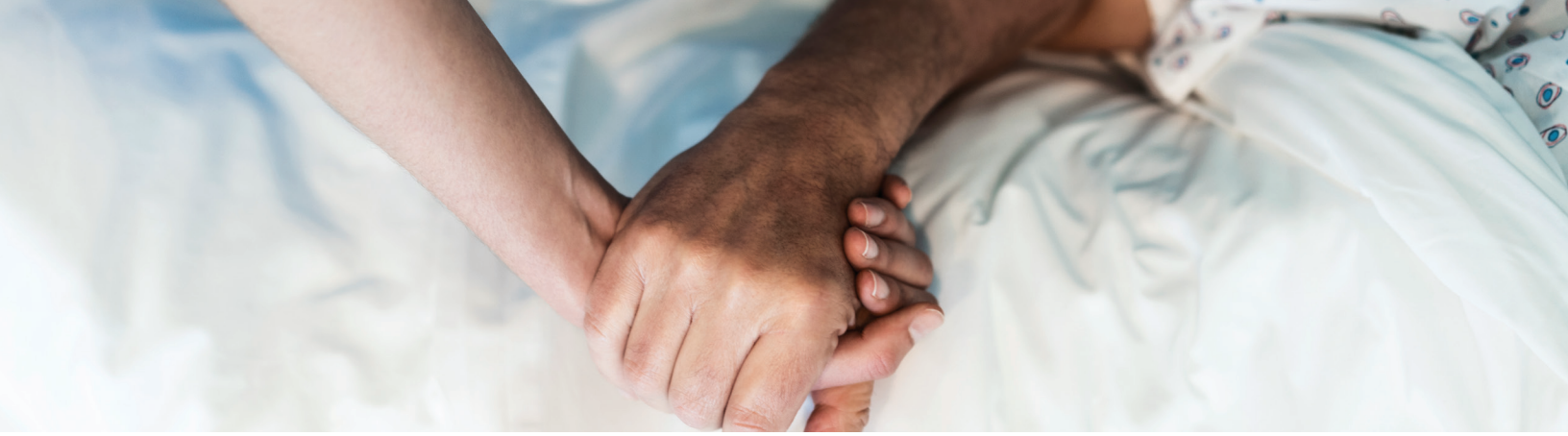
- Ask open ended questions.
  - What do you think about receiving the COVID-19 vaccine while in the hospital or before discharge?
  - What are your most significant concerns about receiving the vaccine today?
- Listen with empathy and attempt to share what you have heard the patient say.
- Affirm the patient's efforts (reading about COVID-19 vaccination, previous attempts to get vaccinated, consideration of accepting the vaccine).
- Reflect feelings: articulate respect for a patient's personal choice and let the patient know you are available to answer additional questions.

CASE STUDY

A young mother of two is hospitalized for complications of diabetes. During her hospitalization she is offered a COVID-19 vaccine, after disclosing she has not been vaccinated against COVID-19. When she is offered the vaccine, she immediately declines it and shares that she intends to have at least two more children and she does not want to jeopardize her ability to get pregnant again. She asserts that she knows that the COVID-19 vaccine can adversely impact her fertility and that she is simply not done having children or willing to risk her plans to expand her family.

CASE RESOLUTION

The hospitalist on service is not surprised to hear her patient's concerns. This is after all a myth commonly heard from patients of reproductive age. It is one of the most widely circulated myths about the vaccine.[49] She commended her patient for seeking out information about how the vaccine could impact her health. The physician sat down and asked her some key questions in an effort to solicit a better understanding of what her main concerns were about the vaccine and asked the patient what she has heard about the ability of the vaccine to impact her fertility. She then shared that leading medical societies including the American College of Obstetricians and Gynecologists, the American Society of Reproductive Medicine and the Society for Maternal-Fetal Medicine specifically expressed through a statement that "there is no evidence that the vaccine can lead to loss of fertility" and mentioned that leading physicians and scientists had determined that the COVID-19 vaccine cannot impact her ability to get pregnant again when she was ready to conceive. The physician concluded by saying that given her condition and need to care for her young children, the vaccine could help her reduce the risk of bad outcomes associated with COVID-19.



