SPECIAL COMMUNICATION

Motivational Interviewing Strategies for Addressing COVID-19 Vaccine Hesitancy

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Severe acute respiratory syndrome coronavirus 2, or coronavirus disease 2019 (COVID-19), vaccine hesitancy, defined as a behavioral phenomenon whereby individuals neither fully accept nor fully reject the COVID-19 vaccine, presents a major health threat in the midst of the current pandemic. Traditional approaches for addressing vaccine hesitancy in health care lack empirical support and, in some instances, have actually *increased* vaccine hesitancy. Thus, there is an urgent need for approaches that effectively address COVID-19 vaccine hesitancy, especially in health care settings. The current article highlights the need for and importance of motivational interviewing (MI), which emphasizes collaborative communication between physicians and patients, in addressing vaccine hesitancy. We describe a 3-step process for addressing COVID-19 vaccine hesitancy that includes using a guiding style, using the MI toolbox, and responding mindfully and skillfully to the individual's degree of hesitancy. The discussion concludes with a consideration of possible challenges in implementing these steps when addressing and resolving COVID-19 vaccine hesitancy. (J Am Board Fam Med 2022;35:420–426.)

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Despite approval from the Food and Drug Administration and emergency use authorization of coronavirus disease 2019 (COVID-19) vaccines, there continues to be concern about COVID-19 vaccine hesitancy.[1] Vaccine hesitancy describes a behavioral phenomenon whereby individuals neither fully accept nor fully reject vaccination, although it has been defined by the World Health Organization and the SAGE Working Group on Vaccine Hesitancy as the "delay in acceptance or refusal of vaccines, despite availability."[2,3] Hesitancy is a top threat to global health[3,4] given the importance of vaccinations in slowing the transmission of preventable diseases such as COVID-19. Yet, recent data from the Centers for Disease Control and Prevention suggest that just under 65% of the US population has received at least 1 dose of the vaccine (56% fully vaccinated) as of September 2021.[5] COVID-19 vaccine hesitancy likely plays a key role in this vaccination gap[3,6] and is therefore a major public health threat. This article provides guidance to physicians on the use of motivational interviewing (MI) strategies to address COVID-19 vaccine hesitancy.

Reviews have failed to find strong evidence supporting any specific intervention to reduce vaccine hesitancy.[6,7] Nyhan et al[8] tested whether messaging focused on correcting misinformation, presenting information on disease risk, using dramatic narratives, or making antivaccination risks more salient would increase parental intent to vaccinate. None of the messaging interventions increased parental intent to vaccinate a future child. Nyhan and colleagues observed a *decrease* in intent to vaccinate among those given information focused on debunking the supposed autism link. Thus, some messaging interventions may *increase* vaccine hesitancy. Some recent unpublished work showed favorable results with a video intervention for increasing COVID-19 intention to vaccinate, but only when a male rather than female narrator was used.[9] There

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is therefore reason to suspect that providing information in a directive manner may be counterproductive in the attempt to reduce vaccine hesitancy, although there may be preliminary evidence for the effectiveness of providing information through videos.

These findings suggest the need for alternative approaches in addressing vaccine hesitancy, for which MI is particularly well suited. MI is an evidence-based approach defined as "a collaborative conversation style for strengthening a person's own motivation and commitment to change."[10] It is especially useful for addressing vaccine hesitancy given its focus on listening, recognizing, and helping patients resolve ambivalence in a nonjudgmental, neutral, and compassionate way.[11] MI is also practical for health care settings due to its brief nature and findings that a range of physicians can successfully implement MI across a variety of settings.[12,13]

The major difference between the guiding MI style and a directing style is the focus on collaboration (see Table 3 in Leask et al[14] for a summary of and comparison between the 2 communication styles in addressing vaccine hesitancy). The guiding MI style asks the patient, "How can we work together to decide?" whereas a directing style tells the patient, "This is what you should do." When it comes to vaccine hesitancy, which can be undergirded by strong personal values, directing styles often lead to discord in the communication between the physician and the patient. Instead of using information and persuasion to achieve change, MI seeks to understand a person's position and curiously explore ambivalence free from judgment or intent to influence one's decision, an approach called "counseling with neutrality."[11]

Some research demonstrates the effectiveness of MI in facilitating vaccinations,[14] and MI has been recommended for addressing general vaccine hesitancy.[15–18] For example, Gagneur et al[15] demonstrated that a single-session MI intervention with postpartum mothers increased intent to vaccinate their children by 15% and the likelihood of complete vaccination status by 9% at 2 years of age. Given these and other favorable results across different settings, patient populations, and vaccination types,[18] it is perhaps unsurprising that health professionals are attempting to develop MI-based interventions for addressing COVID-19 vaccine hesitancy.[19] These interventions are in their early phases, and most have yet to be subjected to evaluation. Hence, we aim to provide immediate guidance for physicians on navigating COVID-19 vaccine hesitancy with an MI using a 3-step process (Table 1), derived from the 4 processes of MI,[10] as these interventions continue to be developed, tested, and refined.

