


**BRIEF REPORT****Lessons learned from frontline skilled nursing facility staff regarding COVID-19 vaccine hesitancy**

**Sarah D. Berry MD MPH<sup>1</sup> | Kimberly S. Johnson MD<sup>2</sup> |  
Lonnita Myles BA, MBA<sup>3</sup> | Laurie Herndon NP<sup>1</sup> | Ana Montoya MD MPH<sup>4</sup> |  
Shekinah Fashaw BS<sup>5</sup>  | David Gifford MD MPH<sup>3,5</sup>**

<sup>1</sup>Hinda and Arthur Marcus Institute for Aging Research, Hebrew Senior Life & Harvard Medical School, Boston, Massachusetts, USA

<sup>2</sup>Department of Medicine, Duke University School of Medicine, Durham, North Carolina, USA

<sup>3</sup>Center for Health Policy and Evaluation in LTC, American Health Care Association, Washington, District of Columbia, USA

<sup>4</sup>Department of Medicine, University of Michigan School of Medicine, Ann Arbor, Michigan, USA

<sup>5</sup>Health Services, Policy and Practice, Brown University School of Public Health, Providence, Rhode Island, USA

**Correspondence**

Sarah D. Berry, MD MPH, Hebrew Rehabilitation Center, 1200 Centre Street, Roslindale, MA 02131, USA.  
Email: sarahberry@hsl.harvard.edu

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**Abstract**

**Background:** Presently a median of 37.5% of the U.S. skilled nursing facility (SNF) workforce has been vaccinated for COVID-19. It is essential to understand vaccine hesitancy among SNF workers to inform vaccine campaigns going forward.

**Objective:** To describe the concerns raised among healthcare workers and staff from SNFs during town hall meetings.

**Design:** Sixty-three SNFs from four corporations were invited to send Opinion Leaders, outspoken staff from nursing, nurse aid, dietary, housekeeping or recreational therapy, to attend a 1-h virtual town hall meeting. Meetings used a similar format where the moderator solicited concerns that the attendees themselves had or had heard from others in the facility about the COVID-19 vaccine. Physicians and moderators used personal stories to address concerns and reaffirmed positive emotions.

**Setting:** Twenty-six video town hall meetings with SNF staff.

**Participants:** Healthcare workers and staff, with physicians serving as content experts.

**Measurement:** Questions and comments about the COVID-19 vaccines noted by physicians.

**Results:** One hundred and ninety three staff from 50 facilities participated in 26 meetings between December 30, 2020 and January 15, 2021. Most staff reported getting information about the vaccine from friends or social media. Concerns about how rapidly the vaccines were developed and side effects, including infertility or pregnancy related concerns, were frequently raised. There were no differences in concerns raised by discipline. Questions about returning to prior activities after being vaccinated were common and offered the opportunity to build on positive emotions to reduce vaccine hesitancy.

**Conclusions:** Misinformation about the COVID-19 vaccine was widespread among SNF staff. Sharing positive emotions and stories may be more effective than sharing data when attempting to reduce vaccine hesitancy in SNF staff.

**KEYWORDS**

COVID-19, nursing home, vaccine hesitancy

**BACKGROUND**

COVID-19 has disproportionately affected skilled nursing facility (SNF) staff and residents in the United States, with the highest rates of infection and mortality in both groups.<sup>1</sup> Fortunately, three vaccines have recently received emergency use authorization in the United States and are being prioritized for distribution to SNFs. The Pharmacy Partnership for Long-Term Care Program facilitated distribution of the first two vaccines to SNF residents and staff through three, on-site vaccination clinics between December 2020–March 2021. Although large randomized control trials demonstrated that the vaccines are effective and safe,<sup>2,3</sup> considerable hesitancy remains among the public and healthcare workers.<sup>4,5</sup> In fact, nationwide a median of only 37.5% of SNF staff were vaccinated after the first clinic.<sup>6</sup> Reasons for vaccine refusal include mistrust of the government and pharmaceutical companies, concerns about side effects made worse by rampant misinformation about the vaccine on social media, and concerns among Black healthcare workers which stem from a history of medical racism.

