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Clinical Vaccination Education Guideline for the African American Community

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
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Abstract

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MSN, Grand Canyon University, 2016

BSN, Grand Canyon University, 2014

Project Submitted in Partial Fulfillment

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Abstract

Vaccination hesitancy is high among African Americans and other people of color. The practice gap addressed in this project was the lack of a culturally sensitive clinical guideline for vaccination education relevant to the African American community. The practice-focused question was answered by developing an evidence-based Clinical Vaccination Education Guideline for the African American Community (CVEGAAC) that was validated by a group of four content experts using the Appraisal of Guidelines, Research, and Evaluation tool. The content experts scored each of the domains above 90%, implying that the CVEGAAC is of high quality and ready for implementation. The end users agreed or strongly agreed on the CVEGAAC's accuracy, usability, cultural sensitivity, ability to increase vaccine knowledge, and use as a culturally sensitive training manual for the African American community. In their summative evaluation, the content experts strongly agreed that the student allowed meaningful involvement in the project evaluation and the student's commitment to goals and objectives influenced ethical completion of the evaluation. They asserted the guideline is a relevant document that will stand the test of time. The CVEGAAC will provide a tool for nurse educators and practitioners to educate the African American community about vaccines in a culturally sensitive way. Such education may lead to reduced vaccination hesitancy, increased vaccination knowledge, and increased vaccination uptake. These results could reduce morbidity and mortality, thereby leading to positive social change.

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Dedication

I dedicate this project to Jesus Christ, my Lord and my God; to my husband, Dr. Stanley Nwoji, whom I call my Precious Treasure, who has loved me with unfathomable love, and to the entire Millions for Christ Missions family for the remarkable and holistic transformation that they are bringing to nations where there is darkness through medical missions, discipleship, and empowerment of the underserved communities of the world.

Acknowledgments

This project would not have been possible without the sustaining grace and strength of the Almighty God, to whom I owe my entire life. Without Him I could do nothing. My special thanks go to my family, my precious husband, Dr. Stanley Nwoji, who has been very supportive and has stood with me from the beginning and all the way, even when I wanted to give up the program. His encouragement propelled me to persevere to the end. I am also grateful to my daughter, Ihunanya Nwoji, for making sure that I did not spend time in the kitchen; she consistently prepared healthy meals to keep me going, taking the cooking burden so I could focus on the project. Finally, I am grateful to my entire committee, especially Dr. Susan Hayden, my chair, who constantly gave me the direction and useful feedback that made this project an excellent piece.

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Section 1: Nature of the Project

Vaccinations have a history of cost-effective success in eradicating diseases (Leidner et al., 2019; Luyten & Beutels, 2016) and have become the method of choice in combating antibiotic resistance infections (Arias & Murray, 2015; Buchy et al., 2020). Luyten and Beutels (2016) argued that the value of vaccinations goes beyond cost-effectiveness to include health equity, sustenance of herd immunity, and "social integration of minority groups" (p. 212). Despite these success stories, vaccination hesitancy, and sometimes vaccination illiteracy, is increasing (Schwarz, 2017; Yang et al., 2019) and, African American medical practitioners are not excluded from this hesitancy (Baldolli et al., 2020; Toth-Manikowski et al., 2022). Vaccination hesitancy, vaccination safety phobia, and vaccination misinformation and misconceptions have led to the return of eradicated diseases such as measles, rubella, and mumps (Schwarz, 2017). In the United States during the COVID-19 era, many unvaccinated people have been hospitalized with severe COVID-19 illness or have died at a rate unprecedented for a developed country (Lee et al., 2023).

Vaccination hesitancy is high among African Americans (Koritala et al., 2021) and other people of color, with COVID-19 vaccination hesitancy at 41.6% of the African American adult population (Khubchandani & Macias, 2021). There are various reasons for this hesitancy including governmental mistrust, historical precedents, racial disparities, institutional racism, and health care inequity (Koritala et al., 2021; Mesch & Schwirian, 2019; Rungkitwattanakul et al., 2021). In the current project, I developed an evidence-based clinical practice guideline (CPG) to better prepare health care providers

in providing culturally sensitive vaccination education to the African American community, thereby increasing vaccination knowledge, reducing or eliminating vaccination hesitancy, and increasing vaccination rates among African Americans. The newly developed Clinical Vaccination Education Guideline for the African American Community (CVEGAAC; see Appendix A) may help reduce the impact of infections among the African American population, lessen the vaccination acceptance gap, and improve the quality of life for this vulnerable population.

Walden University has a mission to bring about positive social change, which was the foundation of this project. Education is the most potent agent for social change (Odame, 2016; Sk, 2017). Nurses who are better prepared to provide vaccination education to the African American community may influence increased vaccination knowledge. This leadership could increase vaccine confidence, vaccine education, and understanding of the vaccination process (Jamison et al., 2019), thereby creating positive social change.

Problem Statement

The African American community had the worst burden of the COVID-19 pandemic in the United States; more African Americans have contracted COVID-19, and more have died from the disease (Ferdinand & Nasser, 2020; Milam et al., 2020; Yancey, 2020). Cantero (2017) found that the significant difference in receiving vaccinations between African Americans and White Americans is due to low vaccination education in the African American community. As of March 29, 2021, the percentage of African Americans who took at least one dose of a COVID-19 vaccination was 8.2% compared to

65.9% of White Americans (Centers for Disease Control and Prevention, 2021). At the same time, only 7.4% of African Americans had been fully vaccinated while 69% of White Americans had received full doses of the COVID-19 vaccine (Cantero, 2017).

Before the COVID-19 era, lack of vaccination knowledge and processes was prevalent in the African American community (Quinn et al., 2017). The reasons for this problem include racial disparities (Arnold et al., 2019; Bazargan et al., 2020; Quinn et al., 2017; Spencer et al., 2019), lack of access to health care systems (Pattin & Sherman, 2018), mistrust in the vaccine and the vaccine process (Freimuth et al., 2017; Fu et al, 2017), cultural and linguistic diversity (Peterson et al., 2019), and "historical racism, prejudice, and discriminatory practices" (Schafer et al., 2018, p. 2). The COVID-19 era compounded this lack of knowledge in the African American community due to government-related and antivaccination conspiracy theories (Olesky et al., 2021) and poor government communication related to the COVID-19 vaccines and vaccinations (Pierre, 2020). These variables underscored that during the COVID-19 period, the vaccination education of African Americans was crucial. However, there was no culturally sensitive education guideline related to vaccination education for the African American community. The development of a standardized guideline for vaccination education for the African American community could provide culturally sensitive information for vaccination education for the African American community, thereby closing the existing racial and health disparities.

Purpose Statement

The gap in practice that I addressed in this project was the absence of a culturally sensitive guideline for providers to provide vaccination education for African Americans. The purpose of the project was to create an evidence-based guideline to provide culturally and linguistically sensitive vaccination education (see Boakye et al., 2018). Involving major stakeholders within the African American community to contribute to and vet the guideline may increase the likelihood of them owning it. As a result, they may more likely practice what they have learned about vaccinations and the vaccination process as well as educate the community.

Because of historical experiences, the African American community has low vaccination rates and knowledge (Schafer et al., 2018) caused by low vaccination education (Cantero, 2017). The absence of a culturally sensitive guideline for vaccination education, which leads to vaccination illiteracy, needed to be addressed. Developing a culturally sensitive education guideline for vaccination education for the African American community was anticipated to decrease fear and myths related to vaccinations and increase vaccination knowledge. To overcome the distrust in the government and health care system, the community must receive accurate, up-to-date vaccination education (Freimuth et al., 2017; Fu et al., 2017; Hornsey et al., 2020; Jamison et al., 2019; Nan et al., 2019; Ozawa et al., 2019). Kriss et al. (2018) argued that targeted education intercessions might create the community's needed change. The guiding question for this project was the following: What information is available from current literature to develop a clinical guideline for vaccination education in the African

American community that can be validated by a group of content experts using the AGREE II model? In this project, I developed a clinical guideline to guide vaccination education for African Americans, which may lead to increased vaccination knowledge among the African American community with the long-term goal of increasing immunization rates among this vulnerable population.

This project was essential because the vaccination education guidelines before this did not address the historical experiences, racism, distrust, and health disparity in the community, and they did note close the gap in vaccination knowledge for the target population. This clinical guideline has the potential to address the gap in practice by providing a standardized tool for educating the African American community on vaccinations and the vaccination process in a culturally and linguistically sensitive manner. This kind of grassroots education may increase vaccination knowledge in the community and reduce vaccination hesitancy and rejection (see Jamison et al., 2019; Nan et al., 2019).

Nature of the Doctoral Project

In carrying out this Doctor of Nursing Practice (DNP) project, I followed the *Walden University Clinical Guideline Manual* and was guided by the Appraisal of Guidelines, Research, and Evaluation (AGREE II) model (Yao et al., 2016; Ye et al., 2016) to develop the CVEGAAC. Following the CPG manual, I identified the problem to be vaccination hesitancy. The gap in practice was that despite the many guidelines for vaccination education, the African American community lacked a guideline that was culturally and linguistically relevant to them. I developed this guideline based on a

critical in-depth literature review using recent scholarly articles published between 2017 and 2022 related to vaccination hesitancy. The keywords for collecting these articles included *vaccination hesitancy*, *clinical guideline*, *vaccination education*, and *African American.* Databases I searched included Medline, CINAHL Plus, Google Scholar, NIH.gov, Scholarworks of different universities, Elsevier, Springer, Sage, and EBSCO.

I invited a panel of four content experts, including public health professionals and stakeholders within the African American community, to evaluate my newly developed guideline (CVEGAAC) using the AGREE II Instrument. I revised the CPG based on the AGREE II results from the panel's responses until consensus was reached. I presented the revised copy to end users within the African American community, including an epidemiologist, a pharmacist, a hair stylist, and a church minister, who reviewed the CPG for content and usability. The next step involved sharing the final copy with the experts and the stakeholders.

After my graduation, I will present the guideline in libraries, churches, seminars, and workshops within the community, providing copies to these settings as well as nonprofit organizations in the African American community. I will encourage adoption of the guideline by educating the community on the concepts of the guideline. Finally, I will continue to add more content to the guideline based on current literature and my experience working in the community. By providing a standardized vaccination education guideline, I will address the lack of vaccination knowledge, which should improve vaccination understanding and increase vaccination rates.

Significance

The major stakeholders in this CVEGAAC project were the members of the African American community, their leaders, the local government, and the health care systems serving them. For the African American community, this guideline may help decrease vaccination skepticism and improve vaccination knowledge. African American leaders will have the resources to mobilize the community to understand the importance of vaccinations, thereby reducing hesitancy. Local governments and health care professionals will have the tools to provide awareness to the community. With increased resources and understanding, the gap in vaccination rates among the African American community may decrease, thereby improving health and quality of life for this vulnerable population. This CVEGAAC should be adopted by all health care professionals and communities with an African American population to spread the word about vaccinations and the vaccination process.

This doctoral project was essential to nursing practice because it may close the identified gap in practice and help nurses provide vaccination education in a safe, equitable, and culturally sensitive manner to the African American community. The CVEGAAC will enable me (as a DNP-trained nurse) to work with the African American community and their stakeholders to increase vaccination knowledge. The previous vaccination education guidelines were not culturally sensitive, so the African American community saw them as exotic and not contextualized to their needs (Schafer et al., 2018). The current project may help scholars and practitioners understand how to work with a community in producing guidelines that will meet the needs of their population

even if the community is not an African American community. This CVEGAAC may lead to social change by increasing African Americans' understanding of vaccinations and the vaccination process, thereby increasing vaccination acceptance and leading to a healthier African American population. The CVEGAAC may move each of these stakeholders from a level of vaccination hesitancy to vaccination knowledge, thereby helping them to reduce hesitancy and increase vaccination uptake.

Summary

The problem of interest in this project was vaccination hesitancy. The gap was the lack of a culturally relevant clinical vaccination education guideline for the African American community. The African American community has the worst burden of the COVID-19 pandemic in the United States (Reyes, 2022). The absence of a culturally sensitive guideline for vaccination education had to be addressed. This doctoral project may help nurses and other health care professionals provide vaccination education in a safe, equitable, and culturally sensitive manner to the African American community. In the next section, I discussed the AGREE II model and my role as a DNP student in developing a CVEGAAC.

Section 2: Background and Context

The low vaccination knowledge and rates among the African American community are a result of inadequate vaccine education caused by a lack of clinical guidelines that are sensitive to cultural differences (Peterson et al., 2019). The practiced-focused question that I addressed in this DNP project was the following: What information is available from current literature to develop a clinical guideline for vaccination education in the African American community that can be validated by a group of content experts using the AGREE II model? Through the development of the clinical guideline, I provided health care professionals with a culturally sensitive guideline to better educate the African American population about vaccinations and the vaccination process. I aimed to expand vaccination knowledge while reducing vaccine-related fears and misinformation and increasing vaccination rates among the African American population. In this section, I discuss the AGREE II model as the theoretical framework and how the CVEGAAC project was relevant to nursing practice. Furthermore, I discuss the local background and context of the project and my role as the DNP student in developing the CGVEAAC.

Concepts, Models, and Theories

The AGREE II model was developed by a team of researchers and guideline developers to assess clinical guideline development and reporting (Brouwers et al., 2010). With 23 assessment items in six different domains, the AGREE II instrument is the most common guideline tool in nursing (Chiappini et al., 2017; Hoffmann-EBer et al., 2018). The six different domains of the guideline include scope and purpose, stakeholder

involvement, rigor of development, clarity of presentation, applicability, and editorial independence (Yao et al., 2016). The AGREE II model has been used by health care providers and professionals (Anwer et al., 2018), guideline developers (Steeb et al., 2020), policy makers (Davis et al., 2019), and educators (Asa et al., 2021). The AGREE II model has also been translated into several languages, cited more than 600 times, and endorsed by many health care institutions (Brouwers, 2017). Steeb et al. (2020) used the AGREE II model to complete a methodological appraisal for melanoma. Cheng et al. (2021) carried out a quality assessment of probiotic therapy guidelines. Castellini et al. (2020) assessed clinical guidelines for low back pain interventions. Based on these uses of the AGREE II model, I identified a model that was used to effectively evaluate the quality of clinical guidelines over a variety of health care related topics.

An evaluation of the AGREE II model showed high correlation coefficients, at p value < 0.05 for each of the six domains, including 0.758 for scope and purpose, 0.708 for stakeholder involvement, 0.919 for rigor of development, 0.702 for clarity of presentation, 0.919 for applicability, and 0.971 for editorial independence (Seto et al., 2017). Seto et al. (2017) found the correlation coefficients for the 23 items to be between 0.685 and 0.995. These correlational values confirmed the validity and reliability of the model.

Radwan et al. (2017) reported the AGREE II model to have high reliability and validity ratings with a mean score greater than 4.0 ($\mu > 4.0$), an internal consistency range between 0.64 and 0.89, and satisfactory interrater reliability. Eighteen of the 21 components were rated higher than low-quality content with a p value lower than 0.05.

Various participants assessing the AGREE II model agreed that it was “appropriate, easy to use, and helpful in differentiating guidelines of varying quality, with all scores above the mid-point of the seven-point scale” (Brouwers et al., 2010, p. E472).

Relevance to Nursing Practice

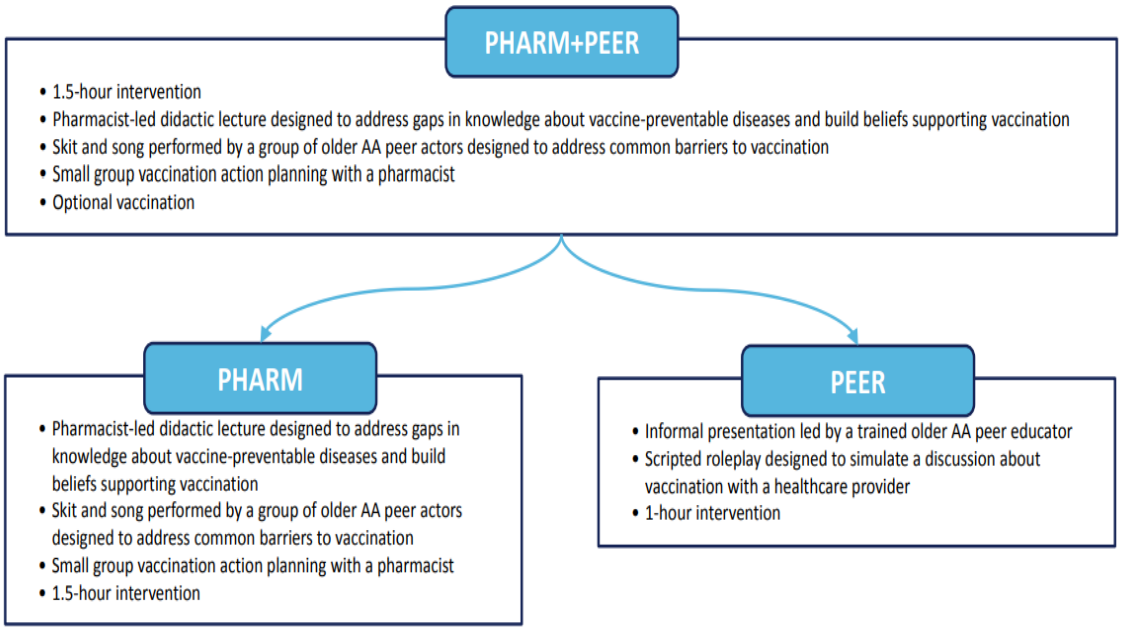
In 2021, COVID-19 vaccination hesitancy of adult Americans was 26.3%, but that among African Americans was 41.6% (Khubchandani & Macias, 2021). This significant difference created a gap in vaccination rates, mostly due to lack of knowledge in the African American community. Only 42% of Black Americans said they would get the COVID-19 vaccination even though Black or African American non-Hispanic persons were 3.7 times more likely to be hospitalized due to COVID-19 than White non-Hispanic people, and 2.8 times more likely to die (U.S. Department of Health and Human Services, Centers for Disease Control Prevention, National Center for Immunization and Respiratory Diseases, 2021). These statistics from U.S. health care officials confirmed the need for a clinical guideline for vaccination education in the African American community.