Leverage The Electronic Medical Record

There are opportunities to discuss vaccinations at every encounter and interaction with both patients and families. An electronic medical record (EMR) is part of many ambulatory, inpatient, and post-acute care delivery settings. Messages can be sent out though the electronic health portal to individual providers to remind them to offer the COVID-19 vaccine at each encounter. Best practices alerts can be generated when there is no vaccination history documented in the EMR to prompt a conversation. For immunocompromised patients, set reminders to ask about booster vaccinations. These prompts help to continue the conversation in those with vaccine hesitancy.

A few tangible tactics include:

- Implement standing orders, and point of care prompts to discuss vaccination with patients
- Implement institution-wide awareness campaigns using posters, screen frames, and pocket cards with discussion vaccine prompts
- Conduct staff and employee trainings to support frontline staff in discussing vaccination with patients and identifying the most optimal times to offer a COVID-19 vaccination

The CDC has articulated tangible and practical strategies for offering the COVID-19 vaccine and vaccinating patients while hospitalized or at discharge.

- Assess vaccination status at triage, in the patient's medical history, and during medication reconciliation by asking patient, checking electronic medical/health records, and linking with the jurisdiction's immunization information system (IIS)
- Strongly encourage and offer vaccination to all eligible patients and any friends or family who are accompanying them
- Consider using a pharmacist assigned to the facility to help with medication management to support confirming vaccination status before vaccination
- Utilize personnel not involved in the direct care of the patient, if available, to administer vaccines if the department is very busy and it would help workflow
- Offer vaccination services either at bedside or in special vaccination areas during discharge process. Encourage patients to enroll in V-safe Document receipt and/or refusal in chart and IIS
- Complete and provide a COVID-19 Vaccination Record Card to the patient and print out a list of the vaccination(s) given, particularly for patients being transferred/ discharged to rehab, long-term care, or psychiatric facilities
- Arrange for second dose appointment, if applicable

Source: CDC: Increasing Access to Vaccination Opportunities: COVID-19 Vaccination Upon Discharge from Hospitals, Emergency Departments, and Urgent Care Facilities.

The Black Doctors COVID-19 Consortium (BDCC) is a group of 200 healthcare professionals who worked together to eliminate health disparities during the COVID-19 pandemic. They set up vaccination clinics in hard-hit zip codes composed of Black Philadelphians. Vaccine appointments were set for after hours to accommodate individuals who work during the week. The clinics were designed as walk-up clinics. They were able to deliver 1000 vaccines in one day in April 2021 to an underserved neighborhood in Philadelphia.[50]

Dr. James Lawler, an Infectious Disease expert and practicing Catholic, has spoken out to underscore that COVID-19 vaccines do not contain aborted fetal cells. He has clarified that fetal cell lines, cells grown in a laboratory based on aborted fetal cells collected generations ago, were used in testing during research and development of the mRNA vaccines.[51]

Summary

Vaccine hesitancy did not begin with the COVID-19 pandemic. It is not a novel or new phenomenon, but it has persisted during the pandemic. Many factors contribute to a patient's decision to delay or decline vaccination. Structural and attitudinal barriers as well as misinformation profoundly contribute to vaccine hesitancy. Underserved, vulnerable and minority community members at risk for infection may be vaccine hesitant in some instances. There are still opportunities to support equitable access[50] to the COVID-19 vaccine to support improved outcomes for the entire population.

It is essential to consider patients "in the movable middle" who can be motivated to receive the vaccine by sharing information and discussing concerns with a trusted clinician. It is most important for the hospitalist to offer the option of vaccination and employ empathetic listening to best understand the patient's reasons and rationale for hesitancy regarding vaccination. Motivational interviewing strategies, leveraging the EMR, and public health guidance about how and when to offer the vaccine are all viable strategies for fostering vaccine uptake in the hospital. Each patient encounter is a newfound opportunity to support patients in making decisions about vaccination that could significantly ameliorate their risk for severe morbidity or mortality. Hospitalists are uniquely positioned to advocate for the wellbeing of their patients and support good care outcomes.

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