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Attitudes and Experiences Regarding Communication About Maternal Vaccination: Qualitative Findings from Non-Hispanic Black Pregnant People

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Abstract

Comprehensive prenatal care incorporates recommended vaccines to help protect the mother, the pregnancy, and the infant from adverse health outcomes and severe illness from vaccine preventable diseases (VPDs). However, vaccinations during pregnancy remain underutilized, often influenced by concerns about vaccine safety and low perception of disease risk. Self-reported vaccine hesitancy among pregnant people in the United States has significantly increased in the last few years, and influenza and Tdap (tetanus, diphtheria, and pertussis) vaccination rates have declined. Furthermore, the number of vaccines routinely recommended during pregnancy has expanded. Communication strategies tailored to pregnant people may help build vaccine confidence among pregnant people and their health care providers. While characteristics and perceptions associated with hesitancy to vaccinate during pregnancy are documented in existing literature, more information is needed on promising communication practices preferred by subgroups of pregnant persons, particularly Black pregnant people who have higher rates of illness from VPDs and greater risk of pregnancy-related complications. This article summarizes

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Authors' Contributions

I.M.: Conceptualization, methodology, writing—original draft preparation, and writing—review and editing. V.G.G.: Conceptualization, methodology, writing—original draft preparation, and writing—review and editing. L.A.R.: Project administration and writing—review and editing. A.R.: Writing—review and editing and supervision.

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Disclaimer

In this report, "maternal" is used at times to align with referenced data. The authors recognize that all pregnant people may not identify with gendered language. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the CDC.

literature on the current landscape of prenatal vaccination, discusses qualitative findings from focus groups with non-Hispanic Black pregnant people, and describes promising practices for communicating with this group about vaccination. Promising practices include specifying the benefits of vaccination for both the pregnant person and the infant, outlining potential risks, and emphasizing the overall importance of vaccination during pregnancy, while also acknowledging that many non-Hispanic Black pregnant people may have health concerns they perceive as superseding vaccination.

Keywords

maternal health; maternal vaccination; health disparities; health communication

Introduction

Comprehensive prenatal care incorporates immunization to prevent and mitigate the impact of vaccine preventable diseases (VPDs) for the pregnant person, fetus, and newborn.[1] Yet, uptake of Advisory Committee on Immunization Practices (ACIP) recommended maternal vaccines remains low.[2,3] Low vaccination coverage leaves many pregnant people and their infants susceptible to VPDs and associated serious adverse maternal or perinatal consequences.[4,5]

Self-reported hesitancy about influenza vaccines among pregnant people increased from 17.5% in 2019–2020 to 24.7% in 2022–2023.[6] Similarly, self-reported hesitancy among pregnant people about tetanus, diphtheria, and pertussis (Tdap) vaccines increased from 15.1% during 2019–2020 to 19.8% in 2022–2023.[6] While characteristics associated with hesitancy to vaccinate during pregnancy are documented in existing literature, there is more to learn about promising communication practices that can improve vaccine confidence among groups of pregnant people experiencing low vaccination coverage.[7,8] Coverage estimates indicate that overall vaccination coverage among non-Hispanic Black pregnant people remains suboptimal. As of April 2023, 31.4% of non-Hispanic Black pregnant women received a Tdap vaccine during the 2022–2023 flu season compared with 62.2% of non-Hispanic White pregnant women.[6] As of January 2024, 10.3% of non-Hispanic Black pregnant people received a maternal respiratory syncytial virus (RSV) vaccine (does not include nirsevimab coverage of infants) compared with 19.9% of non-Hispanic White pregnant people.[9] Cumulative monthly influenza vaccination coverage data indicate that only 21.5% of non-Hispanic Black pregnant people are estimated to have received a 2023–2024 influenza vaccine as of March 2024 compared with 37.1% of non-Hispanic White pregnant people.[10] As of May 2024, coverage estimates indicate that 5.9% of non-Hispanic Black pregnant people have received a 2023–2024 COVID-19 vaccine compared with 17.3% of non-Hispanic White pregnant people.[11] Understanding that non-Hispanic Black pregnant people are less likely to report receiving respectful maternity care than pregnant people from other observed racial and ethnic groups,[12] it is important to recognize that there are many factors that may impact the low vaccination coverage observed within this population. As recommendations for vaccination during pregnancy continue to expand, it is important for

public health practitioners to utilize communication practices that remain responsive to the evolving sociocultural factors that may influence vaccination behaviors during pregnancy.[13]