There is no single explanation for vaccination hesitancy. Dube et al. (2013) argued that the low vaccination knowledge in a community such as the African American community could be due to (a) the role of media and communication; (b) the role of public health and vaccine policies; (c) the role of health professionals; (d) knowledge/information about vaccines, vaccinations, and the vaccination process; (e) past experiences with vaccination services; (f) health professionals’ recommendation of complementary and alternative medicine; (g) risk perceptions; (h) trust; (i) subjective

norms, social pressure, and social responsibility; and (j) moral and religious convictions. Vaccination education may help in educating the community and raising their knowledge of vaccinations and the vaccination process. Low vaccination knowledge called for an education model that addressed the many variables that lead to vaccination hesitancy and lack of knowledge.

Prioli et al. (2016) created three pharmaceutical vaccination education models for older African Americans (PHARM, PEER, and PHARM+PEER), arguing these models were “culturally appropriate educational interventions” (p. A422). I included a schematic diagram from Prioli et al. (see Figure 1) to create understanding of these three models and to show how each model differs from the others. In the PHARM model, a pharmacist leads a lecture addressing gaps in knowledge about vaccine-preventable diseases to promote beliefs supporting vaccinations. Peer actors from the African American community perform songs and skits to address barriers to vaccinations followed by those in attendance planning group vaccination actions with the pharmacist. This intervention could last from 1 hour to 5 hours.

Figure 1: *Components of the Prioli et al. (2016) Vaccination Education Models*



Note. Adapted from Prioli et al. (2016).

In the PEER model, a trained older African American educator presents an informal presentation on vaccinations with scripted role play to stimulate discussions about vaccinations with a health care provider. This intervention lasts about 1 hour. In PHARM+PEER, which lasts between 1 hour and 5 hours, a pharmacist leads a lecture as in the PHARM model. Then there is a song and skit by African American older adults to generate discussions that address common misconceptions about vaccinations. After that there is a small group action planning with the pharmacist. Finally, vaccinations are available to all who want them.

These models confirm that any effective vaccination education model must be culturally relevant to the African American community. However, the limitation of these models is that they are specific to senior citizens or older adults, and they are not

guidelines. Presently, there are websites dedicated to educating African Americans about vaccinations and the vaccination process, including the COVID Collaborative (2021), a faith-based website with culturally appropriate resources for the African American community. Apart from these resources, which are not guidelines, there was limited clinical vaccination guidelines relevant to the African American community (Schafer et al., 2018).

African American churches are trusted institutions in the African American community. Members of the community will generally listen to and adhere to the beliefs of their church leaders (Corpuz, 2021). In my practicum, I visited a church on a Sunday morning and vaccinated members after the church service; these members would not agree to be vaccinated outside the church. The Pew Research Center (2021) confirmed that congregants trust their clergy's counsel on vaccinations.

The University of Maryland, School of Public Health, designed a program called Shots at the Shop: From Vaccine Hesitancy to Vaccine Confidence (School of Public Health, University of Maryland, 2022), targeting 1,000 African American barbershop and saloon owners to become health advocates to help their customers become knowledgeable about vaccines and the vaccine process because barbershops and saloons have been shown to be trusted institutions of the African American community. This program aids people in the community to make informed decisions about vaccinations and dispels mis- and disinformation. Community centers, pharmacies, clinics, and hospitals are other potential areas that could have an impact on the community. After my

graduation, I will partner with these institutions to educate African Americans on vaccinations and the vaccination process.

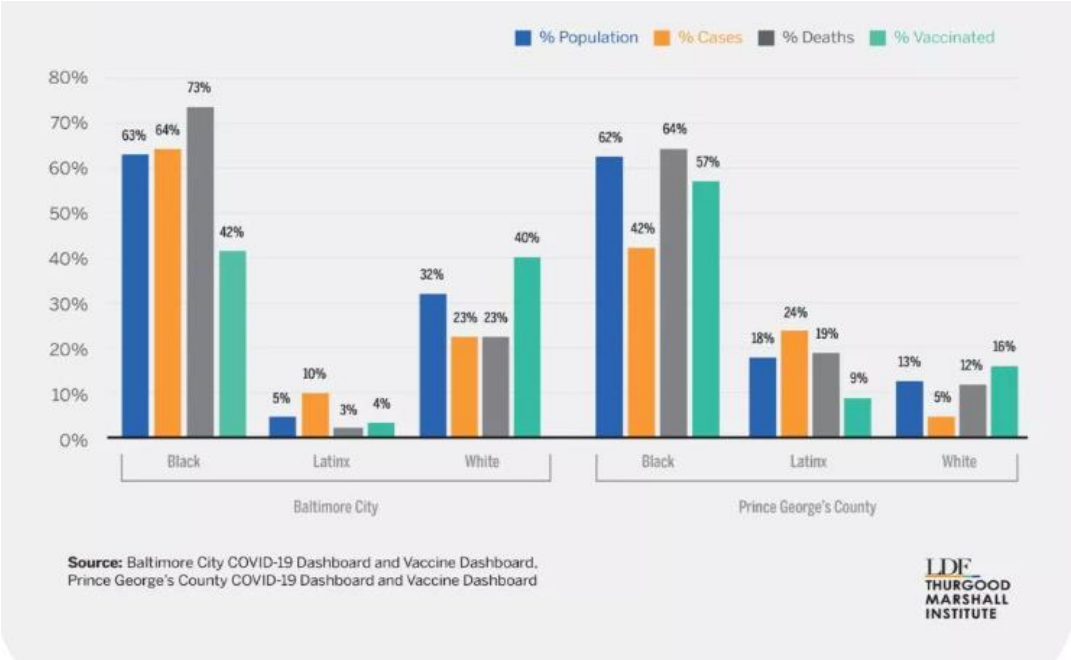
Local Background and Context

Statistically, African American communities were behind in vaccination uptake. As of July 2022, African Americans made up only 10% of the U.S. population who had received a COVID-19 vaccination, though African Americans are 12% of the American population (Ndugga et al., 2022). As of July 11, 2022, only 59% of African Americans had received at least one COVID-19 vaccine dose; there were 64% Whites, 87% Asians, and 67% Hispanics who had received the vaccine (Ndugga et al., 2022). Baltimore, Maryland has a large African American community that was greatly affected by COVID-19 and mirrored the literature in low vaccination rates among this group, making vaccination hesitancy relevant to this community. Baltimore has approximately 62% African Americans. The Legal Defense Fund reported that African Americans in Baltimore were 1.3 times more likely to die than their White counterparts from COVID-19 (Moore, 2021). As of April 2021, the African American death rate from COVID-19 was 73%, 31% above their vaccination rate (42%) while the death rate for Whites was 23%, which was 17% below their vaccination rate (Moore, 2021; see Figure 2).

Figure 2

COVID-19 Racial and Ethnic Disparities for Baltimore City and Prince Georges County

Adapted from Moore (2021).



Reverend Doctor Terris King explained that "fear, hesitancy, and distrust are challenges in engaging this (African American) community in vaccine conversations" (as cited in Centers for Disease Control and Prevention, 2020, para. 11). Reverend King opined that distrust, health inequity, and historical mistreatment resulted in congregants' suspicion of vaccination uptake. Similarly, Golden (2022) stated that health care practitioners need to educate people about safety and efficacy of vaccines and to restore their trust in health care in general. It is the responsibility of health care organizations and leaders to facilitate the repair and restoration of that relationship. There is a scarcity of vaccination education guidelines tailored to the African American community (Cantero, 2017). Statistically, from the federal and state contexts, African Americans are the most

affected by vaccination hesitancy and by the morbidity and mortality resulting from preventable infections.

Role of the DNP Student

As the DNP student, I had many roles in increasing vaccination knowledge and reducing vaccination hesitancy among African Americans. My professional context is long-term care. My long-term facility, where I am a supervisor, had a COVID-19 outbreak with African American residents dying in large numbers. I also noticed that the African American nurses were hesitant to take the vaccination. I wondered how their hesitancy would affect the community and how I could address the problem. My initial literature review supported a gap in practice with no culturally relevant CPG available for the African American community. I determined that the community needs a standardized, contextualized education guideline on vaccinations and the vaccination process.

My role as a DNP-trained nurse was to close this gap by creating the CVEGAAC. I organized and executed every component of the development of the CVEGAAC with the guidance of my faculty advisors. I critically reviewed existing literature on vaccination hesitancy based on Melnyk and Fineout-Overholt's (2019) criteria, developed a literature matrix (see Appendix C), and developed the CVEGAAC based on the literature review. Once the CVEGAAC was developed, I selected content experts to examine and critique it. Next, I set up my AGREE II account to allow the AGREE II team to evaluate the revised CVEGAAC. I made further revisions of the CVEGAAC based on the AGREE II scores from the content experts and asked a group of end users to assess the CVEGAAC for content and usability. Finally, I requested the content experts

to complete a summative evaluation of the process of developing the CVEGAAC, the overall project, and my leadership.

My motivation in developing this guideline was to reduce vaccination illiteracy and hesitancy through vaccination education. I sought to increase knowledge of vaccinations and the vaccination process, vaccination rates, and health equity in the African American community. I knew by doing this I would help reduce mobidity and mortality caused by preventable diseases among the African American population. As a person of African descent, my expriences could have caused biases; however, the objectivity provided by the critical review of existing literature and my training as a DNP nurse helped to reduce these biases.

Summary

Culturally sensitive vaccination education may aid in educating the African American community on vaccinations and the vaccination process. Because of the complexities of low vaccination knowledge, an education model that could account for various contributing variables to vaccination hesitancy and knowledge was required. By developing an evidence-based CVEGAAC, I hoped to increase vaccination knowledge in the African American community while reducing vaccine-related fear and misinformation. In Section 3, I discuss the collection and analysis of evidence in the development of the CVEGAAC.

Section 3: Collection and Analysis of Evidence

Vaccination hesitancy among African Americans led to an increase in preventable infectious diseases and death among this vulnerable group. As of July 2022, African Americans made up only 10% of the U.S. population who had received a COVID-19 vaccination, though African Americans are 12% of the American population (Ndugga, 2022); only 59% of African Americans received at least one COVID-19 vaccine dose, lagging all other ethnic groups (Ndugga, 2022). One of the many factors contributing to this hesitancy is low vaccination knowledge, misinformation, and disinformation. The community needs a culturally sensitive vaccination education guideline to help reduce vaccination hesitancy. Through an in-depth search of the literature, I discovered no culturally sensitive vaccine education guideline; without a guideline, health care professionals are ill-equipped to provide appropriate vaccination education for the community. Through the development of an evidence-based, culturally sensitive CPG, my aim was to expand vaccination knowledge while reducing vaccine-related fear and misinformation. In Section 3, I discuss the practice-focused question and describe sources of evidence and methods of data collection and analysis.

Practice-Focused Question

The absence of a culturally sensitive guideline for vaccination education, which leads to vaccination illiteracy, must be addressed. To overcome the distrust in the government and health care system, the community must receive accurate, up-to-date vaccination education (Freimuth et al., 2017; Fu et al., 2017; Hornsey et al., 2020; Jamison et al., 2019; Nan et al., 2019; Ozawa et al., 2019). Kriss et al. (2018) argued that

targeted education intercessions might create the community's needed change to increase vaccination knowledge and reduce vaccination hesitancy. Developing a culturally sensitive education guideline for vaccination education for the African American community is anticipated to decrease fear and myths related to vaccinations and increase vaccination knowledge. The guiding question for this project was the following: What information is available from current, peer-reviewed literature to develop a clinical guideline for vaccination education in the African American community that can be validated by a group of content experts using the AGREE II tool? I developed a clinical guideline to guide vaccination education for African Americans, which may lead to increased vaccination knowledge among the African American community with the long-term goal of increasing immunization rates and decreasing the burden of preventable infectious diseases among this vulnerable population.

Available vaccination education guidelines did not address the historical experiences, racism, distrust, and health disparity among African Americans, and they did not close the gap in vaccination knowledge for the target population. The continued high vaccination illiteracy within the community in the COVID-19 era confirmed that this question needed to be addressed in any vaccination education attempt. The development of a culturally sensitive education guideline provides the tool practitioners need to address the gap by providing culturally sensitive teaching materials for educating the African American community on vaccinations and the vaccination process in a culturally and linguistically sensitive manner. This kind of grassroots education may increase vaccination knowledge in the community and reduce vaccination hesitancy and

rejection. Additionally, the community's involvement in the development and dissemination of the guideline has the potential to create ownership by the community (Mwangi et al., 2022), making it less likely for them to reject it. With the CVEGAAC, African Americans have a vaccination education guideline that addresses many of the barriers causing vaccination hesitancy, thereby reducing it and increasing vaccination knowledge, acceptance, and uptake.

Sources of Evidence

After completing an in-depth literature search of articles published between January 2017 and March 2022, I designed the CVEGAAC using the most current, evidence-based, peer-reviewed literature on vaccination hesitancy, vaccination guidelines, and assessments of vaccination guidelines. Evidence generated for the project included the AGREE II results provided by content experts, a review by end users, and a summative evaluation completed by content experts.

Participants

I selected four content experts based of their expertise, ability to address the practiced-focus question, knowledge of existing scholarly literature, provision of care to the community, and community's trust. I invited them to evaluate the CVEGAAC following the recommendations of the AGREE II model (see Brouwers et al., 2010). The panel included one African American nurse educator with an Master of Science in Nursing, an African American nurse with a Doctor of Nursing Practice in leadership, an African American Nurse Practitioner in charge of a vaccination clinic, and an African American community faith leader. The second group of participants included end users

who were community members who would use the CVEGAAC to educate the community after it was approved and adopted. This group included an African American pastor, a public health professional, a hair stylist, a pharmacist, and a barber. They were asked to evaluate the revised CVEGAAC for content and useability.

Procedures

First, I did a critical literature review. Based on this critical review, I created a literature matrix (see Appendix C), grading the pertinent literature using the Melnyk and Fineout-Overholt (2019) grading criteria. After this, I developed the CVEGAAC using evidence-based literature from the matrix. I then presented a package to the content experts containing the following: (a) preapproved disclosure to expert panelist form, (b) letter of introduction, (c) AGREE II scoring instructions, (d) AGREE II tool, (e) literature matrix, and (f) CVEGAAC.

The content experts reviewed the CVEGAAC to assess overall quality using the AGREE II instrument. The AGREE II model guided the content experts in assessing the reliability and validity of the CVEGAAC. With the feedback as a foundation, I made revisions and sought consensus. The revised CVEGAAC was then given to end users to review for content and usability. After the AGREE evaluations were completed by the content experts, I asked them to complete a summative evaluation by critiquing the project, the process, and my leadership. Finally, the CVEGAAC was presented to the administration for final approval and implementation.

Protections

The development of the CVEGAAC had no identified ethical risks; however, I received ethics approval from Walden University's Institutional Review Board (12-16-2022-0240353). I gave the content experts the preapproved disclosure to expert panelist form and an introduction to the AGREE site. I did not collect any identifiable information. All electronic data collected will be stored on a password-protected disk that only I have access to for 5 years, after which they will be deleted.

Analysis and Synthesis

The literature collected in the literature search was organized as a literature matrix and graded using Melnyk and Fineout-Overholt (2019) criteria. The AGREE II scores were averaged through the AGREE II site. I downloaded a report of the results from the site. The output of the assessment included percentages for each of the six domains in the AGREE II instrument. I reviewed and assessed the scores and made modifications to the CVEGAAC as necessary. I also reviewed the end user's evaluations, noted comments, and discussed needed changes. Finally, I conducted a thematic evaluation from the content experts' summative evaluation of the process, project, and my leadership.

Summary

The African American community lacks a culturally sensitive vaccine education guideline, and health care professionals are ill-equipped to provide appropriate vaccination education for the community without one. Developing a culturally sensitive education guideline for vaccination education based on an in-depth literature search is anticipated to decrease fear and myths related to vaccinations and increase vaccination

knowledge addressing the historical experiences, racism, distrust, and health disparity in the African American community. This kind of grassroots education could increase vaccination knowledge in the community and reduce vaccination hesitancy and rejection. The community's involvement in the development and dissemination of the guideline has the potential to create ownership (Mwangi et al., 2022) and aid implementation of the guideline answering the practice-focused question: What information is available from current, peer-reviewed literature to develop a clinical guideline for vaccination education in the African American community that can be validated by a group of content experts using the AGREE II tool? In the next section, I discuss my findings and recommendations.

