How to overcome hesitancy for COVID-19 and other vaccines

These evidence-based strategies (and list of do’s and don’ts) can help you to increase the likelihood of vaccine uptake in hesitant patients.

The World Health Organization (WHO) named vaccine hesitancy as one of the top 10 threats to public health as of 2019. Although the COVID-19 vaccines manufactured by Pfizer-BioNTech and Moderna, first authorized for use in November 2020 and fully approved in August 2021, are widely available in most countries, vaccination uptake is insufficient.

As of June 2022, 78% of the US population had received at least 1 vaccine dose and 66.8% were fully vaccinated against COVID-19. High confidence in vaccines is associated with greater uptake; thus, engendering confidence in patients is a critical area of intervention for increasing uptake of COVID-19 and other vaccines. Despite the steady increase in vaccine acceptance observed following the release of the COVID-19 vaccine, acceptance remains suboptimal.

Demographic characteristics associated with lower vaccine acceptance include younger age, female sex, lower education and/or income, and Black race or Hispanic/Latinx ethnicity (compared to white or Asian non-Hispanic). Moreover, patients who are skeptical of vaccine safety and efficacy are associated with lower intentions to vaccinate. In contrast, patients with a history of receiving influenza vaccinations and those with a greater concern about COVID-19 and their risk of infection have increased vaccine intentions.

Numerous strategies exist to increase vaccine acceptance; however, there does not appear to be a single “best” method to overcome individual or parental vaccine hesitancy for COVID-19 or other vaccines. There are no large-scale randomized controlled trials (RCTs) demonstrating one strategy as more effective than another. In this review, we outline a variety of evidenced-based strategies to help patients overcome vaccine hesitancy for COVID-19 and other vaccines, with a focus on practical tips for primary care physicians (PCPs).

CONTINUED
When speaking with patients who are strongly hesitant to vaccination, emphasizing concrete personal benefit may prove more effective than stressing protection of others from illness.

Which talking points are likely to resonate with your patients?

Intervention strategies promote vaccine acceptance by communicating personal benefit, collective benefit, or both to vaccine-hesitant patients. In a study sample of US undergraduate students, Kim and colleagues\(^\text{10}\) found that providing information about the benefits and risks of influenza vaccines resulted in significantly less vaccine intent compared to communicating information only on the benefits. Similarly, Shim and colleagues\(^\text{11}\) investigated how game theory (acting to maximize personal payoff regardless of payoff to others) and altruism affect influenza vaccination decisions. Through a survey-based study of 427 US university employees, researchers found altruistic motivation had a significant impact on the decision to vaccinate against influenza, resulting in a shift from self-interest to that of the good of the community.\(^\text{11}\)

A German trial on COVID-19 vaccine acceptance by Sprengholz and colleagues\(^\text{12}\) found that communications about the benefits of vaccination, availability of financial compensation for vaccination, or a combination of both, did not increase a person’s willingness to get vaccinated. This trial, however, did not separate out individual vs collective benefit, and it was conducted prior to widespread COVID-19 vaccine availability.

In an online RCT conducted in early 2021, Freeman and colleagues\(^\text{13}\) randomized UK adults to 1 of 10 different “information conditions.” Participants read from 1 of 10 vaccine scripts that varied by the talking points they addressed. The topics that researchers drew from for these scripts included the personal or collective benefit from the COVID-19 vaccine, safety and effectiveness of the vaccine, and the seriousness of the pandemic. They found communications emphasizing personal benefit from vaccination and safety concerns were more effective in participants identified as being strongly hesitant (defined as those who said they would avoid getting the COVID-19 vaccine for as long as possible or who said they’d never get it). However, none of the information arms in this study decreased vaccine hesitancy among those who were doubtful of vaccination (defined as those who said they would delay vaccination or who didn’t know if they would get vaccinated).\(^\text{13}\)

When encountering patients who are strongly hesitant to vaccination, an approach emphasizing concrete personal benefit may prove more effective than one stressing protection of others from illness. It is important to note, though, that findings from other countries may not be relevant to US patients due to differences in demographic factors, individual beliefs, and political climate.

It helps to explain herd immunity by providing concrete examples

Among the collective benefits of vaccination is the decreased risk of transmitting the disease to others (eg, family, friends, neighbors, colleagues), a quicker “return to normalcy,” and herd immunity.\(^\text{13}\) While individual health benefits may more strongly motivate people to get vaccinated than collective benefits, this may be due to a lack of understanding about herd immunity among the general public. The optimal method of communicating information on herd immunity is not known.\(^\text{14}\)

Betsch and colleagues\(^\text{15}\) found that explaining herd immunity using interactive simulations increased vaccine intent, especially in countries that prioritize the self (rather than prioritizing the group over the individual). In addition to educating study participants about herd immunity, telling them how local vaccine coverage compared to the desired level of coverage helped to increase (influenza) vaccine intent among those who were least informed about herd immunity.\(^\text{16}\)

Providing concrete examples of the collective benefits of vaccination (eg, protecting grandparents, children too young to be vaccinated, and those at increased risk for severe illness) or sharing stories about how other patients suffered from the disease in question may increase the likelihood of vaccination. One recent trial by Pfattheicher and colleagues\(^\text{17}\) found that empathy for those most vulnerable to COVID-19 and increased knowledge about herd immunity were 2 factors associated with greater vaccine intentions.

In this study, the authors induced em-
Strategies for correcting vaccine misinformation may vary by type of vaccine; however, placing emphasis on facts delivered by trusted sources appears to be beneficial.
spread availability of COVID-19 vaccines and did not measure intent to vaccinate against COVID-19.