The majority of the SNF workforce has close, frequent contact with patients, and so it is essential that a sizeable proportion of the workforce be vaccinated to prevent continued COVID-19 outbreaks. As part of a multi-targeted intervention to improve vaccine uptake among SNF staff and patients, we conducted a series of town hall meetings with healthcare workers and staff (e.g., dietary, housekeeping) from 50 SNFs. These town hall meetings offered some of the first information on vaccine hesitancy collected in a diverse group of SNF healthcare workers and staff after the vaccines were approved. The purpose of this report is to describe the questions and comments made during these meetings to inform efforts to reduce vaccine hesitancy.

**METHODS**

We invited 63 facilities to select four Opinion Leaders, one each from nursing (direct care), nursing aid, dietary, and either housekeeping or recreational therapy. We defined an Opinion Leader as an outspoken staff member that other individuals may listen to, regardless of whether the staff member planned to receive the COVID-19 vaccine. Staff were invited to join a 1-h video meeting about the COVID-19 vaccine organized by discipline. One of

**Key Points**

- During town hall meetings with 196 frontline staff from SNFs, misinformation through social media was common: rapid vaccine development and infertility and pregnancy related concerns were among the most frequent raised.
- Questions about returning to prior activities after being vaccinated were common and offered the opportunity to build on positive emotions to reduce vaccine hesitancy.
- Sharing positive emotions and stories in a town hall meeting format may be more effective than sharing data when attempting to reduce vaccine hesitancy in SNFs.

**Why Does this Paper Matter?**

Misinformation about the COVID-19 vaccines is widespread among SNF healthcare workers and staff. Town hall meetings that validate and address staff concerns by sharing stories and positive emotions may be an effective way to reduce vaccine hesitancy in this important population.

the four SNF chains was experiencing organizational instability and was unable to provide us with names. For this chain, we provided corporate leadership with meeting links, and encouraged them to distribute among staff who then participated. Staff received a \$50 e-gift card for their time.

The town hall meetings were led by a single moderator (LM, SF, LH) with 1–3 geriatricians (DG, SB, KJ, AM) to answer questions. The majority of the meetings included 2–3 geriatricians. For each meeting, the moderator made it explicit that the intent was not to convince everyone to get vaccinated, but instead to provide good information about the vaccine in order to make an informed decision about vaccination for themselves and to share with others. Next the moderators solicited concerns that the Opinion Leaders themselves had or had heard from others in the facility about the COVID-19 vaccine. Physicians reaffirmed that each concern was valid regardless of the concern, and asked if other participants were hearing or had the same concerns. Whenever

**TABLE 1** Concerns raised by 193 healthcare workers and staff from skilled nursing facilities in town hall meetings about the COVID-19 vaccines