Section 4: Findings and Recommendations

The problem I investigated in this project was vaccination hesitancy. Though vaccines succeeded in being cost-effective means of eradicating infectious diseases (Leidner et al., 2019; Luyten & Beutels, 2016), combating antibiotic resistant infections (Arias & Murray, 2015; Buchy et al., 2020), and sustaining health equity and herd immunity (Luyten & Beutels, 2016), the African American community is vaccination hesitant, including those in the medical profession (Baldolli et al., 2020; Toth-Manikowski et al., 2022). The consequence of vaccination hesitancy, vaccination safety phobia, vaccination mis- and disinformation, and misconceptions is the return of eradicated infectious diseases such as measles, rubella, and mumps (Schwarz, 2017). The African American community has the highest rate of vaccination hesitancy in the United States (Khubchandani & Macias, 2021; Koritala et al., 2021). The current project addressed vaccination hesitancy in the African American community. Through an in-depth literature review, I graded 27 recent peer-reviewed articles, which resulted in two Level 1, three Level 2, six Level 3, one Level 4, six Level 5, one Level 6, and eight Level 7 studies that I used to develop the CVEGAAC. In addition to my in-depth literature search, I used scores from a review by four content experts using the AGREE II tool, a Likert-scale evaluation of content and usability by a group of end users, and a summative evaluation by the content experts.

Findings and Implications

Findings

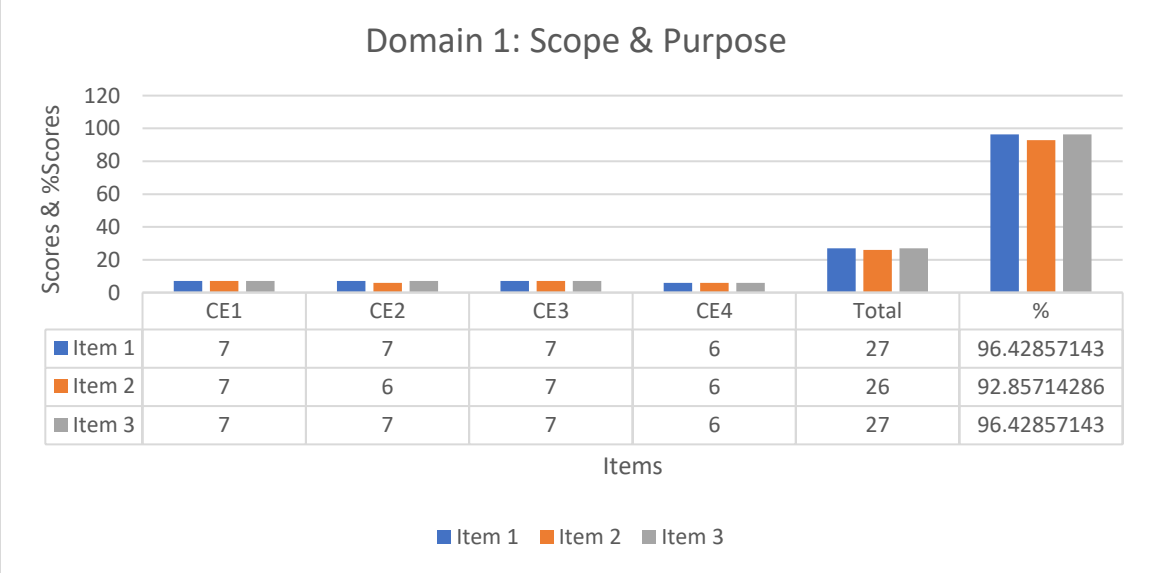
My content experts scored the CVEGAAC based on the six domains in the AGREE II instrument: (a) scope and purpose, (b) stakeholder involvement, (c) rigor of development, (d) clarity of presentation, (e) applicability, (f) editorial independence, and the overall assessment.

Domain 1: Scope and Purpose

In evaluating Domain 1 (scope and purpose), the four content experts gave an overall average score of 95.24% (see Figure 3) with each individual item scores between 92.43% and 96.43%.

Figure 3

Content Experts' Scores for Scope and Purpose



	CE1	CE2	CE3	CE4	Total	%
Item 1	7	7	7	6	27	96.42857143
Item 2	7	6	7	6	26	92.85714286
Item 3	7	7	7	6	27	96.42857143

The CVEGAAC is focused and well-defined and has clear objectives, ensuring that it will provide a comprehensive overview of the intended scope of recommendations

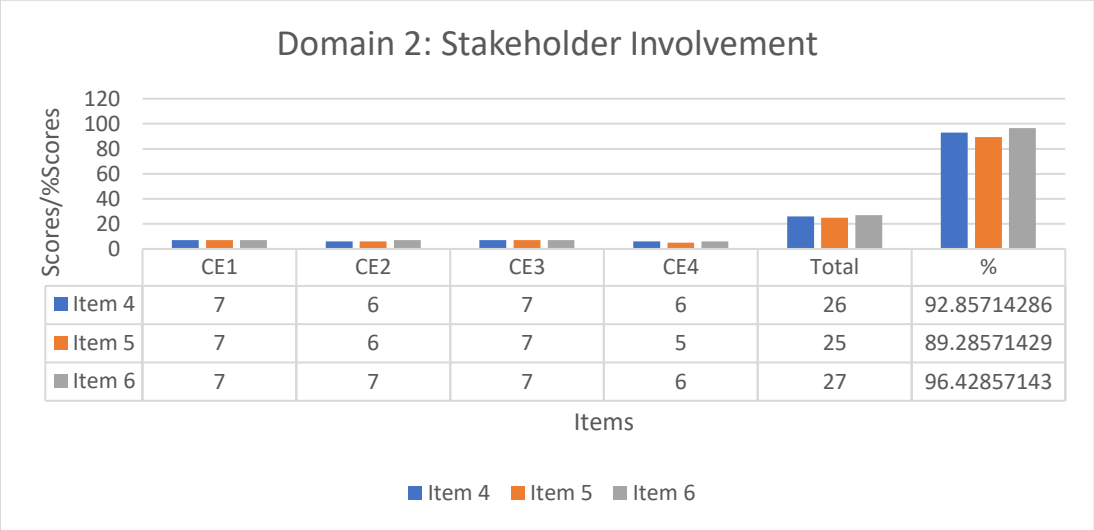
that will help reduce vaccination hesitancy in the African American community. The CVEGAAC has adequately identified the target population (African Americans), the conditions or interventions covered (vaccine hesitancy), and the health care context for which it was developed. The high overall score of 95.24 shows that the CVEGAAC performed well in defining its scope and purpose.

Domain 2: Stakeholder Involvement.

Scoring for Domain 2 (stakeholder involvement) showed an overall score of 92.89% with individual item scores ranging from 89.29% to 96.43%. (see Figure 4). Item 5, asking if views of the target population were sought, scored lowest at 89.29%. This score suggests that in developing the CVEGAAC, I made a considerable effort to seek the views and preferences of the African American population and engaged with relevant stakeholders during the process; all of the content experts and end users were selected from the target population. However, this score also suggests that there was room for improvement, especially further engagement with the stakeholders to enhance the guideline's overall quality and alignment with the needs and preferences of the African American population. I will continue to engage the relevant stakeholders during further revisions and implementation.

Figure 4

Content Experts' Scores for Stakeholder Involvement

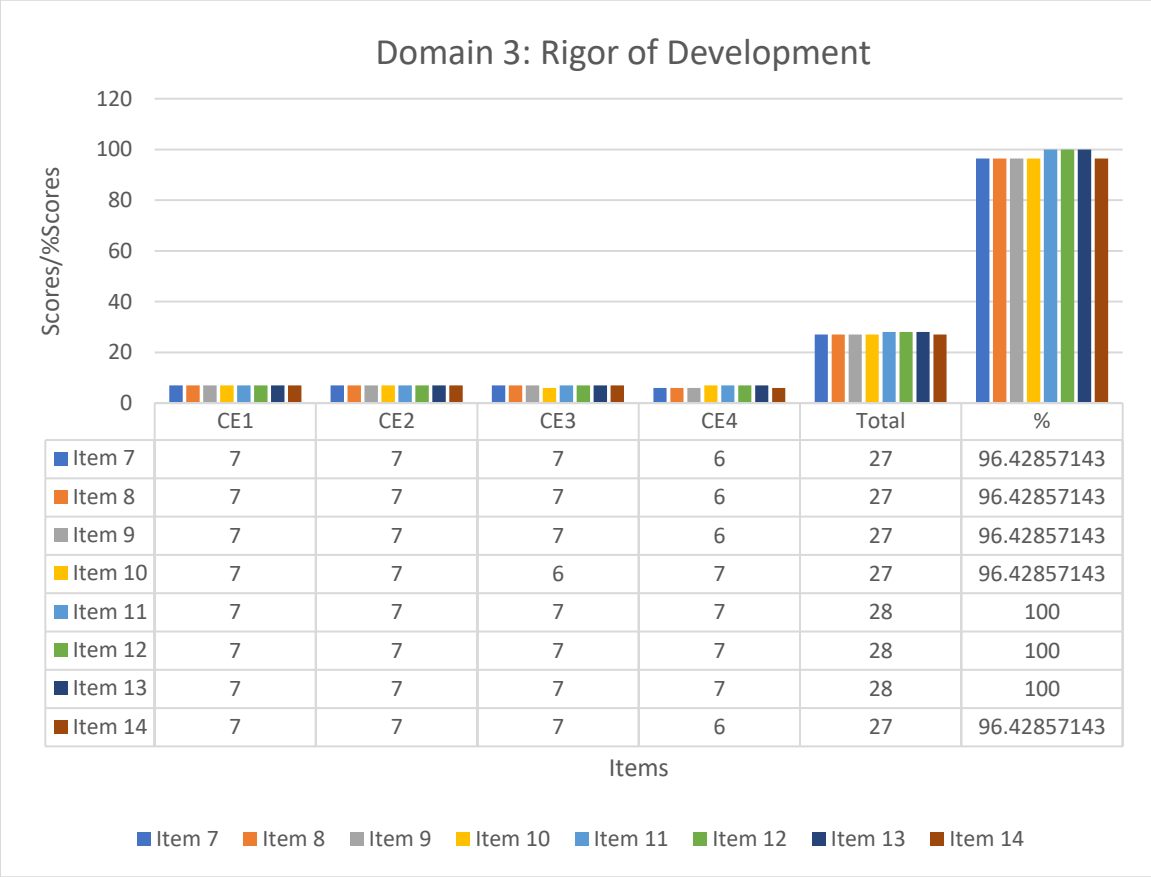


Domain 3: Rigor of Development

The evaluation for Domain 3 (rigor of development) showed an overall score of 97.7% with individual item scores ranging from 96.43% to 100% (see Figure 5). The total score of 97.7% indicates that the CVEGAAC showed a high level of rigor in its development, performing well in methodological quality, evidence-based processes, and transparency in formulating recommendations. This result indicates that the development of the CVEGAAC was rigorous and applied systematic methods for evidence review, synthesis, and formulation of recommendations. In the CVEGAAC's development, the quality and strength of evidence were considered, the balance between benefits and harms was assessed, and transparent methods to minimize bias in developing the CVEGAAC were employed. The CVEGAAC was developed with a high level of validity and reliability in its recommendations.

Figure 5

Content Experts' Score for Rigor of Development



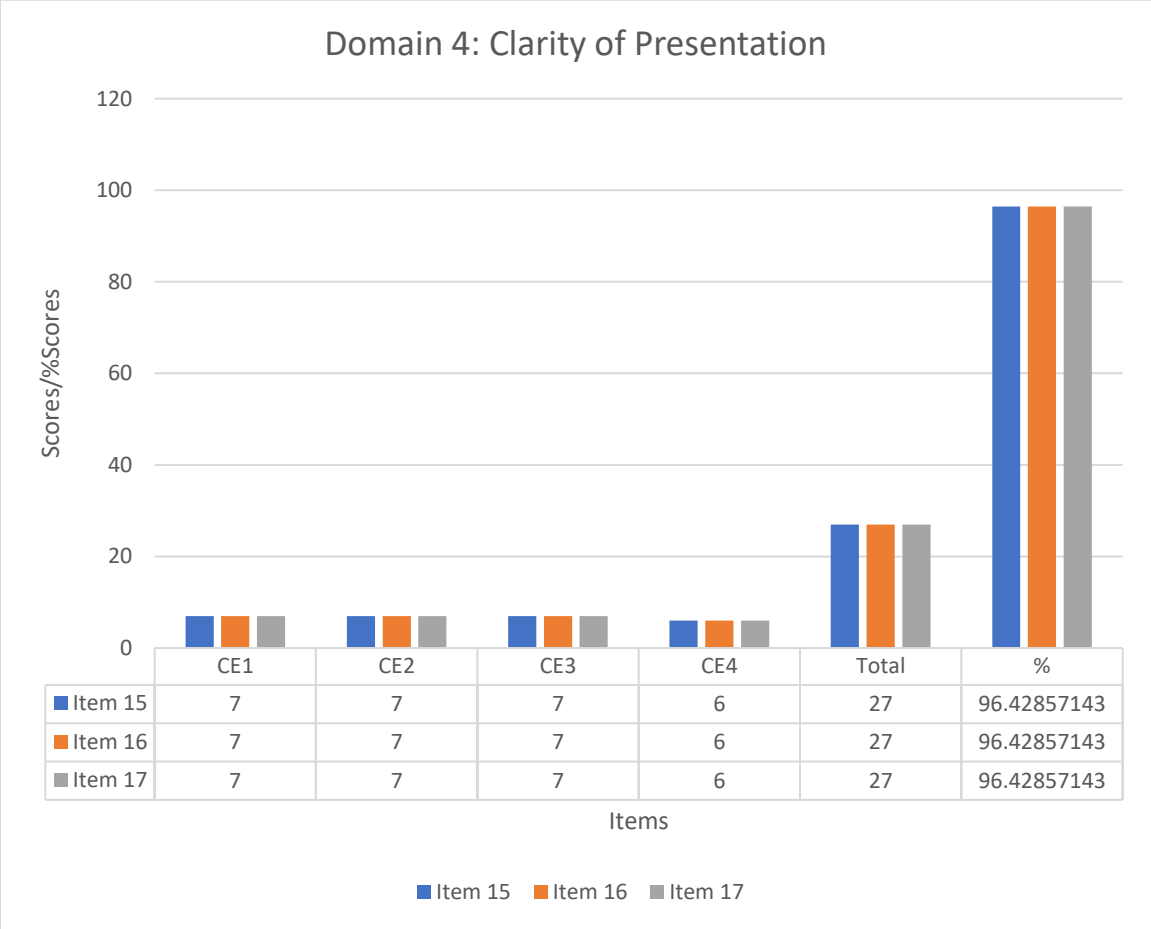
	CE1	CE2	CE3	CE4	Total	%
Item 7	7	7	7	6	27	96.42857143
Item 8	7	7	7	6	27	96.42857143
Item 9	7	7	7	6	27	96.42857143
Item 10	7	7	6	7	27	96.42857143
Item 11	7	7	7	7	28	100
Item 12	7	7	7	7	28	100
Item 13	7	7	7	7	28	100
Item 14	7	7	7	6	27	96.42857143

Domain 4: Clarity of Presentation

Domain 4 (clarity of presentation) showed an overall score of 96.43% with each individual item score of 96.43% (see Figure 6). This score suggests that the CVEGAAC is well-structured, clearly written, and concise, and it effectively presents information about vaccination hesitancy in a relevant manner to the African American people. This score also shows that the CVEGAAC is accessible, culturally relevant, readable, user-friendly, and easy to implement by end users and health care professionals.

Figure 6

Content Experts' Score for Clarity of Presentation



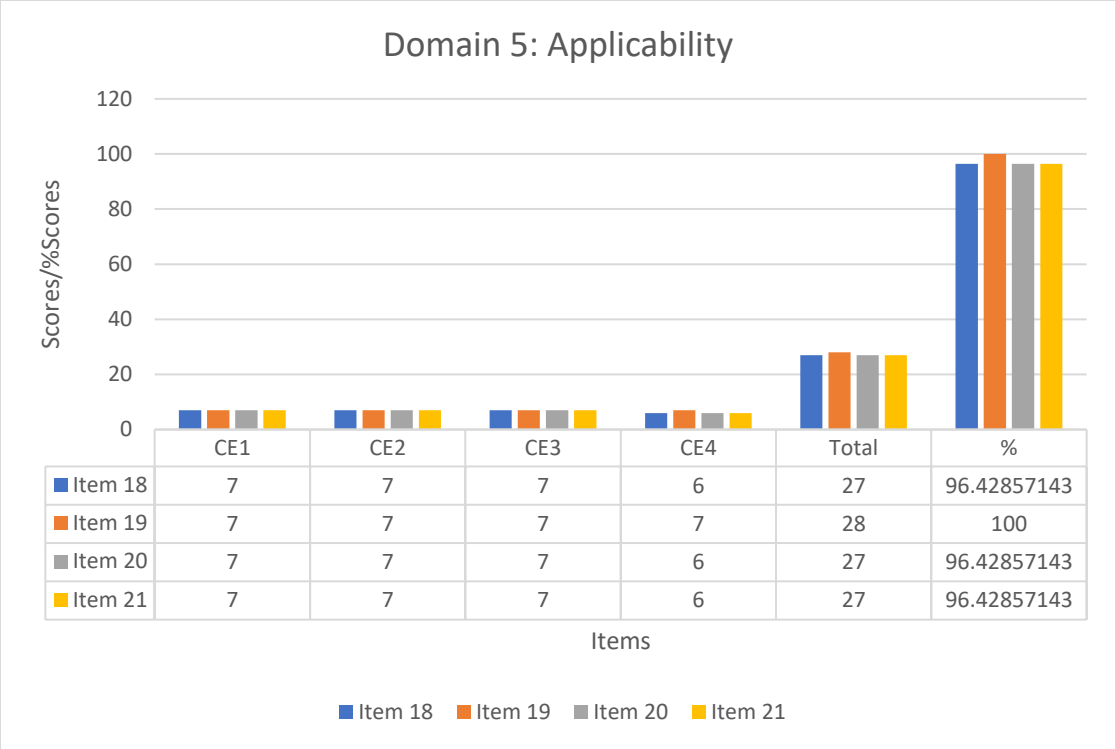
Domain 5: Applicability

The scores for Domain 5 (applicability) showed an overall score of 97.32% with individual item scores ranging from 96.43% to 100% (see Figure 7). The overall score of 97.32% suggests that the CVEGAAC performed well in practicality and feasibility of implementation and that I considered the challenges and resources required for implementation and the recommended practices. The CVEGAAC will likely be easily

implemented in clinical practice because it is aligned to real-world situations and to available resources within the African American community.