Black and biracial pregnant people have reported utilizing self-protective actions within their reproductive health care, often citing the legacy of scientific racism and reproductive health inequities.[14,15] Self-protective actions were described as "seeking a health care professional of color, overpreparing for appointments, enlisting advocates, seeking care only when desperate, and heightening symptoms to be heard."[15] What is less understood is how Black pregnant people's utilization of self-protective actions and lived experiences with reproductive racism may influence vaccine communication preferences and decision-making.[16] In 2023, the Centers for Disease Control and Prevention (CDC) sponsored 12 focus groups to increase understanding of the views of pregnant people regarding their experiences with prenatal care and receiving maternal vaccinations. Of the 12 focus groups, 6 were entirely composed of non-Hispanic Black pregnant people to explore how self-protective actions may influence communication needs and preferences related to vaccination during pregnancy.

Some research suggests that tailored communication materials may help increase vaccine confidence among pregnant people.[17–21] This article briefly synthesizes peer-reviewed literature on the current landscape of maternal vaccination uptake and discusses findings from CDC's formative research to summarize recommendations and promising practices for cultivating culturally responsive communications about vaccination with non-Hispanic Black pregnant people amid increasing nationwide vaccine hesitancy.

Review of literature on vaccine uptake during pregnancy

The PubMed database was searched between October 2023 and August 2024 using the following terms: "Tdap," OR "influenza," OR "RSV," OR "COVID-19," AND "pregnant" AND "acceptance." Additional topic-specific searches, such as evidence from communication interventions focused on prenatal vaccination, were performed, as needed. We included articles published in English between 2018 and 2024 and selected 32 articles that supported communication recommendations related to vaccination during pregnancy.

Three important findings from existing literature can be applied to promising communication practices on vaccination during pregnancy. First, while vaccine safety is a common concern,[22,23] pregnant people may have attitudes that vary by vaccine.[24] Reasons for these discrepancies vary, but existing literature provides insights on factors associated with vaccine acceptance[25]—by vaccine.[26] For example, Tdap vaccines are often more readily accepted by pregnant people than influenza vaccines.[13,27,28] The influenza vaccine is considered by some to be undesirable, in part, due to beliefs that the vaccine would make them sick.[28] In addition, there are concerns regarding the influenza vaccine's safety for their unborn child and questions about safety and efficacy given annual changes in the vaccine's composition.[23,28] Safety concerns are also commonly raised about the perceived novelty of recently recommended vaccines. Black and Hispanic pregnant people may have low knowledge of COVID-19 mRNA vaccine technology,[29] which could impact vaccine attitudes. Several pregnant people have also cited concerns about the perceived speed of the development of the COVID-19 vaccine as part of their decision to decline the vaccination.[30]

Nonacceptance of COVID-19 vaccines may be higher among White, Black, and Hispanic pregnant people compared with Asian pregnant people.[31] Among those who were pregnant or currently trying to become pregnant, perception of illness was a strong predictor of RSV vaccination intent.[32] Among pregnant people, attributes such as perceived vaccine effectiveness in protecting babies against serious illness requiring medical attention because of RSV and perceived improvements in the duration of protection against severe illness during RSV season were influential motivators toward maternal RSV vaccination.[33]

The second finding relates to how provider practices may impact vaccination uptake. For example, non-Hispanic Black pregnant people may be less likely to receive a provider vaccination offer than pregnant people from other racial and ethnic groups.[34–36] In addition, provider care setting may play a role in vaccination uptake as vaccination coverage in teaching practices may be higher than in private practices, which may be related to vaccine stock and availability.[37] Provider hesitancy to strongly recommend and offer prenatal vaccines may also influence vaccination uptake. Knowledge gaps, limited time, increased politicization surrounding the topic of vaccination, concerns about vaccine safety and efficacy, unmet desires for additional data, perceptions around disease risk, and distrust of government and health care systems have all been suggested as potential contributors to provider vaccination hesitancy.[38–42] Providers may also be hesitant to re-counsel patients who decline vaccination, deferring to individualized interpretations of respect for patient autonomy, particularly within communities experiencing persistent health inequities.[43] The perceived importance of the vaccine recommendation can also be an important factor. For example, some Spanish-speaking rural populations expressed that their provider did not openly encourage or discuss vaccination, which contributed to barriers.[44] This challenge between patient autonomy and provider hesitancy remains particularly relevant to uptake because a provider recommendation is one of the strongest known facilitators toward vaccination for pregnant people.[23,45–48]