Early concerns raised consistently	Examples of staff statements
The vaccine was developed too quickly	<ul style="list-style-type: none"> <li>• They must have taken shortcuts.</li> <li>• How can they make this so fast when they cannot get a vaccine for HIV?</li> <li>• It is only approved for emergency use. If it is not rushed, why are they only approving with an EUA?</li> </ul>
Short term side effects	<ul style="list-style-type: none"> <li>• I have allergies to food, pets, pollen, seasonal allergies so it is not safe.</li> <li>• I have asthma that gets worse with allergies—is it safe?</li> <li>• I do not know the ingredients. It says if you are allergic to ingredients do not take it. How do I know if I am allergic?</li> <li>• I cannot miss work if I get sick.</li> </ul>
Infertility and safety in pregnancy	<ul style="list-style-type: none"> <li>• I am worried it will merge with my DNA and impact my kids.</li> <li>• I am worried it will cause abortion or impact the fetus.</li> <li>• Can pregnant women take it and is it safe?</li> <li>• Can women take the vaccine while they are breast feeding and is it safe?</li> </ul>
Long-term side effects	What might happen 1–10 years from now if I take the vaccine?
Wait and see how others react to the vaccine	<ul style="list-style-type: none"> <li>• I've avoided getting COVID so I will just wait and see how it goes.</li> <li>• I just want to wait and see how it works for other people.</li> </ul>
Consistent concerns raised after early concerns were addressed	Examples of staff statements
Belief that it causes COVID-19	I know someone who tested positive after they got the first vaccine.
Bell's palsy	I heard it causes Bell's palsy.
Requirement for a booster shot	If it is only good for 1 year, then why get it?
Ineffective in new COVID-19 variants	Why take the vaccine if it will be useless on new variants?
Previously tested positive for COVID-19	<ul style="list-style-type: none"> <li>• I am worried about having side effects similar to when I had COVID-19.</li> <li>• Since I had COVID-19, do I need to get the vaccine?</li> </ul>
Concerns that were usually raised but later in discussion	Examples of staff statements
Uncertainty as to whether getting vaccinated will change precautions	Will I need to keep getting (tested, wear a mask, limit family visits, quarantine after exposure) if I get vaccinated?
Microchip	I've heard it has a microchip to track people.
Safety in persons with chronic disease	<p>Is it safe in people who...</p> <ul style="list-style-type: none"> <li>• have cancer?</li> <li>• have autoimmune disease?</li> <li>• are immunocompromised?</li> </ul>
Infrequent concerns	Examples of staff statements
Mortality associated with vaccine	I heard people are dying after they get the vaccine.
Related to influenza pandemic of 1918	The virus has been around for a long time and killed many people in 1918.
Historical abuse of Blacks	As a woman of color, how can I know the vaccine is safe?
Guillain-Barre syndrome	I heard it causes Guillain-Barre Syndrome.
Spiritual concerns	<ul style="list-style-type: none"> <li>• God has kept me safe so far and will do so going forward.</li> <li>• Some staff think taking the vaccine will mark them and keep them from going to heaven (reference to book of Revelation in the Bible).</li> <li>• I heard it has fetal cells from abortion, and I object to abortion so I cannot get the vaccine.</li> </ul>

**TABLE 2** Examples of suggested responses to concerns raised by skilled nursing facility healthcare workers and staff during 26 town hall meetings

Concerns	Example responses
The vaccine was developed too quickly	<ul style="list-style-type: none"> <li>• I thought so too at first, but the technology was made possible by decades of work.</li> <li>• Enormous resources devoted to the vaccine and collaboration between the drug companies and government allowed quick development.</li> <li>• All of the normal safety measures were undertaken, but studies and production overlapped.</li> </ul>
Short term side effects	<ul style="list-style-type: none"> <li>• Provide stories of persons with allergies who were vaccinated/plan to be vaccinated.</li> <li>• Anaphylactic reactions have been rare (1/100,000), and many people had history of anaphylaxis with other vaccines.</li> <li>• Provide stories of other facilities that demonstrate that staff have rarely needed to call out due to side effects.</li> </ul>
Long-term side effects	<ul style="list-style-type: none"> <li>• Vaccines rarely have side effects beyond 60 days. The studies waited until most people were 60 days from the second dose to look at safety data.</li> <li>• The vaccine is degraded quickly in your body and does not alter your DNA.</li> </ul>
Infertility and safety in pregnancy	<ul style="list-style-type: none"> <li>• The vaccine never touches your DNA and does not alter your DNA.</li> <li>• The vaccine causes your body to make the same antibodies that you would make if you had COVID-19. Millions of women worldwide have contracted COVID-19 and there is no evidence it affects fertility.</li> <li>• Pregnant women were not included in the studies, but medical experts believe that it is safe in pregnancy.</li> <li>• Lactating women are encouraged to get vaccinated.</li> </ul>
Wait and see how others react to the vaccine	<ul style="list-style-type: none"> <li>• Remind staff that getting vaccinated helps all of us get back to normalcy.</li> <li>• This approach could be risky given the rise in COVID-19 in the community and new viral strains.</li> </ul>
Belief that it causes COVID-19	<ul style="list-style-type: none"> <li>• Explain in lay language how the vaccine works (e.g., it is a blueprint that tells your body to make a protein that is found on the outside of the COVID-19 virus).</li> <li>• Tell stories staff and patients who tested positive following vaccination to illustrate that a positive test came from exposure before or immediately after vaccination.</li> </ul>
Bell's palsy	<ul style="list-style-type: none"> <li>• Explain Bell's palsy is rare (2/10,000) and may occur in persons with COVID-19.</li> <li>• Tell stories of persons with a history of Bell's palsy who were vaccinated.</li> </ul>
Requirement for a booster shot	<ul style="list-style-type: none"> <li>• Remind staff that booster shots are typical for other vaccines (e.g., measles)</li> </ul>
Ineffective in new COVID-19 variants	<ul style="list-style-type: none"> <li>• The spike protein on the UK variant is similar, and medical experts are optimistic the vaccine will be effective against this strain.</li> <li>• The vaccines are so effective against COVID-19 (95%) that even if the efficacy is less with the variant strains, the vaccines will likely protect most people.</li> </ul>
Previously tested positive for COVID-19	<ul style="list-style-type: none"> <li>• Tell stories of staff's experience with getting the vaccine and stories of staff who were ill with COVID-19.</li> </ul>
Uncertainty as to whether getting vaccinated will change precautions	<ul style="list-style-type: none"> <li>• In the short term getting vaccinated will not change precautions because we do not yet know that the vaccine limits asymptomatic spread.</li> <li>• Medical experts are optimistic that it will reduce asymptomatic spread and expect that we will start to see lifting of precautions when enough people have been vaccinated.</li> </ul>
Microchip	<ul style="list-style-type: none"> <li>• That would be scary if it were true. The vaccine does not contain a microchip. This technology does not exist.</li> <li>• If the drug companies included anything in the vaccine that was not on the label, they would be sued.</li> </ul>
Safety in persons with chronic disease	<ul style="list-style-type: none"> <li>• The vaccine was tested in all sorts of people with different co-morbidities including autoimmune disease and cancer.</li> <li>• People with comorbidities and immunocompromised persons are at the highest risk of getting severely ill with COVID-19 and so vaccination is recommended.</li> <li>• The vaccine may be less effective (but not less safe) in people who are severely immunocompromised.</li> </ul>