Taken together, strategies for correcting vaccine misinformation may vary by population as well as type of vaccine; however, placing emphasis on facts delivered by trusted sources appears to be beneficial. When addressing misinformation, PCPs should first focus on key details (not all supporting information) and clearly explain why the misinformation is false before pointing out the actual myth and providing an alternative explanation.20 When caring for patients who express strong concerns over the vaccine in question or have avid beliefs in certain myths or conspiracy theories, it’s best to pivot the conversation back to the disease rather than address the misinformation to avoid a potential backfire effect.

Utilize these effective communication techniques

TABLE 1 summarizes the “do’s and don’ts” of communicating with vaccine-hesitant patients. PCPs should provide strong recommendations for vaccination, approaching it presumptively—ie, framing it as normative behavior.19,20 This approach is critical to building patient trust so that vaccine-hesitant patients feel the PCP is truly listening to them and addressing their concerns.27 Additionally, implementing motivational interviewing (MI) and self-determination theory (SDT)29 techniques when discussing vaccinations with patients can improve intentions and uptake.19,29 TABLE 2 outlines specific techniques based on SDT and MI that PCPs may utilize to communicate with vaccine-hesitant individuals or parents.

The takeaway
Strategies for increasing vaccine intentions include educating hesitant patients about the benefits and risks of vaccines, addressing misinformation, and explaining the personal and collective benefits of vaccination. These strategies appear to be more effective when delivered by a trusted source, such as a health care provider (HCP). Care should be taken when implementing vaccine-acceptance strategies to ensure that they are tailored to specific populations and vaccines.

At this stage in the COVID-19 pandemic, when several vaccines have been widely available for more than a year, we expect that the majority of patients desiring vaccination (ie, those with the greatest vaccine intent) have already received them. With the recent approval of COVID-19 vaccines for children younger than 5 years, we must now advocate for our patients to vaccinate not only...
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themselves, but their children. Patients who remain unvaccinated may be hesitant or outright reject vaccination for a number of reasons, including fear or skepticism over the safety and efficacy of the vaccine, belief in conspiracy theories, belief that COVID-19 is not real or not severe, or mistrust of the government.6 Vaccine hesitation or rejection is also often political in nature.

Based on the studies included in this review, we have identified several strategies for reducing vaccine hesitancy, which can be used with vaccine-hesitant patients and parents. We suggest emphasizing the personal benefit of vaccination and focusing on specific disease risks. If time allows, you can also explain the collective benefit of vaccination through herd immunity, including the current levels of local vaccine uptake compared to the desired level for community immunity. Communicating the collective benefits of vaccination may be more effective when paired with a strategy intended to increase empathy and altruism, such as sharing actual stories about those who have suffered from a vaccine-preventable disease.

Addressing myths and misinformation related to COVID-19 and other vaccines, with emphasis placed on the correct information delivered by trusted sources may be beneficial for those who are uncertain but not strongly against vaccination. For those who remain staunchly hesitant against vaccination, we recommend focusing on the personal benefits of vaccination with a focus on delivering facts about the risk of the disease in question, rather than trying to refute misinformation.

COVID-19 vaccine acceptance in the United States is disturbingly low among health care workers, particularly nurses.

| TABLE 2 |
| Techniques for communicating with vaccine-hesitant patients19,29 |

- Avoid arguing with a patient about their beliefs regarding vaccines; instead, start by connecting with the patient regarding the emotions that accompany their stated beliefs. For example:
  - Validate the patient’s frustration, stress, and anxiety about confusing messaging, the lack of a place where they can ask questions without judgment, and the evolving pandemic environment.
  - Reframe and highlight the patient’s motivation and strengths in their ability to adapt and make space for their goals aligning with vaccination.
- Explore in a curious and nonpressuring way the strategies the patient has tried to avoid becoming infected and the solutions they think will work.
  - After exploration, suggest the patient get vaccinated. Provide a rationale for your suggestion (see the discussion of personal and collective benefit) and offer to help them schedule an appointment or administer the vaccine in your office (if available).
  - Check in with the patient to explore what they think/feel about your suggestion/offer.
- Ask permission to provide education and rationale around the safety and importance of vaccination; be sure to respond to the patient’s specific questions rather than covering a general educational agenda.
- Explore thoughts and feelings around the patient getting vaccinated while minimizing clinician control. For example:
  - Using a scale of 0-10, ask the patient how motivated they are to get vaccinated right now (0 = not motivated at all and 10 = most motivated).
  - For responses above “0,” ask them what has gotten them to a 1 or a 2.
  - If the patient responds with a “0,” ask them what, if anything, might get them to a “1” or a “2.”
- Build trust by asking empathetic questions and validating the feelings around their experiences. For example, consider the following responses/questions:
  - I’m so sorry that you feel that your questions have been shut down; I imagine that is incredibly frustrating. I wonder if I could help answer your questions now.
  - Is there something specific about vaccines that concerns or worries you?
  - What kind of information do you feel you are missing about the vaccine?
technicians, and those in nonclinical roles, compared to physicians. Many of the strategies for addressing vaccine hesitancy among the general population can also apply to health care personnel (eg, vaccine education, addressing misinformation, delivering information from a trusted source). Health care personnel may also be subject to vaccine mandates by their employers, which have demonstrated increases in vaccination rates for influenza. Given that COVID-19 vaccination recommendations made by HCPs are associated with greater vaccine intentions and uptake, reducing hesitancy among health care workers is a critical first step to achieving optimal implementation.

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References
16. Logan J, Nederhof D, Koch B, et al. ‘What have you HEARD about the HERD?’ Does education about local influenza vaccination coverage and herd immunity affect willingness to vaccinate? Vaccine. 2018;36:4118-4125. doi: 10.1016/j.vaccine.2018.05.037