Step 1: Practice a Guiding Style

The physician is encouraged to approach discussions about vaccine hesitancy using a guiding and collaborative, rather than directive, style. This interaction should be characterized by neutrality, open-ended questions, affirmations, reflections, and summaries. This collaborative approach allows the physician to develop rapport, emphasizing a patient's autonomy and expressing a desire to understand their position rather than change the patient's mind about the COVID-19 vaccine, which often results in patients feeling comfortable expressing their hesitance openly. Sample language is provided in Table 1 and case examples are provided in Appendix materials.

Step 2: Evoke Using the MI Toolbox

Once the patient is engaged, the physician can use strategies from the MI toolbox to further explore vaccine hesitancy. Evocation often includes asking more targeted, open-ended questions to learn more about the patient's position. However, there are also specific MI tools for evoking. A thorough discussion of these strategies is beyond the scope of this article; however, we provide a few examples here, including Elicit-Provide-Elicit and decisional balance. We provide questions for evoking patients' positions on the COVID-19 vaccine in Table 2 and case examples in the Appendix materials.

Elicit-Provide-Elicit

This strategy first asks a patient what they already know or are interested in knowing about a topic by asking, for example, "What is your understanding of . . .?" (Elicit). Next, after asking for and receiving permission to do so, the physician offers information using short and focused statements that emphasize personal choice (Provide). Last, the physician asks for feedback on the information provided by asking, for example, "What do you think about what we just talked about?" (Elicit). Elicit-

Table 1. Summary of the Three Steps of Exploring Vaccine Hesitancy with Motivational Interviewing

Step	Description	Strategies	Examples
1. Practice a guiding style	Approach the discussion using a guiding and collaborative style characterized by neutrality, open-ended questions, affirmations, reflections, and summaries. It is especially important to emphasize an individual's autonomy in discussions related to vaccination behaviors.	Open-ended question	*How do you feel about getting the COVID-19 vaccine?*
		Affirmation	*You make a strong point that it's important to be informed about these types of decisions before deciding which course of action is best for you.*
		Reflection	*You're feeling really stuck and aren't exactly sure how to sort through all the information about the vaccine that you've encountered. You're worried that the government might not have our best interests in mind.*
		Autonomy support	*You get to decide what's best for you.*
2. Evoke using the MI toolbox	Gather more information from the patient to better understand their perspective and values.	Elicit-Provide-Elicit	*What is your understanding of the COVID-19 vaccine? [Elicit]* *Would it be all right if I shared some information about how the COVID-19 vaccine was developed? [Ask permission. If yes, provide information]* *What are your thoughts about that information? [Elicit]*
		Decisional balance	*What makes you unsure about getting the vaccine? [exploring reasons against vaccination]* *What are some ways getting the vaccine would make your life easier? [exploring reasons for vaccination]*
3. Respond mindfully and skillfully	Consider one's level of vaccine hesitancy at step 2 and proceed in the manner implicated by that person's position while still moving the patient forward in their decision making.	Summary	*You've thought a lot about whether you want to get the vaccine. You're concerned about some of the possible long-term side effects, such as infertility. At the same time, you really care about protecting older populations, such as your grandparents, from the serious consequences of the virus.* *On the one hand, you are worried about how you will react to the vaccine given your pre-existing conditions and the vaccine reactions you've experienced in the past [summarize reasons against vaccine]. On the other hand, you fear you could get far sicker if you were to contract COVID-19 and not be vaccinated [summarize reasons for vaccine].*
		Open-ended follow-up	*What are you thinking might be the next step for you related to the vaccine?* *Where does that leave us now?*

Provide-Elicit is useful when physicians want to correct misinformation in a nonjudgmental way or provide more information about vaccine safety or development.