TABLE 2 (Continued)

Concerns	Example responses
Mortality associated with vaccine	<ul style="list-style-type: none"> <li>In the large safety studies, there was no difference in mortality among people who received the vaccine or placebo.</li> </ul>
Historical abuse of Blacks	<ul style="list-style-type: none"> <li>Due to systemic racism including alarming cases of medical racism, many Black, indigenous, and people of color (BIPOC) are concerned about the safety of the vaccine. However, the COVID-19 virus is disproportionately affecting and killing BIPOC, and so BIPOC should strongly consider getting vaccinated.</li> </ul>
Related to influenza pandemic of 1918	<ul style="list-style-type: none"> <li>This is a different virus. Similar to 1918, it spread quickly because no one had immunity. If enough people get vaccinated, the virus will have nowhere to go and will die off.</li> </ul>
Guillain-Barre syndrome	<ul style="list-style-type: none"> <li>No cases of Guillain-Barre were reported in the vaccine studies.</li> </ul>
Trust that God will protect	<ul style="list-style-type: none"> <li>God has given us the technology to create the vaccine. Pope Francis and other religious leaders have strongly encouraged vaccination.</li> </ul>
Vaccine contains fetal cells	<ul style="list-style-type: none"> <li>The vaccine does not contain fetal cells, but fetal cells (stem cells) were used in its development.</li> </ul>
Mark of the Beast	<ul style="list-style-type: none"> <li>That would be scary if it were true. The vaccine does not contain any mark or tracer.</li> </ul>

possible, physicians and moderators used personal stories to address concerns. For example, physicians often shared their own experience (or a family member’s experience) with vaccine hesitancy and how they were able to make an informed decision about getting vaccinated. Physicians took notes of concerns raised during the meetings. Attendees could ask as many questions as they wanted but each attendee was invited to ask at least one question.

During these sessions, Opinion Leaders were encouraged to help stop the spread of misinformation by speaking up if they hear information that does not seem factual. Moderators and physicians repeated the catchphrase: “When you hear something, say something.” Moderators and physicians discouraged staff from shaming others who declined vaccination.