Figure 7

Content Experts' Score for Applicability



	CE1	CE2	CE3	CE4	Total	%
Item 18	7	7	7	6	27	96.42857143
Item 19	7	7	7	7	28	100
Item 20	7	7	7	6	27	96.42857143
Item 21	7	7	7	6	27	96.42857143

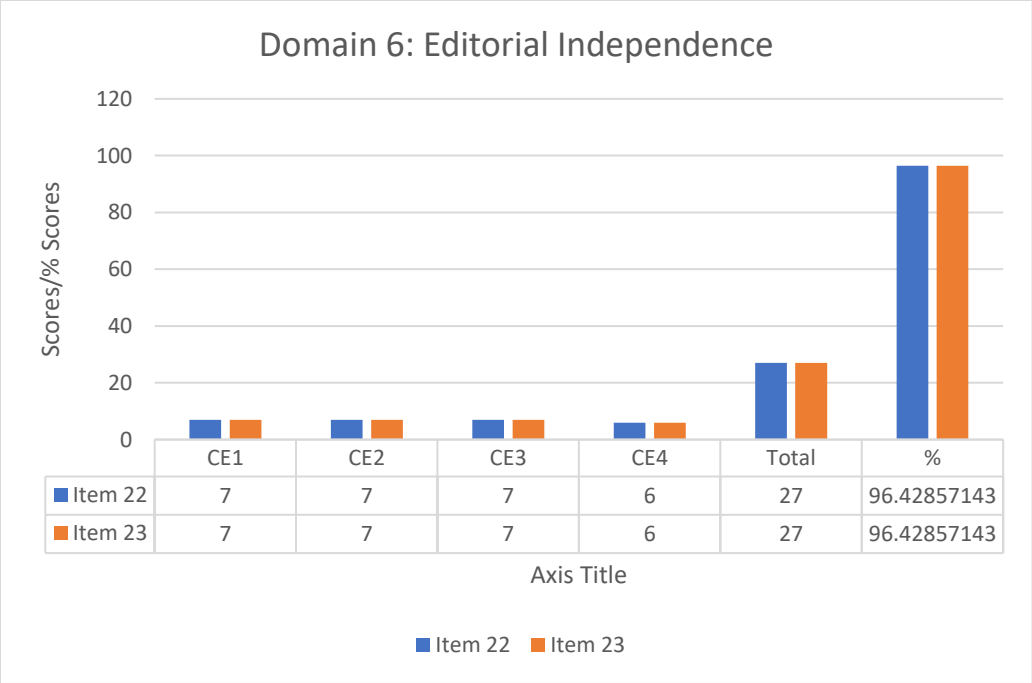
Domain 6: Editorial Independence

Domain 6's (editorial independence) evaluation scores showed an overall score of 96.43% with each item score matching 96.43% (see Figure 8). This high overall score indicates that the CVEGAAC was developed with a strong commitment to minimizing biases and conflicts of interests and was not influenced by commercial, financial, or other vested interests. These results indicate this guideline is reliable, unbiased, and a

trustworthy source of information on vaccine hesitancy for the African American population.

Figure 8

Content Experts' Score for Editorial Independence

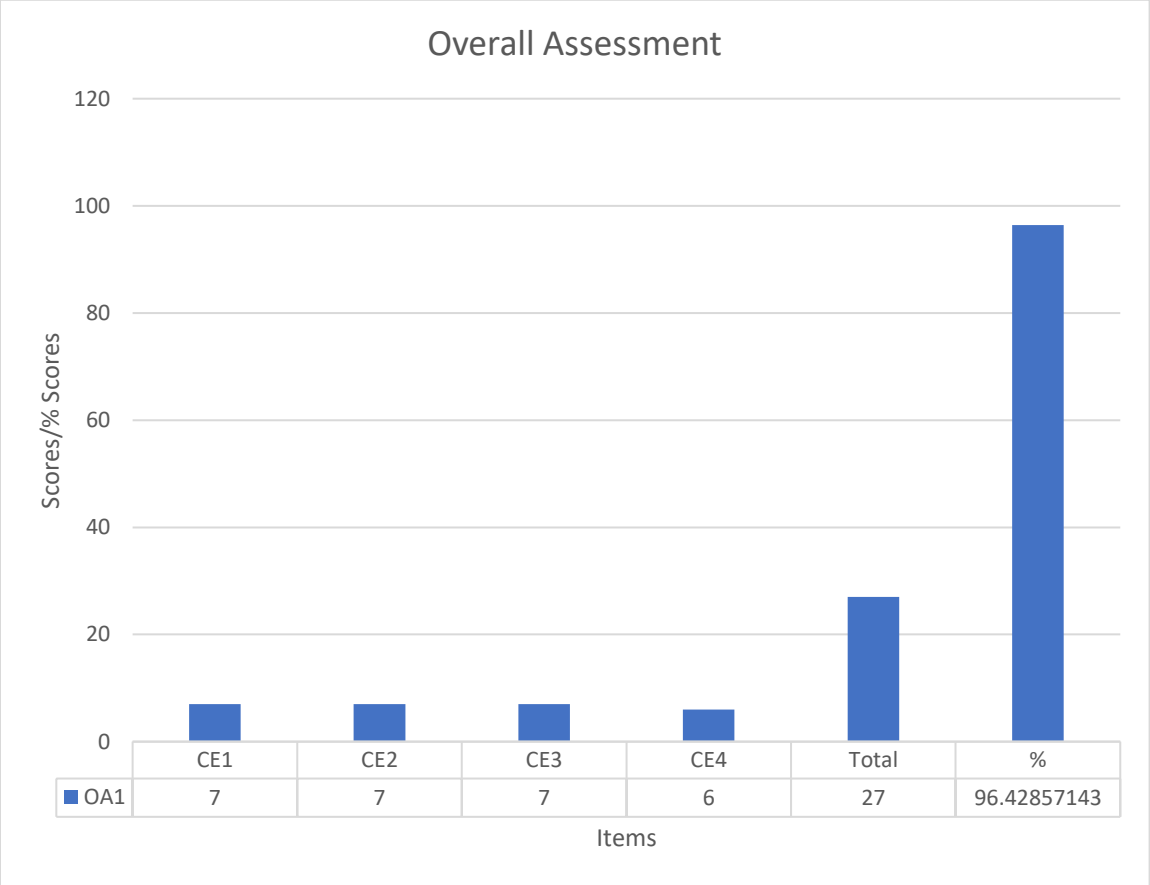


Overall Assessment

The overall assessment awarded by the content experts for the CVEGAAC was 96.43% (see Figure 9) indicating the CVEGAAC has a high level of agreement with the AGREE II standards for guideline development and performed well across the various AGREE II domains, thereby meeting a high standard for high-quality guideline development.

Figure 9

Content Experts' Score for Overall Assessment



Brouwers (2017) stated that the AGREE II acceptable score for every domain must be greater than 70%. The CVEGAAC received total scores in every domain greater than 70%, signifying that it is a high-quality, usable, and culturally sensitive clinical guideline that can be implemented to help the African American community reduce vaccine hesitancy and increase vaccine knowledge and uptake.

End Users' Result

There were four end users including an epidemiologist, pharmacist, hair stylist, and church minister; all are African Americans. The end users agreed or strongly agreed

on the CVEGAAC's accuracy, usability, cultural sensitivity, ability to increase vaccine knowledge, and use as a culturally sensitive training manual for the African American community. No category was scored below the *agree* response (4 points; see Figure 10). The overall score awarded the CVEGAAC by the end users was 95%, indicating that their findings support the content experts' conclusion that the CVEGAAC is usable in the African American community and can be easily implemented. The overall score also confirms that the CVEGAAC is accurate, user-friendly, culturally sensitive, able to increase vaccine knowledge, and able to serve as an exceptional training guideline for the African American community on vaccine hesitancy.

Figure 10: *End Users' Scores of the CVEGAAC*

S/N	Questions	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total	Full Score
	Points	**1**	**2**	**3**	**4**	**5**		
1	I feel the content is accurate	0	0	0	0	4	20	20
2	I feel the material and the overall guideline is usable and user friendly	0	0	0	1	3	19	20
3	I feel confident that the CVEGAAC is a culturally sensitive clinical guideline for vaccination education in the African American community.	0	0	0	2	2	18	20
4	I feel confident in the ability of the CVEGAAC to increase knowledge of vaccine and the vaccination process leading to reduction of vaccine hesitancy and increase in vaccine uptake in the African community	0	0	0	1	3	19	20
5	I would use CVEGAAC as a tool to assist with training my staff on culturally sensitive clinical vaccination education in the African American community	0	0	0	1	3	19	20
						Total	**95**	**100**

One of the end-users said, "I love that reading this has broadened my range of knowledge about the dos and don'ts of COVID and the false words about the vaccine. I

believe that if the Afro-American community was to have this knowledge, it would save more lives in the urban community. Great work!" This affirmation shows the significant positive impact the CVEGAAC may make in the African American community. Another end-user said, "The CVEGAAC would be useful in helping to dispel myths about vaccinations. It may be a good idea to create a more concise version of it. Some people would be unwilling to read more than one page." This end-user confirms that the CVEGAAC would dispel myths when implemented. The suggestion to have a more concise version is well taken, though the pictorial presentation meets this request as it is only a double-sided page. Another comment from an end-user was, "The CVEGAAC is a culturally sensitive guideline relevant to the African American community" indicating that African Americans identify with the CVEGAAC because it addresses their needs in their own context.

Summative Evaluation of the Content Experts

In their summative evaluation, the content experts strongly agreed that I allowed meaningful involvement of the experts in the project evaluation and my commitment to goals and objectives influenced ethical completion of the evaluation. They asserted that the guideline is a relevant document that will stand the test of time. Concerning my leadership style, the content experts concluded that my team approach was effective in meeting the desired outcome of the project, and through my effective communication the goals/objectives of the project were conveyed, including the deadline for completing the review. They shared that I collaborated with the team members/stakeholders and provided guidance and clear communication. Members were notified verbally and via

email with assignments to review the CVEGAAC and the timeline for completion was given. One of the content experts said that several processes led to the effectiveness of the project, including clear leadership, deliberations, collaborations, and communication. The CVEGAAC was developed through a series of drafts and feedback reviews by committee members before the final product.

Discussion and Impact of Unanticipated Limitations and Outcomes

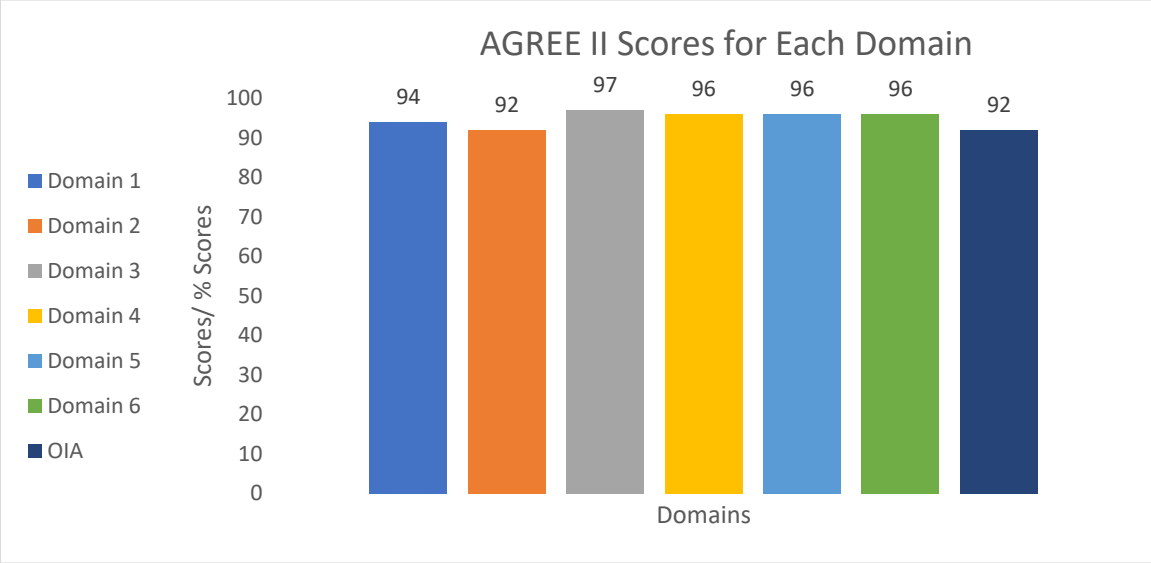
One of the unanticipated limitations was the rigor involved in the selection of content experts, especially recruiting qualified African American experts willing to evaluate the CVEGAAC based on the AGREE II instrument. However, once recruited, my content experts' responses were submitted within 3 days. I anticipated that they would submit all responses in 10 days; this turnaround impacted my time for analyses positively. Another unanticipated limitation was some of my content experts were not familiar with the AGREE II instrument and needed some training on how to use the instrument. The training took some time off my progress in completing this project. They patiently accepted the training they were given despite their busy schedules.

Implications of Findings

The CVEGAAC had quality scores between 92% and 97%, and the overall assessment was a yes, implemented without modifications. Figure 11 is a graphical presentation of the AGREE II scores for each domain of the CVEGAAC. With the AGREE II model setting of greater than 70% as an acceptable score (Brouwers, 2017), these scores indicate that the CVEGAAC is of high quality and ready to be implemented. The scores also confirm that the CVEGAAC should be used by the African American

communities to educate their population about vaccines. Such clinical education of the African American population will lead to reduction of vaccination hesitancy, an increase in vaccination knowledge, and an increase in vaccine uptake among this vulnerable population.

Figure 11: *AGREE II Scores for Each Domain*



Implications for Positive Social Change

The African American population is highly vaccination hesitant than other populations (Baldolli et al., 2020; Toth-Manikowski et al., 2022). The fundamental reason for this hesitancy is the lack of culturally sensitive clinical vaccination education guideline for the African American community. I created the CVEGAAC to fill this gap and create positive change in the African American community. The content experts gave the CVEGAAC high quality scores indicating that it is of high quality and ready for implementation. Its use could lead to increased vaccination knowledge, reduced vaccination hesitancy, and increased vaccine uptake. Consequently, African Americans

will reduce the burden of infectious diseases in their communities leading to reduction of morbidity and mortality caused by preventable diseases. They will protect their communities and other Americans from being infected by these preventable diseases. The economic burden of taking care of infected African Americans and all Americans will also reduce. All these will lead to positive social change.

Recommendations

The gap in practice that led to the development of the CVEGAAC was the absence of a culturally sensitive clinical education guideline for the community. I created the evidence based CVEGAAC with the help of my supervisors to close this gap, with the overall goal of reducing vaccination hesitancy culminating from low vaccination knowledge.

The first recommendation for solving vaccination hesitancy caused by the absence of culturally sensitive clinical vaccination education in the African American community is the implementation of the CVEGAAC (see Appendix A). This CVEGAAC is comprised of three easy to understand sections. The first section is for the nurse educator to understand the CVEGAAC and how to use it to educate the community about vaccines in a culturally sensitive manner and environment. The second section is for people from the African American community. In this section, vaccination education and the vaccination process, mis- and dis–information about vaccines, and the consequences are explained in layman's terms. Explanations of why African Americans are vaccination hesitant are explained in a culturally sensitive, easy to understand way. The CVEGAAC has examples of mis- and disinformation and scientific facts to counter them. The last

section of the CVEGAAC is a visual presentation of the second section with pictures representative of the African American population (See Appendix B).

The first step in the implementation of the CEVGAAC is to train the nurse educators who will use the CVEGAAC to educate the African American population. Next, the stakeholders in the community, including nurse practitioners, other medical professionals, community leaders, church leaders, student leaders, and barbers and hairdressers will be encouraged to be engaged through training, dissemination of the guideline, post-evaluation of the guideline, and support of the nurse educators in their work. After gaining support of the stakeholders, some of the stakeholders should be trained to become vaccine ambassadors (or advocates) to share the CVEGAAC with the population. With the ambassadors in place, the next step will be to create vaccination hubs in community centers, churches, barber shops, and salons with the help of the stakeholders and vaccination ambassadors. The purpose of the vaccination hubs is to create acceptable environments where people from the community can be educated about vaccines and can comfortably receive the vaccination. Finally, a vaccination outreach should be organized by the nurse educator and the vaccination ambassadors in the respected centers. Vaccination outreaches will help inform the population about vaccination programs in their communities and how they can be involved. To get this done, the nurse educator and the ambassadors will advertise the program using social and traditional media, ensuring that the population is saturated with the advertisement. With all of this in place, the goal is for people from the community to gather in the hubs. While listening to African American music, they will be given a simple questionnaire to assess

their understanding of vaccines. Community leaders will speak about vaccines, the vaccination process, and the mis- and disinformation on vaccines, correcting the false information and providing scientific facts that are also included in the CVEGAAC patient information section. The participants will repeat the questionnaire they took before the session and the nurse educator will compare the scores to assess the effectiveness of the training and make revisions that are needed before the next session. The outreach will end with a meal. People will be encouraged to get vaccinated; those who agree will be given the vaccine.