Decisional Balance

This strategy involves weighing the pros and cons of change. The physician seeks to explore the patient's arguments for and against change while maintaining a position of neutrality. Decisional balance is a nondirective strategy where the physician has no intent to influence the direction of the patient's decision. For some physicians, this might seem counterintuitive, especially if they intend to move a patient out of ambivalence and toward a decision that favors public health. However, taking a position, and therefore violating neutrality, can often push patients in the opposite direction than intended, creating discord and resistance in the interaction. Thus, we caution against the use of this approach (1) when the physician finds they are unable to stay neutral and (2) with patients who are highly ambivalent about or outright refuse vaccination, such as instances where people have an overall lack of trust in the medical system, because in these cases, decisional balance can decrease commitment to change.[11] In such situations, physicians should favor exploring with open-ended questions and reflections to better understand the values underlying the patient's concerns and/or using the Elicit-Provide-Elicit strategy to provide accurate information.

Step 3: Respond Mindfully and Skillfully

Following evocation, the physician must respond mindfully and skillfully to the patient's position. Here, it can be useful to summarize the discussion, highlighting aspects favoring behavior change (eg,

Table 2. Five Useful Questions for Exploring and Evoking Vaccine Hesitancy with Motivational Interviewing

1. What concerns do you have about taking the vaccine?
2. What reasons do you see for taking the vaccine?
3. How important is it for you to get vaccinated?
4. How do you see the COVID-19 vaccination benefiting your community?
5. What do you know about the safety of the vaccine?

emphasizing one's identity as a caretaker to children at home or work), and ask a patient, "So how does that influence your decision?" to move the patient toward deciding. Regardless of their final position in the encounter, it is imperative to continue nonjudgmentally while emphasizing autonomy to reduce the chance of resistance. It can be important to remember that ambivalence may not be resolved in a single interaction. For long-term care physicians, such as family medicine physicians, it is often worth scheduling a follow-up conversation to revisit the conversation later.

Conclusion

This article provides clear guidance and strategies for physicians navigating patient COVID-19 vaccine hesitancy that is consistent with an MI approach. Although the application of the central concepts of MI, and specifically these 3 steps, may seem straightforward, several challenges can arise in addressing vaccine hesitancy with MI. For example, the techniques outlined in this article may seem counterproductive to physicians who see the benefits of patients getting vaccinated. Patients who feel ambivalent about getting vaccinated may be sensitive to well-intentioned efforts by physicians to persuade them one way or the other. As a result, attempts to persuade may cause discord in the encounter. Thus, using the 3 steps outlined, which focus on avoiding the "didactic" approach and stepping aside from persuasion, is more effective for moving toward behavior change. Such an approach (1) encourages patients to explore their motivations and concerns, (2) helps physicians evoke arguments for vaccination from the patient, and (3) gives physicians the opportunity to engage patients in the shared decision-making process. Given the empirical support for MI in addressing general vaccine hesitancy and behavior change, the MI approach is well suited to address COVID-19 vaccine hesitancy and promote health behavior change. We therefore recommend physicians engage with the 3-step process outlined here, which emphasizes core features of the MI approach, especially until there are more data on interventions to address COVID-19–specific vaccine hesitancy and misinformation.

To see this article online, please go to: http://jabfm.org/content/35/2/420.full.

References

1. Fisher KA, Bloomstone SJ, Walder J, Crawford S, Fouayzi H, Mazor KM. Attitudes toward a potential SARS-CoV-2 vaccine: a survey of U.S. adults. Ann Intern Med 2020;173:964–73.
2. World Health Organization. Report of the SAGE Working Group on Vaccine Hesitancy. 2014. Available at: https://www.who.int/immunization/sage/meetings/2014/october/1_Report_WORKING_GROUP_vaccine_hesitancy_final.pdf. Accessed March 24, 2021.
3. MacDonald NE. SAGE Working Group on Vaccine Hesitancy. Vaccine hesitancy: definition, scope and determinants. Vaccine 2015;33:4161–4.
4. World Health Organization. Ten threats to global health in 2019. 2019. Available from https://www.who.int/emergencies/ten-threats-to-global-health-in-2019. Accessed March 24, 2021.
5. Centers for Disease Control and Prevention. COVID-19 vaccinations in the United States. Available at: https://covid.cdc.gov/covid-data-tracker/#vaccinations. Accessed October 5, 2021.
6. Dubé E, Gagnon D, MacDonald NE; SAGE Working Group on Vaccine Hesitancy. Strategies intended to address vaccine hesitancy: review of published reviews. Vaccine 2015;33:4191–203.
7. Jarrett C, Wilson R, O'Leary M, Eckersberger E, Larson HJ; SAGE Working Group on Vaccine Hesitancy. Strategies for addressing vaccine hesitancy: a systematic review. Vaccine 2015;33:4180–90.
8. Nyhan B, Reifler J, Richey S, Freed GL. Effective messages in vaccine promotion: a randomized trial. Pediatrics 2014;133:e835–42.
9. Witus LS, Larson E. A randomized controlled trial of a video intervention shows evidence of increasing COVID-19 vaccination intention. 2021. medRxiv. Available at: https://www.medrxiv.org/content/10.1101/2021.03.26.21254433v1. Accessed June 1, 2021.
10. Miller WR, Rollnick S. Motivational interviewing: helping people change. Guilford: New York, NY; 2013.
11. Miller WR, Rose GS. Motivational interviewing and decisional balance: contrasting responses to client ambivalence. Behav Cogn Psychother 2015;43:129–41.
12. Keeley R, Engel M, Reed A, Brody D, Burke BL. Toward an emerging role for motivational interviewing in primary care. Curr Psychiatry Rep 2018;20:1–2.