The third finding relates to the influence of information sources for appropriately tailored communication products from trusted messengers, which can help facilitate vaccination acceptance.[17–21] Pregnant people demonstrate high levels of information seeking behavior.[23] Again, it is important to remember that subgroups of pregnant people often have different preferences for communication practices. For example, within rural populations, some English-speaking pregnant people preferred social media communication products that feature a peer messenger,[49] whereas some Spanish-speaking pregnant people preferred a health care provider or other culturally trusted messengers.[44]

Insights on maternal vaccination from formative research with non-Hispanic Black pregnant people

CDC sponsored 12 virtual focus groups between February 21, 2023 and March 2, 2023. The purpose of these focus groups was to increase understanding of the views of pregnant people, particularly non-Hispanic Black pregnant people, regarding their experiences with prenatal care and receiving maternal vaccinations, and to gather feedback on messages regarding the importance of vaccination during pregnancy. Focus groups were segmented into six groups of general population pregnant people and six groups of non-Hispanic Black

pregnant people. Groups were further segmented by whether it was the participant's first pregnancy or second or higher pregnancy. This report will focus on qualitative findings from the 33 participants in the 6 all non-Hispanic Black focus groups. Participants were 18–49 years of age and currently pregnant in their second or third trimester. Focus groups lasted approximately 90 minutes and were conducted in English. All sessions were audio recorded, transcribed verbatim, and de-identified for analysis. This project was determined to be a nonresearch program evaluation and, therefore, did not require institutional review board approval.

Focus group discussions explored several health domains with non-Hispanic Black pregnant people. This report will highlight selected themes that relate to their experiences and perceptions related to maternal vaccination and preferred sources and methods of communication as follows: (1) trusted sources of information for health-related pregnancy questions, (2) the substance and format of vaccination conversations with prenatal care providers, and (3) maternal vaccination communication preferences.

Results

Trusted sources of information for health-related pregnancy questions

Participants described their process of searching for information related to their health during their pregnancy. Most participants described independently utilizing electronic search engines. These searches were often driven by symptoms or topics related to expectations for different stages of their pregnancy. Several participants described taking information from the internet and fact checking it with their health care providers, particularly if their provider was Black or African American. Participants often triangulated health information that they found online with personal narratives from lived experiences of other pregnant people, doulas, and health care providers, often as reported through social media. Many participants described an increase in perceived trust among these messengers, particularly when a shared identity such as race, a similar due date, or a comparable co-occurring health condition was present. Most participants did not express a preference for celebrities or narratives from someone of a particular acclaim; instead, value was placed on hearing from everyday peers, doulas of color (preferably Black and African American), and health care providers of color (preferably female and Black or African American). For many, digital forums, pregnancy apps, videos, and in-person support groups provided community and highly valued access to peer experiences, provider perspectives, and advocacy insights from doulas. In addition, several participants had friends or family members who worked in the health care system who often served as additional trusted sources of information within participant's triangulation processes. Many participants also expressed comfort with contacting their health care providers through patient portals or phone calls when they needed additional information on health questions related to their pregnancy, particularly when the need for the information was perceived as time sensitive. In addition, participants often cited that their providers referred them to the American College of Obstetricians and Gynecologists website for additional information.

Substance and format of vaccination conversations with prenatal care providers

Several participants described encountering the topic of vaccination with their health care provider. However, many of those participants did not consider the encounter a conversation, and instead, participants often recounted simply being asked if they wanted to receive the vaccination or being told they should receive the vaccination. Consequently, many participants described being offered a vaccination that was not preceded by a recommendation or a rationale. Some described that this lack of rationale signaled to them that the vaccination was not important, and others described that without a recommendation, the vaccination offer reinforced the feeling of receiving generic depersonalized care.

Attitudes surrounding the prioritization of vaccination also varied among participants by the pregnant person's work setting. For example, several participants who worked from home perceived themselves to be at low risk of acquiring illnesses, and therefore, many felt less inclined to get vaccinated, whereas several participants who worked with the public described sentiments of increased risk, which often motivated them toward vaccination and subsequent conversations with their prenatal care provider. Individuals with preexisting health conditions, such as those living with asthma, also described a distinct motivation to get vaccinated.