Strengths and Limitations of the Project

Strengths of the Project

This project is culturally sensitive; it is not an exotic guideline that the African American community cannot relate to. The CVEGAAC received a high-quality rating by content experts with each domain scoring above 90% and highly rated by end-users who endorsed the usability of the guideline in the African American community. The CVEGAAC is colorful, attractive, and user-friendly.

Weaknesses of the Project

The project was evaluated by four seasoned content experts, whose advice cannot be taken for granted. However, having hundreds of content experts selected at random who are also representative of the African American community would make the project stronger. There is an increase of mis- and disinformation on vaccines and the vaccination process. This project captured the false information available at its time of publication. Nonetheless, in a digital age, there is no control to the deluge of false information on

vaccines. It is essential to keep updating the CVEGAAC to include new false information and how to dispel it with scientific facts.

Recommendation for Future Projects

This guideline could serve as a foundation for further quantitative, qualitative, and mixed method studies to reduce vaccination hesitancy among African Americans. Additional guidelines should be developed to include other ethnic groups. Using a larger or more diverse group of content experts will increase the validity as will increased use and revisions made based on evaluations. The literature matrix provides a beginning point for others wishing to replicate the project.

Summary

I created the CVEGAAC to reduce vaccination hesitancy among African Americans, increase vaccination knowledge, and increase vaccination uptake. The CVEGAAC was evaluated by content experts using the AGREE II instrument and received an overall high-quality score above 90% in each AGREE II domain showing that it is ready for implementation. In section 5, I discuss my dissemination plan and do an analysis of myself.

Section 5: Dissemination Plan

In this DNP project, I developed the CVEGAAC to reduce vaccination hesitancy and increase vaccination knowledge and uptake within the African American community. This culturally sensitive clinical guideline will benefit the African American community if it is properly disseminated within the community. In this section, I share my dissemination plan.

Dissemination Plan

The first level of dissemination is with stakeholders in the African American community, including local government officials, community leaders, church ministers, teachers, business leaders, nurse educators and leaders, and pharmacists (see Bateman et al., 2021). I will visit these stakeholders to introduce myself, the guideline, and my desire to meet with them in a central place within the community, preferably a church or community center. Once I have secured the use of the center, I will call a meeting of the stakeholders to share the guideline, educate them on using the guideline, and seek their help in opening up their constituences to me.

The second level of dissemination will be with nurse educators and practitioners who serve the African American community. Nurse educators and practitioners are part of the community and are seen as contributing to the health and well-being of the community. I will educate them on using the guideline so they can become vaccination advocates within the community. As advocates, they can train other health care professionals on using the guideline. I will also seek to include the guideline as part of

the training curriculum of new nurses within the community. This way, new nurses will become vaccination advocates in the medical systems of their employment.

The third level of dissemination will be with trusted businesses and ecclesiastical leaders, including barbers and salon owners (National Association of County and City Health Officials, 2023), pastors and other church leaders (Nortey & Lipka, 2021), other religious leaders (Langfitt, 2021), and community leaders. I will consult with these leaders on how to reach their customers and parishioners. I will train them with the guideline to become vaccination advocates. They will be asked to distribute the guideline and use it to instruct their customers and parishioners on vaccines and the vaccination process. My team of nurse educators will help in educating and encouraging people to become vaccinated.

The fourth level of dissemination will involve the use of social media to support the efforts on the ground. I will post vaccine testimonies by stakeholders on Facebook, Instagram, TikTok, WhatsApp, and LinkedIn to help counteract the mis- and disinformation within the community. I will show videos and pictures of these stakeholders getting vaccinated and will request that the community join in doing so. I will recruit African American celebrities to be involved in encouraging members of the community to be vaccinated.

In the fifth level of dissemination, I will invite members of the community to seminars and workshops at trusted centers such as churches, community centers, pharmacies, libraries, barber shops, and salons. In these centers, members of the community will not only listen but will also be encouraged to ask as many questions as

they want. These centers are environmentally and culturally friendly. The stakeholders who have become advocates and the nurse educators who work in the community will be the ones to discuss vaccines and the vaccination process with the community. I will be there to moderate.

Finally, I will publish the guideline in an open-access journal accessible to the African American community and nurse educators. The journals of interest include *The American Journal of Nursing*, *American Nurse Journal*, *Journal of Clinical Nursing*, and *Journal of Professional Nursing*. I will also attend nursing conferences and workshops to make the guideline available to other nurses and medical professionals.

Analysis of Self

As a DNP-trained nurse with over 4 decades of nursing practice, I have the skills, experience, and capabilities to create social change, and have been doing so. I can translate nursing concepts and theories to praxis. I can communicate to communities what can help them live healthier lives. I am not only a communicator of nursing concepts and theories but also a leader who guides people and communities to visions of beneficial permanence. I can lead an interprofessional team of medical professionals to develop and implement clinical guidelines as I have done in this project.

Moreover, I belong to many professional leadership organizations including the National Society of Leadership and Success, the School of Nursing University of Nigeria Teaching Hospital Alumni United States of America, the American Nursing Association, and the National Association of Nigerian Nurses in North America. In these organizations, I play leadership roles that influence advancement of nursing practice and

healthy patient outcomes, one of which is the reduction of vaccination hesitancy and increased vaccination knowledge and uptake.

In my over 4 decades of nursing services, I have worked as a med-surg nurse, telemetry nurse, midwife, operating room nurse, long-term care nurse, community nurse, and missionary nurse. I have supervised other nurses and used my training to transform lives and societies. My greatest joy is to see my patients satisfied and healed, and to create the environment for other nurses to reach their highest potential.

The current project was involved, engaging, and transformative, yet it had its challenges. The first challenge was the sourcing and critiquing of existing literature on culturally sensitive clinical guidelines relevant to the African American community. There were many scholarly articles on clinical guidelines, but there was a scarcity of peer-reviewed articles on clinical guidelines that were culturally sensitive to the African American community. This challenge was solved by months of searching literature databases such as Medline, CINAHL Plus, Google Scholar, NIH.gov, Scholarworks of different universities, Elsevier, Springer, Sage, and EBSCO. I addressed the beliefs, culture, perspectives, historical biases, and mis- and disinformation that the community experienced that led to their hesitancy toward or rejection of vaccination. The clinical guideline addressed these factors and provided the knowledge needed for vaccination uptake.

The involvement of community and religious leaders will promote trust and commitment to vaccinations. The strategic plans for disseminating the guidelines are intended to achieve the goal of reducing vaccine hesitancy. This project enabled me to

have insights into the importance of producing a culturally sensitive guideline to address vaccination hesitancy among the African American community. I have learned the need for competence in the rigor of producing a CPG and collaborating with stakeholders for achieving knowledge and acceptance of vaccinations among the African American community.

The second challenge was recruiting content experts who could evaluate the quality of the CVEGAAC. This portion was challenging because of the required academic level of the content experts. They were required to be nurse practitioners, nurse educators, or doctors. I solved this problem by recruiting qualified doctoral-trained nurses and a doctor from reputable nursing and medical associations. These content experts ensured that the project would be properly evaluated. I addressed many cultural and societal factors to make the CVEGAAC culturally relevant to the African American community. The content experts used the AGREE II model to evaluate the CVEGAAC.

Finally, completing this project necessitated a thorough comprehension of the community's needs, beliefs, and experiences in addition to a dedication to cultural competence, collaboration, and equity. Although difficulties might occur, strategies such as community involvement and trust building may help mitigate them and produce significant insights and impacts on reduction of vaccination hesitancy.

Summary

In this DNP project, I created a culturally sensitive clinical vaccination education guideline for the African American community to decrease vaccination hesitancy and boost vaccination knowledge and uptake. Community stakeholders such as local

government officials, community leaders, church ministers, African American business leaders, nurse educators and leaders, and pharmacists comprise the first level of dissemination. The second level consists of community-serving nurse educators and practitioners, and the third level consists of respected business and religious leaders. The fourth level of dissemination will involve using social media to encourage community members to be vaccinated. The fifth level will consist of inviting community members to seminars and workshops at reputable centers. Finally, the guideline will be published in open-access journals that are accessible to the African American community, nurse educators, and nurse practitioners.

I have over 4 decades of nursing experience and am pursuing a doctorate in nursing practice. I possess the knowledge, skills, and abilities to effect social change, translate nursing concepts and theories into practice, communicate with communities, lead an interprofessional team, and participate in professional leadership organizations. I have worked as a med-surg nurse, telemetry nurse, long-term care nurse, community nurse, missionary nurse, and midwife. Additionally, I have supervised other nurses. My greatest pleasure is seeing my patients happy and healthy, and fostering an environment in which other nurses can realize their full potential.

References

Anwer, M. A., Al-Fahed, O. B., Arif, S. I., Amer, Y. S., Titi, M. A., & Al-Rukban, M. O. (2018). Quality assessment of recent evidence-based clinical practice guidelines for management of type 2 diabetes mellitus in adults using the AGREE II instrument. *Journal of Evaluation in Clinical Practice*, *24*(1), 166–172. https://doi.org/10.1111/jep.12785

Arias, C. A., & Murray, B. E. (2015). A new antibiotic and the evolution of resistance. *New England Journal of Medicine*, *372*(12), 1168–1170. https://www.nejm.org/doi/10.1056/NEJMcibr1500292

Arnold, L. D., Luong, L., Rebmann, T., & Chang, J. J. (2019). Racial disparities in U.S. maternal influenza vaccine uptake: Results from analysis of pregnancy risk assessment monitoring system (PRAMS) data, 2012–2015. *Vaccine*, *37*, 2520–2526. https://doi.org/10.1016/j.vaccine.2019.02.014

Asa, F., Ulf, E., Brigitta, W. S., Anders, B., & Henrik, A. (2021). Clinical practice guidelines for comprehensive patient assessment in emergency care: A quality evaluation study. *Nordic Journal of Nursing Research*, *41*(4), 207–215. https://doi.org/10.1177/20571585211006980

Baldolli, A., Michon, J., Verdon, R., & Fournier, A. (2020). Vaccination perception and coverage among healthcare students in France in 2019. *BioMed Central Medical Education*, *20*(508), 1–10. https://doi.org/10.1186/s12909-020-02426-5

Bateman, L. B., Schoenberger, Y. M., Hansen, B., Osborne, T. N., Okoro, G. C., Speights, K. M., & Fouad, N. (2021). Confronting COVID-19 in under-resourced, African American neighborhoods: A qualitative study examining community member and stakeholders' perceptions. *Ethnicity & Health*, *26*(1), 49–67. https://doi.org/10.1080/13557858.2021.1873250

Bazargan, M., Wisseh, C., Adinkrah, E., Ameli, H., Santana, D., Cobb, S., & Assari, S. (2020). Influenza vaccination among underserved African-American older adults. *BioMed Research International*, 1–9. https://doi.org/10.1155/2020/2160894

Boakye, E. A., Lew, D., Muthukrishnan, M., Tobo, B. B., Rhode, R. L., Varvares, M. A., & Osazuwa-Peters, N. (2018). Correlates of human papillomavirus (HPV) vaccination initiation and completion among 18–26-year-olds in the United States. *Human Vaccines & Immunotherapeutics*, *14*(8), 2016–2024. https://doi.org/10.1080/21645515.2018.1467203

Brouwers, M. C. (2017). *Appraisal of Guidelines for Research and Evaluation: AGREE II Instrument.* Canadian Institutes of Health Research.

Brouwers, M. C., Kho, M. E., Brownman, G. P., Burgers, J. S., Cluzeau, F., Feder, G., Fervers, B., Graham, I. D., Hanna, S. E., & Markaski, J. (2010). Development of the AGREE II, part 1: Performance, usefulness and areas for improvement. *Canadian Medical Association Journal*, *182*(10), 1045–1052. https://doi.org/10.1503/cmaj.091714

Buchy, P., Ascioglu, S., Buisson, Y., Datta, S., Nissen, M., Tambyah, P. A., Vong, S. (2020). Impact of vaccines on antimicrobial resistance. *International Journal of Infectious Diseases*, *90*, 188–196. https://doi.org/10.1016/j.ijid.2019.10.005

Cantero, A. M. (2017). *Educational intervention for engaging adolescents and their parents in HPV vaccination* (Publication Number: 4466) [Doctoral Dissertation,Walden University]. Walden Dissertations and Doctoral Studies. https://scholarworks.waldenu.edu/dissertations/4466

Castellini, G., Iannicelli, V., Briguglio, M., Corbetta, D., Sconfienza, L. M., Banfi, G., & Gianola, S. (2020). Are clinical practice guidelines for low back pain interventions of high quality and updated? A systematic review using the AGREE II instrument. *BioMed Central Health Services Research*, *20*(970), 1–10. https://doi.org/10.1186/s12913-020-05827-w

Centers for Disease Control and Prevention. (2020, November 16). *Baltimore Coalition introduces African American community campaign on the importance of getting a flu vaccine*. https://www.cdc.gov/vaccines/partners/baltimore-2020.html

Centers for Disease Control and Prevention. (2021, March 23). *COVID data tracker*. https://covid.cdc.gov/covid-data-tracker/#vaccination-demographic

Cheng, H., Ma, Z., Yu, B., Liu, X., Tian, C., Zhong, X., & Zhao, L. (2021). Quality assessment of clinical guidelines on probiotics therapy in children with IBD using the AGREE II instrument. *Journal of Clinical Pharmacy and Therapeutics*, *46*(4), 1155–1165. https://doi.org/10.1111/jcpt.13422

Chiappini, E., Bortone, B., Galli, L., & de Martino, M. (2017). Guidelines for the symptomatic management of fever in children: Systematic review of the literature and quality appraisal with AGREE II. *British Medical Journal Open*, *7*, Article e015404. https://doi.org/10.1136/bmjopen-2016-015404

COVID Collaborative. (2021). *Featured Work*. https://www.covidcollaborative.us

Corpuz, J. C. (2021). Multisectoral approach on COVID-19 vaccination: A proposed solution on vaccine hesitancy. *Journal of Public Health, 43*(2), e370-e371. https://doi.org/10.1093/pubmed/fdab085

Davis, C., Summersby, E., Clarke, V., Mooney, G., Maher, K., Twohig, M., Harvern, M., Sharkey, P., & Furlong, E. (2019). Enhancing cancer care guideline development and implementation using formal guideline adaptation: Methodology description. *International Journal of Integrated Care*, *19*(S1), 1–8. https://dx.doi.org/10.5334/ijic.s3656

Dube, E., Laberge, C., Guay, M., Bramadat, P., Roy, R., & Bettinger, J. (2013). Vaccine hesitancy: An overview. *Human Vaccines & Immunotherapeutics, 9*(8), 1763–1773. http://doi.org/10.4161/hv.24657

Ferdinand, K. C., & Nasser, S. A. (2020). African-American COVID-19 mortality: A sentinel event. *Journal of the American College of Cardiology, 75*(21), 2746–2748.

Freimuth, V. S., Jamison, A. M., An, J., Hancock, G. R., & Quinn, S. C. (2017). Determinants of trust in the flu vaccine for African Americans and Whites. *Social Science & Medicine, 193*, 70–79. https://doi.org/10.1016/j.socscimed.2017.10.001

Fu, L. Y., Zimet, G. D., Latkin, C. A., & Joseph, J. G. (2017). Associations of trust and healthcare provider advice with HPV vaccine acceptance among African American parents. *Vaccine, 35*(5), 802–807. https://doi.org/10.1016/j.vaccine.2016.12.045

Golden, S. H. (2022, March 10). *COVID-19 Vaccines and People of Color*. (Johns Hopkins) https://www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus/covid19-vaccines-and-people-of-color

Hoffmann-EBer, W., Siering, U., Neugebauer, E. A., Brockhaus, A. C., McGauran, N., & Eikermann, M. (2018). Guideline appraisal with AGREE II: Online survey of the potential influence of AGREE II items on the overall assessment of guideline quality and recommendation for use. *BioMed Central Health Services Research, 18*(143), 1–9. https://doi.org/10.1186/s12913-018-2954-8

Hornsey, M., Lobera, J., & Diaz-Catalan, D. (2020). Vaccine hesitancy is strongly associated with distrust of conventional medicine and only weakly associated with trust in alternative medicine. *Social Science and Medicine,* 1–23. https://doi.org/10.1016/j.socscimed.2020.113019

Jamison, A. M., Quinn, S. C., & Freimuth, V. S. (2019). “You don’t trust a government vaccine”: Narratives of institutional trust and influenza vaccination among African American and White adults. *Social Science Medicine, 221*, 87–94.