13. Lundahl B, Moleni T, Burke BL, et al. Motivational interviewing in medical care settings: a systematic review and meta-analysis of randomized controlled trials. Patient Educ Counsel 2013;93:157–68.
14. Leask J, Kinnersley P, Jackson C, Cheater F, Bedford H, Rowles G. Communicating with parents about vaccination: a framework for health professionals. BMC Pediatr 2012;12:1.
15. Gagneur A, Lemaître T, Gosselin V, et al. A postpartum vaccination promotion intervention using motivational interviewing techniques improves short-term vaccine coverage: PromoVac study. BMC Public Health 2018;18:8.
16. Gagneur A, Gosselin V, Dubé È. Motivational interviewing: a promising tool to address vaccine hesitancy. Vaccine 2018;36:6553–5.
17. Brewer NT, Chapman GB, Rothman AJ, Leask J, Kempe A. Understanding and increasing vaccination behaviors: putting psychology into action. Psychol Sci Public Interest 2017;18:149–207.
18. Gagneur A, Battista MC, Boucher FD, et al. Promoting vaccination in maternity wards– motivational interview technique reduces hesitancy and enhances intention to vaccinate, results from a multicentre non-controlled pre-and post-intervention RCT-nested study, Quebec, March 2014 to February 2015. Eurosurveillance 2019;24: 1800641.
19. Knight H, Jia R, Ayling K, et al. Understanding and addressing vaccine hesitancy in the context of COVID-19: development of a digital intervention. 2021. Public health, 201, 98–107.

Appendix. Case examples.

Step 1: Practice a Guiding Style

Physician: You mentioned you're not sure whether or not you'd like to receive the COVID-19 vaccine. [reflection]

Patient: I feel like I should, but I'm worried about things I have heard in the media, like the government might be using the vaccines to track us.

Physician: You're worried that the vaccine might cause problems for you or be risky. You're feeling conflicted about what to do. [reflection; focusing on underlying concerns over sociopolitical issues]

Patient: Exactly! I was worried you would judge me. I'm not sure what is and isn't true. There's so much information out there.

Physician: You thought that sharing your concerns would lead me to judge you or be upset with you. [reflection]

Patient: Yes. And my family is telling me that if I get the vaccine I'm giving into liberal propaganda. I don't want to upset them.

Physician: Your family is concerned about the vaccine, and you are worried that choosing to get the vaccine could cause them to view you in a negative light. I appreciate you being honest with me. [affirmation; focusing on underlying concerns over sociopolitical issues]

I'm not here to tell you what to do or make you do anything you don't want to do. You'll decide if and when you wish to get the vaccine. [autonomy support; neutrality]

Patient: Thanks. I appreciate that.

Physician: While you're deciding, perhaps it's helpful for us to continue exploring your concerns. What are some of the other reasons you feel unsure about getting the vaccine? [open-ended question to explore ambivalence]

Step 2: Evoke Using the MI Toolbox

Physician: What is your understanding of the COVID-19 vaccine? [Elicit]

Patient: Well, I know it's supposed to protect everyone from the virus, and we have certainly lost a lot of lives during this pandemic, but I'm worried it's not safe. It usually takes years to develop vaccines and this one was made way too fast.