Maternal vaccination communication preferences

Four messages designed to promote recommended vaccinations during pregnancy were tested among participants (Table 1). Many participants were aware of the concept of vaccinations producing antibodies that pass protection between the pregnant person and their baby. Several participants were also aware that changes to their immune system could increase their likelihood of severe illness during their pregnancy. Due to this existing knowledge, some felt that statements that simply reiterated the risk of severe illness provided little motivation to action or no new information. When this occurred, several participants described the messaging as lacking a specific rationale, which often prompted a neutral feeling and limited engagement.

Participants expressed appreciation for short statements (30 words or less) with a clear call to action. While some did not feel it was specific enough, the call to action to speak with a trusted health care professional about vaccination was well received, in part, because it reinforced the autonomy of the pregnant person and was perceived as invitational as opposed to directive. Statements that reinforced the protective benefits of vaccination for the baby were also well received. It is notable that some participants described that the appeal of protection for the baby had less to do with emotion and was more attributed to a technical expression of how vaccines work through a clear description of the benefits of vaccination during pregnancy. In addition, although protection for the baby was an important motivator, some participants reiterated that the pregnant person is the individual who will consent to and receive the vaccination; therefore, there was interest and value in brief descriptions of protective benefits for both the pregnant person and their baby.

Several participants expressed that care should be taken with language to avoid equating the act of vaccination as an expression of love or a demonstration of desire to protect

one's baby. For some, labeling or implying vaccination as an act of love or a demonstration of desire to protect one's baby induced guilt and shame for those who were undecided or uninterested in vaccination during their pregnancy. Alternatively, many participants reinforced the importance of language that acknowledged the context of the sensitivity of a pregnant person striving to make appropriate health decisions for themselves and their developing baby. Relatedly, many participants described emotional statements as off-putting and preferred informative statements that did not have an explicit emotional pull. Mentions of death and hospitalization were often described as triggering, although these words did prompt a few participants to want to learn more about the referenced VPD. However, these inquiries were often from the perspective of fact-checking the severity of the claim.

Several participants expressed interest in messaging that outlined both the benefits and potential risks of vaccination during pregnancy. Some participants viewed language that was perceived as overtly pro-vaccination as dismissive of the lived experiences of mistreatment and discrimination endured by some non-Hispanic Black pregnant people within the U.S. health care system, which sometimes prompted disengagement with the message altogether. Most participants also preferred messages that either detailed or led them to concise information about recommended timing for the administration of each routinely recommended vaccine during their pregnancy.

One tested statement used the gender-neutral language of *pregnant people* as opposed to *pregnant women*. Most participants were tolerant of the gender-neutral language describing it as "more inclusive" than gendered language. However, some participants remarked that gender-neutral language resulted in the communication feeling more indirect than if gendered language was used, leaving some participants with the sentiment that the intended audience was less defined. Some participants did directly prefer gendered language —expressing their gender as an important identity within their pregnancy journey.

Development of From Me, To You communications

Building upon findings from this formative research, CDC developed *From Me, To You*—a tailored communications effort with resources in both English and Spanish—designed to invite English- and Spanish-speaking Black pregnant people into a conversation with health care providers that they trust to discuss prenatal vaccination. *From Me, To You* embodies a four-part strategic approach.

First, this effort strives to counter the status quo of negative narratives around Black maternal health and vaccination during pregnancy with positive storytelling and illustrations of joy among Black pregnant people and their support networks.

Second, this effort strives to learn from and support messengers identified as trusted by the community of focus to bring conversations about vaccination during pregnancy into more spaces where Black pregnant people are already receiving information. For example, in addition to CDC-owned channels, messaging was bolstered through paid partnerships with digital communities identified as trusted by our intended audience. These spaces, which foster community among expectant parents and Black women, are equipped to encourage conversations around vaccination during pregnancy in their own authentic voices.

Third, understanding that the parental instinct to protect one's child is often a strong motivator, this effort strives to encourage conversations about how vaccines help pregnant people share protection with their babies.

Fourth, understanding that non-Hispanic Black pregnant people may be less likely to receive a vaccination offer from their provider compared with pregnant people from other racial and ethnic groups,[34–36] this effort includes intentional outreach to prenatal care providers to support them as they make recommendations, offers, and referrals.