Khubchandani, J., & Macias, Y. (2021). COVID-19 vaccination hesitancy in Hispanics and African-Americans: A review and recommendations for practice. *Brain, Behavior, & Immunity - Health, 15*, 1–4. https://doi.org/10.1016/j.bbih.2021.100277

Koritala, T., Hussain, A., Pleshkova, Y., Dondapatiu, L., Tirupathi, R., Rabaan, A. A., Mutair, A. A., Alhumaid, S., Al-Tawfiq, A., & Kashyap, R. (2021). A narrative review of emergency use authorization versus full FDA approval and its effect on COVID-19 vaccination hesitancy. *Le Infezioni in Medicina, 3*, 339–334. https://doi.org/10.53854/liim-2903-4

Kriss, J. L., Frew, P. M., Cortes, M., Malik, F. A., Chamberlain, A. T., Seib, K., Flowers, L., Ault, K. A., Howards, P. P., Orenstein, W. A., & Omer, S. B. (2018). Evaluation of two vaccine education interventions to improve pertussis vaccination among pregnant African American women: A randomized controlled trial. *Vaccine*, 1551–1558. https://doi.org/10.1016/j.vaccine.2017.01.037

Langfitt, F. (2021, April 26). *How a U.K. Imam countered vaccine hesitancy and helped thousands get the 'jab'*. Untangling disinformation: https://www.npr.org/2021/04/26/988165812/how-a-u-k-imam-countered-vaccine-hesitancy-and-helped-thousands-get-the-jab

Lee, W. E., Park, S. W., Weinberger, D. M., Olson, D., Simonsen, L., Grenfell, B. T., & Viboud, C. (2023). Direct and indirect mortality impacts of the COVID-19 pandemic in the United States, March 1, 2020 to January 1, 2022. *Elife*, *12*, e77562.

Leidner, A. J., Murthy, N., Chesson, H. W., Biggerstaff, M., Stoecker, C., Harris, A. M., Acosta, A., Dooling, K., & Bridges, C.B. (2019). Cost-effectiveness of adult vaccinations: A systematic review. *Vaccine. 37(2)*, 226–234. https://doi.org/10.1016/j.vaccine.2018.11.056

Luyten, J., & Beutels, P. (2016). The social value of vaccination programs: Beyond cost-effectiveness. *Health Affairs, 35*(2), 212–218. https://doi.org/10.1377/hlthaff.2015.1088

Melnyk, B. M., & Fineout-Overholt, E. (2019). *Evidence-based Practice in Nursing and Healthcare: A Guide to Best Practice.* Wolters Kluwer.

Mesch, G. S., & Schwirian, K. P. (2019). Vaccination hesitancy: Fear, trust, and exposure expectancy of an Ebola Outbreak. *Heliyon, 5*, 1–5. https://doi.org/10.1016/j.heliyon.2019.e02016

Milam, A. J., Furr-Holden, D., Edwards-Johnson, J., Webb, B., Patton III, J. W., Ezekwemba, N. C., Porter, L., Davis, T., Chukwurah, M., Webb, A. J., Simon, K., Franck, G., Anthony, J., Onuoha II, G., Brown, I. M., Carson, J. T., & Stephens, B. C. (2020). Are clinicians contributing to excess African American COVID-19 deaths? Unbeknownst to them, they may be. *Health Equity, 4*(1), 139–141. https://doi.org/10.1089/heq.2020.0015

Moore, K. (2021, April 23). All Hands On Deck: Closing The COVID-19 Racial And Ethnic Gap In Maryland. Legal Defense Fund: https://www.naacpldf.org/naacp-publications/ldf-blog/all-hands-on-deck-closing-the-covid-19-racial-and-ethnic-gap-in-maryland/

Mwangi, N., Amissah-Arthur, K.N., Braimah, I.Z., Sarfo-Kantanka, O., Akpalu, J., Akrofi, B., Boadi-Kusi, S. B., Atiase, Y., Yorke, E., Gichangi, M., Faal, H., Addy, J. (2022). International collaboration for the development of clinical guidelines in low and middle-income countries: case study on the development of a national framework and clinical guidelines for diabetic retinopathy in Ghana. *Eye 36*(Suppl 1), 12–16. https://doi.org/10.1038/s41433-022-02002-9

Nan, X., Daily, K., Richards, A., Holt, C., Wang, M. Q., Tracy, K., & Qin, Y. (2019). The role of trust in health information from medical authorities in accepting the HPV vaccine among African American parents. *Human Vaccines & Immunotherapeutics, 15*(7-8), 1723–1731. https://doi.org/10.1080%2F21645515.2018.1540825

National Association of County and City Health Officials. (2023). *Shots at the Shop Initiative*: Our response efforts around COVID-19 https://www.naccho.org/programs/our-covid-19-response/shotsinshops

Ndugga, N., Hill, L., & Haldar, S. (2022, July 14). *Latest Data on COVID-19 Vaccinations by Race/Ethnicity*. (KFF - Filling the need for trusted information on national health issues). https://www.kff.org/coronavirus-covid-19/issue-brief/latest-data-on-covid-19-vaccinations-by-race-ethnicity/#

Nortey, J., & Lipka, M. (2021, October 15). Most Americans who go to religious services say they would trust their clergy's advice on COVID-19 vaccines. Pew Research Center. https://www.pewresearch.org/religion/2021/10/15/most-americans-who-go-to-religious-services-say-they-would-trust-their-clergys-advice-on-covid-19-

vaccines/

Odame, F. S. (2016). Non-formal education as a tool for social change in the Nadowli District of Ghana: Options of an endogenous model. *Tanzania Journal of Sociology*, *7*(2–3), 18–-30. https://journals.udsm.ac.tz/index.php/tjsociology/article/view/1497

Olesky, T., Wnuk, A., Maison, D., & Lys, A. (2021). Content matters. Different predictors and social consequences of general and government-related conspiracy theories on COVID-19. *Personality and Individual Differences*. 168, 1–7. https://dx.doi.org/10.1016%2Fj.paid.2020.110289

Ozawa, S., Yemeke, T. T., Evans, D. R., Pallas, S. E., & Wallace, A. S. (2019). Defining hard-to-reach populations for vaccination. *Vaccine*, 1–10. https://doi.org/10.1016/j.vaccine.2019.06.081

Pattin, A. J., & Sherman, L. (2018). Experiences among African American community members with pharmacy-based immunization services in Detroit, Michigan. *Journal of Pharmaceutical Technology*, *34*(6), 259–265. https://doi.org/10.1177/8755122518801288

Peterson, P., McNabb, P., Maddali, S. R., Heath, J., & Santibañez, S. (2019). Engaging communities to reach immigrant and minority populations: The Minnesota Immunization Networking Initiative (MINI), 2006-2017. *Public Health Reports*, *134*(3), 241–248. https://doi.org/10.1177/0033354919834579

Pew Research Center. (2021, October 15). *Most Americans Who Go to Religious Services Say They Would Trust Their Clergy's Advice on COVID-19 Vaccines*. https://www.pewresearch.org/religion/2021/10/15/most-americans-who-go-to-religious-services-say-they-would-trust-their-clergys-advice-on-covid-19-vaccines/

Pierre, J. M. (2020). Mistrust and misinformation: A two-component, socio-epistemic model of belief in conspiracy theories. *Journal of Social and Political Psychology. 8*(2), 617–641. https://doi.org/10.5964/jspp.v8i2.1362

Prioli, K. M., Schaffer, J. J., & Pizzi, L. T. (2016). Reducing disparities in U.S. vaccination through senior centers: A comparison of three educational models for older Americans. *Value in Health, 19,* A347 – A766. http://www.prioli.net/files/pubs/PPPP_ISPOREuroposter_2016.pdf

Quinn, S. C., Jamison, A., Freimuth, V. S., An, J., Hancock, G. R., & Musa, D. (2017). Exploring racial influences on flu vaccine attitudes and behavior: Results of a national survey of White and African American adults. *Vaccine, 35*(8), 1167–1174. https://doi.org/10.1016/j.vaccine.2016.12.046

Radwan, M., Sari, A. A., Rashidian, A., Takian, A., Abou-Dagga, S., & Elsous, A. (2017). Appraising the methodological quality of the clinical guideline for diabetes mellitus using the AGREE II instrument: A methodological evaluation. *Journal of the Royal Society of Medicine Open, 8*(2), 1–8. https://doi.org/10.1177/2054270416682673

Reyes, M. V. (2022). The Disproportional Impact of COVID-19 on African Americans. *Health and Human Rights, 22*(2), 299-307. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7762908/

Rungkitwattanakul, D., Yabusaki, A., Singh, D., Lawson, P., Nwaogwugwu, U., Iheagwara, O. S., & Mere, C. (2021). COVID-19 vaccine hesitancy among African American hemodialysis patients: A single-center experience. *Hemodialysis International*, 1–3. https://dx.doi.org/10.1111%2Fhdi.12922

Schafer, J. J., McRae, J., Prioli, K. M., Harris, L. F., McCoy, M., Cannon-Dang, E., & Pizzi, L. T. (2018). Exploring beliefs about pneumococcal vaccination in a predominantly older African American population: The pharmacists' pneumonia prevention program (PPPP). *Ethnicity and Health*, 1–15. https://doi.org/10.1080/13557858.2018.1514450

School of Public Health, University of Maryland. (2022). Shots at the shop: From vaccine hesitancy to vaccine confidence. https://sph.umd.edu/shotsattheshop

Schwarz, E. R. (2017). Consequences of perinatal infections with rubella, measles, and mumps. *Current Opinion in Virology*, *27*, 71–77. https://doi.org/10.1016/j.coviro.2017.11.009

Seto, K., Matsumoto, K., Kitazawa, T, Fujita, S., Hanaoka, S., & Hasegawa, T. (2017). Evaluation of clinical practice guidelines using the AGREE instrument: comparison between data obtained from AGREE I and AGREE II. *BioMed Central Research Notes* 10, 716 (2017). https://doi.org/10.1186/s13104-017-3041-7

Sk, M. E. (2017). Education as an instrument of social change. *International Research Journal of Multidisciplinary Studies, 3*(6), 1–5. https://typeset.io/explore/papers/education-as-an-instrument-of-social-change-15bve8x2xx

Spencer, J. C., Clo, W. A., & Brewer, N. T. (2019). Disparities and reverse disparities in HPV vaccination: A systematic review and meta-analysis. *Preventive Medicine, 123*, 197–203. https://doi.org/10.1016/j.ypmed.2019.03.037

Steeb, T., Wessely, A., Drexler, K., Salzmann, M., Toussaint, F., Heinzerling, L., Reinholz, M., Berking, C., & Heppt, M. V. (2020). The quality of practice guidelines for melanoma: A methodologic appraisal with the AGREE II and AGREE-REX instruments. *Cancers, 12*(6), 1–12. http://dx.doi.org/10.3390/cancers12061613

Toth-Manikowski, S. M., Swirsky, E. S., Gandhi, R., & Piscitello, G. (2022). COVID-19 vaccination hesitancy among health care workers, communication, and policy-making. *American Journal of Infection Control, 50*, 20–25. https://dx.doi.org/10.1016%2Fj.ajic.2021.10.004

U.S. Department of Health and Human Services, Centers for Disease Control Prevention, National Center for Immunization and Respiratory Diseases. (2021). *Increasing COVID-19 vaccine uptake among members of racial and ethnic minority communities: A guide for developing, implementing, and monitoring community-driven strategies.* Atlanta, GA: Center for Disease Control and Prevention. https://www.cdc.gov/vaccines/covid-19/downloads/guide-awardees-community-

driven-strategies.pdf

Yancey, C. W. (2020). COVID-19 and African Americans. *Journal of American Medical Association, 323*(19), 1891-1892. https://doi.org/10.1001/jama.2020.6548

Yang, R., Penders, B., & Horstman, K. (2019). He addressed vaccine hesitancy in China: A scoping review of Chinese scholarship. *Vaccines, 8*(2), 1–17. http://dx.doi.org/10.3390/vaccines8010002

Yao, L., Chen, Y., Wang, X., Shi, X., Wang, Y., Guo, T., & Yang, K. (2016). Appraising the quality of clinical practice guidelines in traditional Chinese medicine using AGREE II instrument: A systematic review. *The International Journal of Clinical Practice, 71*(e12931), 1–8. https://doi.org/10.1111/ijcp.12931

Ye, Z., Liu, Y., Cui, X., & Liu, L. (2016). Critical appraisal of the quality of clinical practice guidelines for stress ulcer prophylaxis. *PLoS ONE, 11*(5), 1–9. https://doi.org/10.1371/journal.pone.0155020

Appendix A: CVEGAAC

Clinical Vaccination Education Guideline for the African American Community

Purpose

- To provide a culturally sensitive clinical vaccination education guideline for the African American community (CVEGAAC) to be used by nurse educators to educate advocates in the African American community to reduce vaccination hesitancy and increase vaccination knowledge and uptake

Procedure

- The nurse educator will schedule a training in different settings for the community such as churches, barber shops, and hair salons
- He/she will train and collaborate with the community vaccination advocates (barbers/hairdressers, ministers) to educate the African American community on vaccination with the objective of
    - reducing vaccination hesitancy due to vaccination mis and dis-information
    - improving vaccination knowledge
    - increasing vaccination uptake
        - reducing morbidity and mortality due to preventable infectious diseases
- The nurse educator will provide the participants
    - with evidence-based information regarding mis and disinformation
    - referrals on how to get the vaccines
        - such as CVS, Walgreen pharmacy, or health departments of their community

Question

- What information do nurse educators need to provide advocates with culturally sensitive education to African American communities to improve vaccination knowledge and uptake and reduce vaccination hesitancy due to mis and dis-information?

Target Population

- Nurse educators and African American vaccination advocates
    - African Americans who are hesitant about vaccination because of mis and dis-information

Recommendation

- The African American community lacks a culturally sensitive education guideline to increase vaccination knowledge and decrease vaccination hesitancy
    - historically, vaccinations have been successful cost-effective means of eradicating infectious diseases (Leidner et al., 2019; Luyten & Beutels, 2016)
    - vaccinations have become the method of choice in combating antibiotic-resistant infections (Buchy et al., 2020)
- The value of vaccinations goes beyond cost-effectiveness to include health equity, sustenance of herd immunity, and “social integration of minority groups” (Luyten & Beutels, 2016, p.212)
- Vaccination hesitancy is prevalent among the African American communities

    - in 2021, COVID-19 vaccination hesitancy of all adult Americans was 26.3%, but that of African Americans was 41.6% (Khubchandani & Macias, 2021)

- The use of vaccination advocates will help reduce vaccination hesitancy in the African American community
    - they are members and leaders of the community who understand vaccines and the vaccination process (Williams et al., 2020)

Key Evidence

- Because of historical experiences, the African American community has low vaccination rates and knowledge (Schafer et al., 2018) caused by low vaccination education (Cantero, 2017) and vaccination mis and dis-information (Pierre, 2020)
- The African American community distrusts the government (Freimuth et al., 2017; Fu et al., 2017; Hornsey et al., 2020; Jamison et al., 2019; Nan et al., 2019; Ozawa et al., 2019).
- The use of vaccination advocates such as barbers, hairstylists, and Christian ministers helped increase vaccination knowledge and uptake in the African American community (NACCHO, 2023; Fernando, 2021; School of Public Health, University of Maryland, 2021)
- Kriss et al. (2018) found that targeted education intercessions could create change in the African American communities
- Boakye et al. (2018) discovered that developing a culturally sensitive educational guideline for vaccination education for the African American community will

decrease fear and myths related to vaccinations and increase vaccination knowledge

Guideline Monitoring

- The CVEGAAC should be reviewed every three years or when new scientific evidence-based findings are published
- Barriers to the implementation of the CVEGAAC should be addressed as they arise and prior to implementation

No funding was requested or received during the development of the CVEGAAC

Clinical Vaccination Education Guideline for the African American Community

The Clinical Vaccination Education Guideline for the African American Community (CVEGAAC) is a culturally sensitive clinical vaccination education guideline to assist nurse educators and trusted community vaccination advocates to educate the African American community with the objective of:

- reducing vaccination hesitancy due to vaccination mis and dis-information
- improving vaccination knowledge
- increasing vaccination uptake
    - thereby, reducing morbidity and mortality due to preventable infectious diseases

What is a vaccine?

- A preparation used to stimulate the body's immune response against diseases
    - can be given by mouth, by injection or by spraying into the nose

What is vaccination?

- The act of introducing vaccine into the body to produce protection from a specific disease
    - vaccination and inoculation are used interchangeably with immunization.
        - immunization is the process by which a person becomes protected against a disease through vaccination
- Vaccination is an exceptional medical success story preventing more than 20 life-threatening diseases and 3.5 to 5 million deaths annually (Centers for Disease Control & Prevention, 2022)

What is vaccination knowledge?

- Comprehensive and accurate information about vaccines, vaccination, and immunization

What is vaccination hesitancy?

- The delayed acceptance or the total rejection of vaccination despite the availability and accessibility of vaccination services

What are the consequences of vaccination hesitancy?

- Failure to achieve or sustain herd immunity
    - herd immunity is when a large proportion of a community is immune to a disease, either due to vaccination or developing antibodies from infection of the disease, thereby limiting the spread of that disease (Ogbuagu, 2021)
- Under-immunization leading to higher rates of preventable infectious
- No protection against diseases that cannot produce herd immunity including tetanus and shingles
- Increased vaccine preventable diseases in communities in African American communities
- Underimmunization also has the same consequence as vaccination hesitancy
- Communities that have a high vaccination hesitancy have more sizable second outbreaks than communities with low vaccination hesitancy

Why do African Americans have vaccination hesitancy?

- Distrust in government and the medical profession
- Structural racism in medical research and care
- Inadequate vaccine production and distribution
- Vaccine supply problems
- Geographic, access, and transportation issues

What is Vaccination False Information?

Vaccination false information comprises of mis and dis-information.

- **What is misinformation?**
    - false information shared by people whose intention is not to mislead others
        - though people who are misinformed have no intentions to deceive, the false information can hurt vaccine confidence and lead to vaccination hesitancy
- **What is disinformation?**
    - false information created and disseminated by people who have intentions to deceive and cause harm

What are the consequences of false information?