**RESULTS**

Between December 30, 2020 and January 15, 2021 we conducted 26 town hall meetings with 193 Opinion Leaders across 50 facilities. 67.9% of attendees reported their discipline, with approximately half from dietary, housekeeping and other groups. Attendance varied from 1 to 20 people, and, on average, 15 questions were addressed in each session (range 9–20). Concerns raised by the Opinion Leaders are grouped and rank order listed in Table 1. There were no differences in concerns raised by discipline. After the first four town hall meetings, very few (*n* = 2) new questions or concerns were raised. Most staff reported getting their information about the vaccine from friends or social media, but most were interested in

learning more from expert sources. Concerns about how rapidly the vaccine was developed and side effects, including infertility and pregnancy related concerns, were among the most frequent. Examples of physician and moderator responses are provided in Table 2. Among staff who had already been vaccinated, many stated that what convinced them to get the vaccine was the effect on their residents or family. For example, one nurse stated: “I got vaccinated because I don’t want my patients to have to keep visiting family through a window.”

**DISCUSSION**

This report provides insight into the common COVID-19 vaccine hesitancy concerns among SNF healthcare workers and staff, and offers an approach to address hesitancy. While some of these concerns are well documented in national polls, they seem more widespread than previously believed. For example, in two national surveys from December 2020, only 27%–44% of the public expressed hesitancy in getting vaccinated,<sup>4,7</sup> with the newness of the vaccine and side effects listed as the most common concerns.<sup>4</sup> These issues were raised in every town hall meeting and agreed by almost all participants as being concerns they or their co-workers had.

Misinformation about the vaccine through social media is rampant and rapidly evolving. Many attendees across disciplines said they had done research on their own but had just one or two questions they wanted addressed. We did not anticipate that concerns about infertility or presence of micro-chip were so prevalent, and we would not have been able to address without



asking. An important benefit of the town hall format was that it afforded staff the opportunity to ask about their specific concerns without having to sit through a lengthy, predetermined presentation. Participants asked physicians to share their personal experiences with receiving the vaccine and some participants shared their experiences and personal motivations for receiving the vaccine. The opportunity for participants to share their stories was an added benefit of the open town hall format.

We also discovered the importance of questions about returning to prior activities after being vaccinated. Staff often talked or asked about how soon they could hug their residents or travel to see family. Many staff reported that what convinced them was the beneficial effect of vaccination on their residents or family. Health communication literature suggests that it is equally if not more important to address positive emotions (e.g., building altruism and hope) as it is negative emotions (e.g., combating fear and anxiety) when addressing vaccine hesitancy.<sup>6,8</sup> We discouraged staff from using guilt or shame to promote vaccine uptake.

Finally, it is important that these conversations occur among a diverse panel. The U.S. SNF workforce is predominantly female (82%) but racially diverse (28% Black, and 15% Latinx and 6% Asian).<sup>9</sup> Early experience from vaccine roll out suggests people are more accepting of the message when delivered by someone like them.<sup>10,11</sup> The physicians and moderators who led the town hall were racially and ethnically diverse. Black, indigenous, and people of color (BIPOC) have generally been more reluctant to get vaccinated,<sup>4,7</sup> but among all persons physicians are the preferred source to learn more about the COVID-19 vaccine. For instance, in a population based survey of 1676 community dwellers, 85% of respondents reported that physicians were the most trusted source regarding the COVID-19 vaccine.<sup>4</sup> By using a diverse panel of moderators and physicians to discuss the COVID-19 vaccine with SNF healthcare workers and staff, we hoped to create a diverse cadre of trusted SNF staff who would share accurate information with peers.

Given the low initial uptake of vaccination among SNF staff, it is critical to develop and implement successful models to address vaccine hesitancy. Based on our experience and hearing from others, physicians and other healthcare providers need to take the time to meet with staff and their patients. We believe that our model, that engages and empowers frontline staff from different disciplines to disseminate positive information about the vaccine among peers, may be a successful model in SNFs going forward.

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## FINANCIAL DISCLOSURE

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## CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

## AUTHOR CONTRIBUTIONS

Drs. Berry and Gifford conceived of the study idea were present for all of the town hall meetings. Dr. Johnson, Dr. Montoya, Ms. Herndon, Ms. Myles, and Ms. Fashaw participated and were involved in the collection of the data during the town hall meetings. Dr. Berry drafted the manuscript and had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy. All authors provided substantially to the drafting and revising of this manuscript.

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## SPONSOR'S ROLE

The sponsor had no role in the study design or interpretation of the data.

## ORCID

Shekinah Fashaw  <https://orcid.org/0000-0002-0077-5047>

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