From Me, To You includes several curated resources that have been tested with our intended audience. Available resources include fact sheets on recommended vaccines during pregnancy, in-office posters, short videos, and graphics designed for social media. Information on vaccine safety, provider toolkits, draft patient portal reminder language, and vaccine-specific coverage estimates among pregnant people are also available. For more information on *From Me, To You* visit www.cdc.gov/vaccines/php/from-me-to-you/index.html

There were several limitations present in this project. Focus groups were conducted only in English, which may have influenced participation for non-Hispanic Black pregnant people who primarily speak languages other than English. Each focus group represented a small convenience sample, and findings cannot be generalized to non-Hispanic Black pregnant people overall. In addition, perspectives of prenatal care providers were not included due to time and resource limitations. However, to our knowledge, this is one of few projects specifically focused on the prenatal vaccination communication needs and preferences of non-Hispanic Black pregnant people. While additional research is needed, this project offers valuable insights into this population's vaccine decision-making experiences.

Conclusion

Prenatal vaccination is at an important juncture: (1) the number of ACIP recommended vaccines for pregnant people has expanded,[2,3] (2) racial disparities in vaccination coverage among non-Hispanic Black pregnant people persist,[6–11] and (3) measures indicate that nationwide vaccine hesitancy among pregnant people is increasing.[6,34] In response to these timely concerns, promising practices related to tailored communication strategies that aim to build vaccine confidence among non-Hispanic Black pregnant people and prenatal care providers are proposed below.

Patient–provider conversations about vaccination during pregnancy may consider pathways to elevate the urgency and importance of vaccines, while acknowledging that some non-Hispanic Black pregnant people may have overriding health concerns they perceive as superseding vaccination. While many competing health concerns are not explicitly related to vaccination, it is essential for communicators to increase understanding of the broader context in which non-Hispanic Black pregnant people are making vaccination decisions. Tailored communication products that include information on the pathogenesis of specific VPDs, guidance on when pregnant people should get vaccinated, and a brief, but specific, explanation of the benefits of vaccination for both the pregnant person and their baby

may be particularly motivating toward vaccination. Communication products that address common concerns around vaccine safety and potential short-term side effects may also increase vaccine confidence among non-Hispanic Black pregnant people.

Communications on vaccination during pregnancy may also consider opportunities to account for lived experiences of non-Hispanic Black patients that may include distrust in vaccinations and negative experiences with health care. Collaborating with trusted voices, including doulas, midwives, community health workers, and those with a similar racial and/or ethnic background as the audience of focus, to develop and test messaging may increase the resonance of communication products designed to promote vaccination during pregnancy.

Outreach to health care providers may consider pathways to incorporate the lived realities of providers in the aftermath of the end of the COVID-19 public health emergency declaration. Time limitations, knowledge gaps related to evolving guidance on newly recommended vaccines, increased politicization surrounding the topic of vaccination, and unmet desires for additional safety and efficacy data remain intersecting factors that may influence provider engagement with vaccination conversations with pregnant people. Equipping providers with up-to-date resources and information to guide conversations around common questions related to specific vaccines may increase health care provider confidence and likelihood to engage in vaccine conversations with their pregnant patients. Because a health care provider recommendation is one of the strongest predictors of vaccination during pregnancy,[23,45–48] provider training and continuing education outreach may consider pathways to revisit the components of a strong vaccination recommendation during pregnancy, including any warranted changes in approach since the onset of the COVID-19 pandemic. It may be beneficial for providers to precede a vaccination offer or referral with both a rationale and recommendation. Providers may also consider connecting patients to additional resources about each recommended vaccine one to two appointments before the recommended timing for administration. As practitioners increase understanding of the communication needs and preferences of non-Hispanic Black pregnant people, culturally responsive communication products will be helpful tools in addressing health inequities.

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Table 1.

Message Testing Statements by Preferred Message Count, $n = 33$

Statement	Count
Protect yourself and your baby. Talk to a trusted health care professional about getting flu and whooping cough vaccines during pregnancy.	14
Whooping cough is a serious disease that can be deadly for babies. Getting a Tdap[a] vaccine during pregnancy gives babies protection against whooping cough before they're even born.	8
A pregnant person can protect themselves and pass on critical disease protection to their baby before it is born. Vaccines have been given during pregnancy for decades to help protect pregnant people and their babies from diseases that can be serious in newborns, like flu and whooping cough.	6
Pregnant people are at higher risk of serious illness and complications, including hospitalization, from flu. Vaccination during pregnancy can help protect you and your baby.	5

[a]Tdap (tetanus, diphtheria, and pertussis).