- Lead to increased vaccination hesitancy
- Reduce vaccination knowledge and uptake
- Contribute maximally to increased morbidity and mortality due to preventable infectious diseases

Examples of False Information

- People can delay routine vaccinations during COVID-19; they can get vaccination once the COVID-19 is over
    - FALSE
        - The routine vaccine such as the flu vaccine is specific for the current strain
            - new strains are occurring routinely

        - The period of time the specific (current) vaccine is effective is untested
            - COVID 19 hasn't been around long enough to test how long the vaccine is effective
        - People need routine vaccines, on time to maintain their health
            - these include the COVID-19 vaccination (University of Maryland Medical System, 2020)
- Vaccines make people sick e.g., those who take the COVID-19 vaccine become sick with COVID
    - FALSE
        - Vaccines do not contain the live virus (Hamel et al., 2021; University of Maryland Medical System, 2020)
            - live viruses cause illness
            - vaccines prevent people from getting sick from infectious diseases.
            - some people may have mild side effects that mimic the disease

- Vaccines contain toxic ingredients
    - FALSE
        - Vaccines do not contain toxic ingredients (Lee et al., 2022; University of Maryland Medical System, 2020)
            - nearly all ingredients in vaccines are common ingredients found in the food we eat such as fats, sugars, and salts
            - some vaccines contain trace amounts of formaldehyde and aluminum
                - amounts are very low and harmless
            - some flu vaccines contain gelatin and egg proteins
                - they can cause allergic reactions
                    - if allergic to gelatin and egg proteins discuss this issue with their doctors and pharmacists
- Vaccines can overload people's immune systems
    - FALSE
        - Simultaneous vaccinations, that is, getting the flu shot and COVID-19 vaccination together, are harmless (University of Maryland Medical System, 2020)
            - vaccinations can prevent community outbreaks of infectious diseases
- Natural immunity is healthier that vaccine-induced immunity
    - FALSE

        - Vaccine preventable diseases could be disastrous to communities (University of Maryland Medical System, 2020; Centers for Disease Control and Prevention, 2022)
            - getting natural immunity from infectious diseases, such as COVID-19 can cause severe illness, hospitalization, and death

- "I don't need to be vaccinated if everyone around me has been vaccinated and immune to the disease"
    - FALSE
        - You could still become the agent for reinfection of the community since you can spread the disease again (University of Maryland Medical System, 2020)
        - Spreading the disease to those with weakened immune systems and those who cannot receive the vaccine for medical reasons
- The United States does not have vaccine-preventable diseases
    - FALSE
        - Infectious diseases such as measles, chicken pox, mumps, COVID-19, etc., are only a plane-ride away from her (University of Maryland Medical System, 2020)
        - Vaccines have eradicated many infectious diseases in the past
            - such as polio, tetanus, hepatitis B, hepatitis A, rubella, haemophilus influenzae type b, measles, whooping cough

(pertussis), pneumococcal disease, rotavirus, mumps, chickenpox, diphtheria, tuberculosis, etc. (Centers for Disease Control and Prevention, 2022)

        - Some of those are on the rise again

- People who have received the flu vaccine are protected from COVID-19
    - FALSE
        - There is no medical evidence that people who received the flu vaccine are immune to COVID-19 (University of Maryland Medical System, 2020)
            - the different vaccines are specific to the different diseases
- Vaccines cause autism in children
    - FALSE
        - The study that correlated autism with measles, mumps, and rubella vaccine has been shown to have incorrect data.
            - other studies found it incorrect, and it was redacted (Lee et al., 2022; University of Maryland Medical System, 2020)
- The government implants microchips into people who get vaccinated to track them using 5G cell phone towers
    - FALSE
        - The COVID-19 vaccine cannot contain a microchip because of size issues
            - a microchip cannot pass through a needle

        - Neither does it have a power source that could transmit information to a remote 5G device **Invalid source specified.**
        - This disinformation was spread by people whose intent was to sow confusion about vaccination in the United States (Lee et al., 2022; University of Maryland Medical System, 2020)
- COVID-19 vaccines (or vaccines in general) create new variants of the virus
    - FALSE
        - COVID-19 vaccine uptake slows the current strain by helping the body to fight and kill the virus (Centers for Disease Control and Prevention, 2023)
        - They minimize the emergence of new variants
- Those who receive COVID-19 vaccination can become magnetic especially in their arm where they received the vaccination
    - FALSE
        - Magnetism is caused by movement of electrons especially in metals such as iron, nickel, cobalt, lithium, and rare earth alloys. These substances are not part of the COVID-19 vaccine, and therefore could not cause humans to become magnetic
- COVID-19 vaccines shed or release their components into the body or outside the body
    - FALSE
        - No vaccine authorized in the United States contains a live virus

- COVID-19 vaccines cannot shed or release their components into the body or outside the body (Centers for Disease Control and Prevention, 2023).
    - “vaccine shedding is the release or discharge of any of the vaccine components in or outside of the body and can only occur when a vaccine contains a live weakened version of the virus” (Centers for Disease Control and Prevention, 2022, para.2)

- The DNA of people who receive vaccinations, especially the COVID-19 vaccination, will be altered
    - FALSE
        - All vaccines work by delivering information to the body cells to build protection against viruses (Lee et al., 2022; Centers for Disease Control and Prevention, 2023)
        - The vaccine ingredients not needed for protecting the body from infection are expelled as part of normal body functions
        - There is no interaction between vaccines and the DNA in the nucleus of a cell

Why is a culturally sensitive guideline such as the CVEGAAC necessary for the African American Community?

- The available clinical education guidelines are not culturally sensitive
    - The African American community sees them as exotic and not contextualized to their needs
- The CVEGAAC will decrease vaccination skepticism and improve vaccination knowledge
- The African American community leaders will have the resources to mobilize the community to understand the importance of vaccination thereby reducing vaccination hesitancy
- The local government and healthcare professionals will have the tools to provide awareness to the communities

Appendix B: CVEGAAC Flyer

What is a vaccine?

- A preparation used to help your body fight infectious diseases

What is vaccination?

- It is the act of introducing vaccine into the body to produce protection from a specific disease

What is vaccination hesitancy?

It is delayed acceptance or total rejection of vaccination despite vaccine services' availability and accessibility

What is misinformation and disinformation?

Both misinformation and disinformation are destructive to people's health. Do not encourage any of them.

Examples of Mis and Dis-Information

1. Delay routine vaccine until COVID-19 era is over.

People need routine vaccines including the COVID-19 vaccines to be healthy

2. Vaccines make people sick with the same diseases they claim to prevent.

Vaccines do not make people sick; they do not contain the live virus rather they stop people from getting infected. They may have mild side effects that often mimic the disease, but do not cause the virus or make people sick.

3. Vaccines are toxic because they contain toxic ingredients

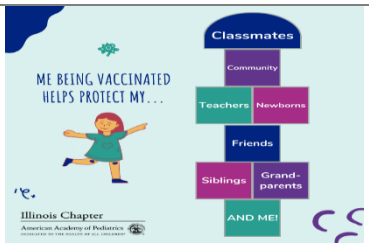
Vaccines do not contain toxic ingredients. Nearly all ingredients in vaccines are also ingredients in the food we eat such as fats, sugars, salts, and proteins. There may be small traces of aluminum and formaldehyde, but they are harmless. Some flu vaccines contain gelatin and egg proteins. Those who have allergies to gelatin and egg proteins should discuss these allergies with their doctors.

4. Vaccines can overload people's immune system

Simultaneous vaccinations are harmless; it could prevent community outbreaks of infectious diseases.

5. Natural immunity is healthier than vaccine-induced immunity.

People with this view claim that the natural immunity they get from infectious diseases such as COVID-19 is better than getting the COVID-19 vaccination. Infectious diseases kill people. This information is false. In fact, vaccine-preventable diseases could be disastrous to communities.

6.	”I do not need to be vaccinated if everyone around me has been vaccinated and become immune to the disease”		The problem with this misinformation is that you could become the agent for reinfection of the community.
7.	The United States does not have vaccine-preventable diseases		This information is false. In today’s global village, the United States is part of the world and infectious diseases are only a plane-ride away from her. The reason it appears that these vaccine-preventable diseases are no longer in the United States is because of vaccines; the diseases have been controlled in the United States but could easily become widespread with lack of vaccines.
8.	People who receive routine vaccines are protected from COVID-19		This statement is false. It is advantageous to get both the flu and COVID-19 vaccines. There is no medical evidence that people who received the flu vaccine are immune to COVID-19.
9.	Vaccines can cause autism		Vaccines do not cause autism. A discredited and retracted study in the past linked the measles, mumps, and rubella (MMR) vaccine to autism. There is no link between vaccines and autism.
10.	The government and the healthcare system use vaccines to microchip people		There are no microchips in any vaccine; it would be physically impossible since microchips do not fit through a needle.
11.	Vaccines can make those who receive it magnetic		No vaccine, including COVID-19, can produce electromagnetic fields at the site of injection. They do not contain metals.
12.	COVID-19 vaccines can alter the DNA of those who receive it.		It is not true that COVID-19 vaccines will change or interact with your DNA; vaccines deliver instructions to cells in our bodies to fight against viruses. The materials in vaccines do not enter the nucleus of cells where the DNA is located and cannot alter the DNA.

Appendix C: Literature Matrix

Melnyk, Mazurek, and Fineout-Overholt's tool (2010)

Clinical Guideline for Vaccination Education in an African American Community

References	Theoretical / Conceptual Framework	Research Question(s)/ Hypotheses/Purpose	Research Methodology	Analysis & Results	Conclusions/Recommendations for future research/practice	Grading the Evidence
Arias, C. A., & Murray, B. E. (2015). A new antibiotic and the evolution of resistance. *New England Journal of Medicine, 372*(12), 1168-1170. https://www.nejm.org/doi/10.1056/NEJMcibr1500292	None	How might using the novel drug Teixobactin affect the development of bacterial antibiotic resistance?	Systematic Literature review on development of antibiotic resistance	• Qualitative design with content analysis of existing literature • The new drug, Teixobactin is effective against bacterial infections. • There is a high possibility of resistance in the future	• There is an increase in antibiotic resistant infections. • This resistance is possible with newer and more effective antibiotics. • Vaccines are effective in preventing infections and reducing antibiotic resistance	Level V
Boakye, E. A., Lew, D., Muthukrishnan, M., Tobo, B. B., Rhode, R. L., Varvares, M. A., & Osazuwa-Peters, N. (2018). Correlates of human papillomavirus (HPV) vaccination initiation and completion among 18–26-year-olds in the United States. *Human Vaccines & Immunotherapeutics, 14*(8), 2016-2024. https://doi.org/10.1080/21645515.2018.1467203	None	Examination of the correlates of HPV vaccination uptake in a nationally representative sample of 18–26-year-old adults	• A cross-sectional poll with convenience sampling and a structured questionnaire served as the study technique for this paper. • The authors identified 7588 young adults between the ages of 18 and 26 years from the 2014 and 2015 National Health Interview Survey	• Descriptive statistics, chi-square tests, and logistic regression analysis were used to analyze the data. • Among the participants, 27% started the HPV vaccine, and 16% finished it. • Men with only a high school graduation or males with college degrees who were born outside of the United States were less likely to start the vaccination. • Individuals who went to the doctor's office more frequently than six times a year were more likely to start the vaccination. • The same outcomes were	• Males, individuals with high school or less education, and those born outside the United States were less likely to initiate and complete the HPV vaccination. • Development of targeted interventions to promote HPV vaccination was necessary among those in the catch-up age range.	Level II

References	Theoretical / Conceptual Framework	Research Question(s)/ Hypotheses/Purpose	Research Methodology	Analysis & Results	Conclusions/Recommendations for future research/practice	Grading the Evidence
				obtained when the study population was stratified by gender and foreign-born status. • The outcomes have statistical significance.		
Buchy, P., Ascioglu, S., Buisson, Y., Datta, S., Nissen, M., Tambyah, P. A., & Vong, S. (2020). Impact of vaccines on antimicrobial resistance. *International Journal of Infectious Diseases. 90*, 188-196. https://doi.org/10.1016/j.ijid.2019.10.005	None	1. How can vaccines help prevent Antimicrobial Resistance (AMR)? 2. What are the future developments for vaccines against AMR?	The authors utilized a systematic literature review of existing articles to answer the two research questions	The researchers found that vaccines reduce AMR by: • preventing disease and bacterial growth; • acting through mechanisms that do not frequently result in resistance. • Lessening antibiotic usage since infections are declining. • Preventing the improper use of antibiotics • Preventing viral-bacterial coinfections or superinfections They also discovered limitations: Not every specie of bacteria can produce AMR To fight against AMR, vaccines should focus on bacteria that cause AMR.	The scientists came to the conclusion that by avoiding resistant infections and lowering antibiotic use, vaccinations can help minimize AMR.	Level V
Cantero, A. M. (2017). *Educational intervention for engaging adolescents and their parents in HPV vaccination.* (Publication Number: 4466)	None	How did an educational program impact HPV vaccination rate in a Texas small family practice?	Qualitative design with a focus group bilingual education session held with 15 clinic staff members.	Increased vaccination acceptance by 37.8% within a medically underserved population.	The author advocated more vaccination guideline review and educational methods to engage lawmakers, stakeholders, and policy makers on this disease	Level VI

References	Theoretical / Conceptual Framework	Research Question(s)/ Hypotheses/Purpose	Research Methodology	Analysis & Results	Conclusions/Recommendations for future research/practice	Grading the Evidence
[Doctoral Dissertation,Walden University] Walden Dissertations and Doctoral Studies. https://scholarworks.waldenu.edu/dissertations/4466					prevention issue that positioned teenagers as a vulnerable demographic.	
Centers for Disease Control and Prevention. (2022). *Diseases You Almost Forgot About (Thanks to Vaccines)*. Vaccines for Your Children: https://www.cdc.gov/vaccines/parents/diseases/forgot-14-diseases.html	None	What are the different diseases that were extinct as a result of vaccines and the vaccination process	Vaccine Analysis and Production by the CDC	Vaccines for different diseases, like Polio, Rubella Tetanus, whooping cough and many more have drastically reduced and are even extinct in some regions.	Vaccines are effective against 14 diseases.	Level VII
Centers for Disease Control and Prevention. (2023). *Myths and Facts about COVID-19 Vaccines*. COVID-19: https://www.cdc.gov/coronavirus/2019-ncov/vaccines/facts.html#print	None	How can myths about COVID-19 be separated from the facts?	Opinion analysis	• The CDC cross-checked each myth was with facts about vaccines. • The CDC exposed the myth and stated the facts	Myths about COVID-19 have to be checked and facts must be communicated using trusted channels to reduce vaccination hesitancy.	Level VII
Fernando, C. (August 21, 2021). *Faith leaders are encouraging vaccinations, framing the decision as a religious obligation: It's working*. USA Today: https://www.usatoday.com/story/news/nation/2021/08/21/covid-vaccine-hesitancy-religious-leaders-moral-responsibility/8106376002/?gnt-cfr=1	None	Can faith leaders reduce vaccination hesitancy in their faith communities and get most of congregants get vaccinated?	Open-ended survey of religious leaders and their congregants	Messaging from religious leaders are more effective than those from political and medical representatives in reducing vaccination hesitancy and in increasing vaccination uptake	Messaging about vaccines should include faith leaders for it to be effective and efficient.	Level VII
Freimuth, V. S., Jamison, A. M., An, J., Hancock,	The SAGE (Strategic Group of	• Do African Americans and Whites	A quantitative survey with an instrument	• Compared to Whites, African	African American vaccination hesitancy can	Level II

References	Theoretical / Conceptual Framework	Research Question(s)/ Hypotheses/Purpose	Research Methodology	Analysis & Results	Conclusions/Recommendations for future research/practice	Grading the Evidence
G. R., & Quinn, S. C. (2017). Determinants of trust in the flu vaccine for African Americans and Whites. *Social Science & Medicine, 193*, 70-79. https://doi.org/10.1016/j.socscimed.2017.10.001	Experts) theory, which hypothesizes that trust is a major factor in vaccination hesitancy.	differ in their level of generalized trust, as well as in their levels of trust in the flu vaccine and trust in the vaccine process? • What is the differential role of demographics, racial factors, and ideological beliefs in predicting generalized trust, trust in flu vaccine and trust in the vaccine process across African Americans and Whites? • What is the differential role of generalized trust in predicting trust in the flu vaccine and trust in the vaccine process across African Americans and Whites? • Controlling for demographics, racial factors, ideological beliefs and generalized trust, what is the differential role of psychosocial variables in predicting trust in the flu vaccine and trust in the vaccine process across	where participants were asked to rate their trust in WHO, pharmaceutical companies, the FDA, the CDC, and the individual health care providers.	Americans reported less faith in the flu vaccine and other vaccines. • Due to historical racial disparities in vaccination, African Americans are at higher risk of influenza-related mortality and morbidity. • To decrease vaccination reluctance and boost vaccine uptake, it is crucial to increase public confidence in the flu vaccine and the immunization procedure. • Targeted and focused communications from public health organizations and healthcare providers can promote more trust.	decrease if strategic and targeted messages about vaccines are shared by healthcare providers and public health agencies.	