Physician: You make a valid point that vaccines typically take a long time to produce. You're concerned about the safety of a vaccine produced so quickly and, at the same time, you understand how important it is for everyone to be protected from the virus. [affirmation; reflection]

Patient: Yeah exactly! I want everyone and myself to be protected, but I don't want to risk it with a rushed vaccine. I've seen some scary information on Facebook about the risks of a rushed vaccine.

Physician: Would it be all right if I shared some information about how the COVID-19 vaccine was developed? [asking permission]

Patient: Sure.

Physician: Earlier you mentioned that vaccines take a long time to produce, often up to 10 years. We know that the COVID-19 pandemic occurred at a time with more resources for vaccine development than any prior period. This includes worldwide collaboration made possible through advanced communication capabilities, an outpouring of funding, and revolutionary new technologies. [Provide]

What do you think about this information? [Elicit]

Patient: It makes sense that having extra resources and technology would speed up the timeline. I still think there hasn't been enough time to understand the long-term effects of the vaccine.

Physician: You understand how more resources enabled faster vaccine development and, also, you are concerned there are negative effects we haven't seen yet. What else makes you unsure about taking the vaccine? [reflection; decisional balance—exploring reasons against change]

Patient: Aside from the side effects, I do not know if it is worth taking. It is nearly impossible to get an appointment and it seems easier to get a bit sick for a week and get over it.

Physician: You are concerned about the inconvenience in addition to long-term effects. Only you can decide if getting the vaccine is the right decision for you. [reflection; support autonomy]

Earlier you had mentioned the immense loss of life this year and that the vaccine protects everyone from the virus. What are some other reasons you see for taking the vaccine? [decisional balance—exploring reasons for change]

Patient: Yeah, I know some people just get a little sick, but I know a lot of older people who got really sick or died. It is important to protect them.

Physician: You have thought a lot about your decision whether or not to receive the vaccine. You are concerned about long-term side effects and the inconvenience of getting an appointment. At the same time, you really care about protecting older populations from the serious consequences of the virus by protecting yourself. [summary]

Step 3: Respond Mindfully and Skillfully

We offer 2 opportunities to see an MI-adherent response to (a) a patient who has decided to get the vaccine and (b) a patient expressing continued ambivalence.

Patient has decided to get COVID-19 vaccine:

Physician: How do you feel about receiving the COVID-19 vaccine?

Patient: I've thought a lot about this, and I've decided that protecting myself and others from the virus outweighs any potential risks. [resolution of ambivalence]

Physician: You've done a lot of research and decided that getting the vaccine is the right decision for you. What questions do you have right now? [reflection; Elicit]

Patient: What side effects should I expect after the first and second dose?

Physician: That's an important question. After the first dose, many people report muscle soreness at the injection site. The second dose typically has stronger side effects. Many people experience fever, body aches, and fatigue for 1 to 2 days. Where does that information leave you? [Provide, Elicit]

Patient: I'm glad I asked. I think I'll schedule my vaccine on a Friday, so I don't have to skip work.

Physician: You are thinking ahead to accommodate possible side effects given your work schedule. Would you like me to give you a number to call to set up an appointment? [reflection and follow-up consistent with patient's planned next steps]

Patient: That would be great!

Patient continues to express ambivalence about COVID-19 vaccine:

Physician: How do you feel about receiving the COVID-19 vaccine?

Patient: I appreciate the discussion we've had today, and I've thought a lot about this vaccine. I like that it could protect me and others from the virus, but I'm still nervous. [ambivalence]

Physician: You've put a lot of thought and research into your decision. You want the protection the vaccine offers, and at the same time, there are things you remain concerned about. What concerns you most after our conversation? [reflection; Elicit]

Patient: I'm worried that there might be serious long-term effects. A friend of mine mentioned infertility and that scared me. I think I might be more open to the vaccine after more people have taken it.

Physician: That does sound frightening. May I share some experiences of other patients who have taken the vaccine? [validation; asking permission]

Patient: Yes, please do.

Physician: After the first dose, many people report having muscle soreness at the injection site. The second dose typically has stronger side effects. Many people experience fever, body aches, and fatigue for 1 to 2 days. Studies support these findings and have not reported any effects on fertility. What do you think? [Provide; Elicit]

Patient: Those side effects seem manageable. I think I'd like more information before making my decision, though.

Physician: I'm happy to provide you with some handouts on the vaccine. You can take a look at these and then, if you would like, come back to have another conversation with me in a couple weeks.

Patient: That works for me.