References	Theoretical / Conceptual Framework	Research Question(s)/ Hypotheses/Purpose	Research Methodology	Analysis & Results	Conclusions/Recommendations for future research/practice	Grading the Evidence
		African Americans and Whites?				
Fu, L. Y., Zimet, G. D., Latkin, C. A., & Joseph, J. G. (2017). Associations of trust and healthcare provider advice with HPV vaccine acceptance among African American parents. *Vaccine, 35*(5), 802-807. https://doi.org/10.1016/j.vaccine.2016.12.045	The theory of confirmation bias, which posits that people tend to interpret new information such that it confirms their existing beliefs	What is the association between parental trust in HCPs and strength of HCP vaccination recommendation on HPV vaccine acceptance among African American parents?	Longitudinal methodology involving an orally administered survey designed to assess social influences on HPV vaccination decision-making. The survey consisted of two parts; before and after the HCP encounter.	• Of the participants, 54.8% agreed to let their children have the HPV vaccine. • Acceptance of the vaccination was not correlated with the HCP's (Healthcare Provider) degree of training or race. • Vaccination rejectors were different from vaccine acceptors in that they were more likely to have previously postponed or rejected a vaccination and were less likely to have previously given their agreement for an older child to get HPV treatment.	• The authors concluded that as long as there is trust, HCPs should strongly advise African American parents to get the HPV vaccine. • Efforts to increase vaccination uptake should go beyond only advocating for and trusting in vaccines.	Level III
Hamel, L., Lopes, L., Kirzinger, A., Sparks, G., Stokes, M., & Brodie, M. (2021). *KFF COVID-19 Vaccine Monitor: Media and Misinformation*. KFF: https://www.kff.org/coronavirus-covid-19/poll-finding/kff-covid-19-vaccine-monitor-media-and-misinformation/	None	What percentage of the public believes or is unsure about a least one false statement about COVID-19?	A combination of surveys and qualitative research to track public opinion about vaccine in the COVID-19 era	• Many people accept false information about the COVID-19 pandemic; 78% of adults report hearing at least one of eight inaccurate statements about COVID-19 and believing it to be real or not knowing whether it is true or not. • Compared to individuals who have had	A lot of people are misinformed about COVID-19: Over a third of the populace believes at least four of the eight unsubstantiated claims examined, and 78% of the public either believe or is undecided about at least one false statement.	Level III

References	Theoretical / Conceptual Framework	Research Question(s)/ Hypotheses/Purpose	Research Methodology	Analysis & Results	Conclusions/Recommendations for future research/practice	Grading the Evidence
				their vaccinations and Democrats, republicans and unvaccinated adults are substantially more inclined to trust or be uncertain about false statements. • No news media outlet is trusted by the majority of the populace for information about COVID-19. • Credibility of news sources and acceptance of false information about COVID-19 are connected. • Even among the completely vaccinated, there is a political gap in intentions to receive COVID-19 booster doses.		
Hornsey, M., Lobera, J., & Diaz-Catalan, D. (2020). Vaccine hesitancy is strongly associated with distrust of conventional medicine and only weakly associated with trust in alternative medicine. *Social Science and Medicine*, 1-23. https://doi.org/10.1016/j.socscimed.2020.113019	None	• What is the association between vaccine hesitancy and distrust of conventional medicine? • What is the association of vaccine hesitancy and trust in alternative medicine (CAM)?	• A cross-sectional survey measuring vaccine hesitancy and CAM use in a representative sample of Spanish residents. • Participant's trust in three CAM interventions (acupuncture, reiki, homeopathy) and two conventional medicines (chemotherapy and	• Vaccine hesitancy was strongly associated with distrust in conventional medicine. • Vaccine hesitancy was strongly related with CAM users. • Trust in CAM was a relatively week predictor of vaccine hesitancy regardless of whether or not participants themselves a history of using CAM.	CAM is not necessarily a major obstacle to people's willingness to vaccinate; the more proximal obstacle is people's mistrust of conventional treatment.	Level III

References	Theoretical / Conceptual Framework	Research Question(s)/ Hypotheses/Purpose	Research Methodology	Analysis & Results	Conclusions/Recommendations for future research/practice	Grading the Evidence
			antidepressants) were also measured			
Jamison, A. M., Quinn, S. C., & Freimuth, V. S. (2019). "You don't trust a government vaccine": Narratives of institutional trust and influenza vaccination among African American and White adults. *Social Science Medicine., 221*, 87-94.	None	What is the difference between African Americans and Whites in relation to trust in Federal health institutions?	Qualitative design with a grounded theory strategy.	• Confidence in flu vaccines may be a sign of trust in the institutions that provide them. • While questioning the federal institutions' competence, Whites acknowledged an underlying faith in them. • There was less confidence in the government and increased skepticism among African Americans about its intentions. • There is widespread mistrust of pharmaceutical corporations, frequently because of alleged motivations. • Race, age, and institutions all affect how much people trust the government. • White privilege may influence Whites' high levels of passive trust. • The history of racialization continues to influence how people now view institutions	Many White people have implicit and unwavering faith in the government's involvement in influenza vaccine. For some African Americans, acceptance of the government's participation in the flu vaccine comes only after resolving historical injustices and tackling current prejudice. Trust in institutions is significantly influenced by social, cultural, and historical variables. It might be challenging to recover lost trust in these organizations. It could be time for scholars to shift their attention from the reasons minority groups might not be trusting to what institutions can do to become more trustworthy.	Level III
Khubchandani, J., & Macias, Y. (2021). COVID-19 vaccination hesitancy in Hispanics and	None	What are the COVID-19 vaccine hesitancy rate among African Americans and	Systematic review of existing literature of 13 randomized controlled	• The overall pooled vaccination hesitancy rate for African	African Americans have a higher vaccine hesitancy than Hispanic Americans	Level I

References	Theoretical / Conceptual Framework	Research Question(s)/ Hypotheses/Purpose	Research Methodology	Analysis & Results	Conclusions/Recommendations for future research/practice	Grading the Evidence
African-Americans: A review and recommendations for practice. *Brain, Behavior, & Immunity - Health, 15*, 1-4. https://doi.org/10.1016/j.bbih.2021.100277		Hispanic Americans in 13 existing studies?	studies amounting to 107,841 participants.	Americans was 41.6% • The overall pooled vaccination hesitancy rate for Hispanic Americans was 30.2% • The major predictors of vaccination hesitancy in both the African American and Hispanic Americans are: sociodemographic characteristics, medical mistrust and history of racial discrimination, greater exposure to myths and misinformation, perceived risk of getting infected with COVID-19, past vaccine compliance and beliefs about vaccines, and concerns about the safety, efficacy, and side effects from the COVID-19 vaccines		
Kriss, J. L., Frew, P. M., Cortes, M., Malik, F. A., Chamberlain, A. T., Seib, K., Flowers, L., Ault, K. A., Howards, P. P., Orenstein, W. A., & Omer, S. B. (2018). Evaluation of two vaccine education interventions to improve pertussis vaccination among	None	Can education interventions that provide targeted information for pregnant women in an interactive manner be useful in improving Tdap vaccination during the perinatal period?	The authors conducted a prospective randomized controlled trial to pilot test two interventions among pregnant African American women recruited during routine perinatal period	• After the educational intervention, the women's reported intention to receive Tdap during the next pregnancy improved. • Larger studies including multiple racial and ethnic groups are	To enhance Tdap vaccination during the perinatal period, educational interventions that deliver focused information to expectant mothers in an engaging manner may be beneficial. To assess the validity of these findings, additional research	Level II

References	Theoretical / Conceptual Framework	Research Question(s)/ Hypotheses/Purpose	Research Methodology	Analysis & Results	Conclusions/Recommendations for future research/practice	Grading the Evidence
pregnant African American women: A randomized controlled trial. *Vaccine*, 1551-1558. https://doi.org/10.1016/j.vaccine.2017.01.037				needed to evaluate the robustness of findings	with multiple racial and ethnic groupings are required.	
Lee, S. K., Sun, J., Jang, S., & Connelly, S. (2022). Misinformation of COVID-19 vaccines and vaccine hesitacy. *Scientific Reports, 12*(13681), 1-11. https://doi.org/10.1038/s41598-022-17430-6	None	• What kind of misinformation about COVID-19 vaccines do people in the US report being exposed to? • How are the knowledge levels about COVID-19 vaccines associated with COVID-19 vaccine hesitancy? • How is COVID-19 hesitancy associated with the behavioral intention to get COVID-19 vaccine?	This study is based on a mixed method design. • There were two studies. In study 1, 505 participants were asked about possible misinformation they were exposed to related to COVID-19. • Study 2 utilized an online survey to examine 441 U.S. college students' knowledge about COVID-19 vaccines, and its associations with vaccine hesitancy and behavioral intention to get a COVID-19 vaccine.	• 57.6% of the participants claimed to have encountered COVID-19 conspiracy theories, such as the idea that the COVID-19 vaccinations are toxic and dangerous. • Knowledge level and vaccination hesitancy are negatively correlated, as are behavioral intention and vaccine hesitancy. • Misinformation exposure and acceptance might lead to increased vaccine hesitancy and decreased behavioral intention to receive vaccinations.	More than 50% of Americans have been exposed to COVID-19 misinformation that they took to be factual. Vaccination hesitancy is exacerbated by being exposed to incorrect information about vaccines and accepting it as fact. Vaccination hesitancy reduces as knowledge level of vaccines and the vaccination process increases.	Level III
Leidner, A. J., Murthy, N., Chesson, H. W., Biggerstaff, M., Stoecker, C., Harris, A. M., Acosta, A., Dooling, K., & Bridges, C.B. (2019). Cost-effectiveness of adult vaccinations: A systematic review. *Vaccine. 37(2)*, 226-234.	None	What are the reports of existing literature from 1980 to 2016 on cost-effectiveness of adult vaccinations?	A systematic review of existing literature from 1980 to 2016 extracted from PubMed, EMBASE, EconLit, and Cochrane Library.	• The authors reported favorable cost-effectiveness profiles for adult vaccinations. • The result supports efforts to improve implementation of adult vaccination recommendations	The study supports that adult vaccinations are cost effective.	Level I

References	Theoretical / Conceptual Framework	Research Question(s)/ Hypotheses/Purpose	Research Methodology	Analysis & Results	Conclusions/Recommendations for future research/practice	Grading the Evidence
https://doi.org/10.1016/j.vaccine.2018.11.056						
Luyten, J., & Beutels, P. (2016). The social value of vaccination programs: Beyond cost-effectiveness. *Health Affairs, 35*(2), 212-218. https://doi.org/10.1377/hlthaff.2015.1088	None	What is the social value of vaccination programs beyond cost effectiveness?	Systematic literature review of existing studies and reports	• Cost-effective analysis ignores the economic implications of vaccinations. • In the opinion of the authors, health equity, herd immunity, and minority social integration are neglected by cost-effective analyses.	Scholars and practitioners need a broader evaluation framework than cost analysis to understand the social value of vaccination programs.	Level V
NACCHO. (2023). *Shots at the Shop*. Our Response Efforts Around COVID-19: https://www.naccho.org/programs/our-covid-19-response/shotsinshops	None	How effective is the "Shots at the Shop Program?"	Action research involving barber shops and salons.	• Barbers and hair stylists are trained to become vaccine advocates in their communities. • Members of the community move from being vaccine hesitant to vaccine confident.	Vaccine advocates help African American communities to move from being vaccine hesitant to being vaccine confident.	Level VII
Nan, X., Daily, K., Richards, A., Holt, C., Wang, M. Q., Tracy, K., & Qin, Y. (2019). The role of trust in health information from medical authorities in accepting the HPV vaccine among African American parents. *Human Vaccines & Immunotherapeutics, 15*(7-8), 1723-1731. https://doi.org/10.1080%2F21645515.2018.1540825ss	None	• How does trust in health information from medical authorities predict acceptance of the HPV vaccine for one's child among African American parents? • Why does trust in health information from medical authorities predict acceptance of the HPV vaccine for one's child among African	A survey of African American parents recruited from community venues	• A lack of support for HPV vaccination of children and a lack of intents to do so are related to low confidence in government health information. • Vaccine uptake is not predicted by trust in medical advice given by a doctor or other healthcare provider.	Acceptance of vaccines is not predicted by trust in health information provided by the government, physicians, or other healthcare experts.	Level III

References	Theoretical / Conceptual Framework	Research Question(s)/ Hypotheses/Purpose	Research Methodology	Analysis & Results	Conclusions/Recommendations for future research/practice	Grading the Evidence
		American parents?				
Ogbuagu, O. (2021, May 21). *Herd Immunity: Will We Ever Get There?* Yale Medicine: https://www.yalemedicine.org/news/herd-immunity	None	Will we ever get to herd immunity?	Expert reviewed content	• Greater vaccine coverage reduces disease transmission and provides indirect protection for those who have not received vaccinations. • The public may not always be aware of the benefits of mass vaccination. • Immunity slows the transmission of viruses	Mass vaccination leads to herd immunity and therefore to population or community immunity. Herd immunity is a significant public health objective that can be attained through vaccination and natural immunity, and the article suggests vaccination as a crucial instrument in achieving herd immunity and protect vulnerable people.	Level VII
Ozawa, S., Yemeke, T. T., Evans, D. R., Pallas, S. E., & Wallace, A. S. (2019). Defining hard-to-reach populations for vaccination. *Vaccine*, 1-10. https://doi.org/10.1016/j.vaccine.2019.06.081	None	• What definition is proposed for hard-to-reach populations from the systematic literature review? • What definition is proposed for hard-to-vaccinate populations from the systematic literature review? • What makes individuals hard to reach for vaccination?	Systematic literature review from 2000 to 2018. Existing literature was extracted from PubMed, Embase, Web-of-Science, Scopus, and Google Scholar	• Populations that are difficult to reach "experience supply-side barriers to vaccination due to distance or terrain, transient or nomadic movement, discrimination by healthcare providers, lack of recommendations from healthcare providers, inadequate vaccination systems, war and conflict, home births or other mobility restrictions that keep people at home, or legal restrictions." • Hard-to-vaccinate populations can be reached but are	The authors based their definitions of hard-to-reach and hard-to-vaccinate on existing literature from 2000 to 2018.	Level V

References	Theoretical / Conceptual Framework	Research Question(s)/ Hypotheses/Purpose	Research Methodology	Analysis & Results	Conclusions/Recommendations for future research/practice	Grading the Evidence
				challenging to immunize due to demand-side obstacles such mistrust, religious beliefs, ignorance, poverty or low socioeconomic level, lack of time, or gender-based discrimination. • The aforementioned reasons make people difficult to contact.		
Pierre, J. M. (2020). Mistrust and misinformation: A two-component, socio-epistemic model of belief in conspiracy theories. *Journal of Social and Political Psychology. 8*(2), 617-641. https://doi.org/10.5964/jspp.v8i2.1362	1. Conspiracy theory as psychopathology 2. A two-component, socio-epistemic model of belief in conspiracy theories	What model explains mistrust and misinformation?	Systematic review of existing literature	• The best model to explain distrust and misinformation is the two-component, socio-epistemic model of belief in conspiracy theories (BCT). • The model argues for mitigation techniques that target both distrust and the processing of misinformation, including interventions for people, institutions of authority, and society as a whole.	Based on a reciprocal relationship between distrust and belief in misinformation, the two-component, socio-epistemic BCT model offers a potentially normalizing description of conspiracist ideation. Initiatives targeted at lessening acceptance of conspiracy theories ought to concentrate on addressing the sources of mistrust and false information. Increasing transparency and responsibility, enhancing media literacy, encouraging critical thinking abilities, and displacing false information with accurate information are some possible ways to achieve this. It may also entail enhancing	Level V

References	Theoretical / Conceptual Framework	Research Question(s)/ Hypotheses/Purpose	Research Methodology	Analysis & Results	Conclusions/Recommendations for future research/practice	Grading the Evidence
					confidence in organizations and authorities.	
Schafer, J. J., McRae, J., Prioli, K. M., Harris, L. F., McCoy, M., Cannon-Dang, E., & Pizzi, L. T. (2018). Exploring beliefs about pneumococcal vaccination in a predominantly older African American population: The pharmacists' pneumonia prevention program (PPPP). *Ethnicity and Health*, 1-15. https://doi.org/10.1080/13557858.2018.1514450	None	Is there an association between Pharmacists' Pneumonia Prevention Program (PPPP) and changes in belief related to pneumonia vaccination (PV) in a predominantly older African American population?	PPPP educational intervention was delivered to a senior center using a 15-item instrument to assess beliefs at baseline, post-test, and three months across four domains. Analyses were carried out using Friedman tests and pairwise Wilcoxon signed rank tests to determine if there is a statistically significant difference in belief across timepoints	• There were statistically significant improvements in beliefs at post-test in all 4 domains. • Some of the gains were incompletely sustained at three months	PPPP, post-program, impacted beliefs; however, there is need for reinforcement. Interventions to increase pneumococcal vaccination rates in this population should focus on building trust with healthcare providers and addressing concerns about vaccine safety and efficacy. They also suggest that targeted education campaigns may be effective in addressing misconceptions and increasing vaccine uptake.	Level IV
School of Public Health, University of Maryland. (2021). *"Shots at the Shop" Takes on Vaccine Hesitancy in Communities of Color*. News: https://sph.umd.edu/news/shots-shop-takes-vaccine-hesitancy-communities-color	None	Can "Shots at the Shop" program take on vaccine hesitancy in communities of color?	Action research in communities of color with barbers and stylists to help keep the communities safe from COVID-19	• Reduction of vaccination hesitancy • Increased vaccine uptake • a national model	• The media sees it as a national model. • The collaboration of government, the African American communities, and trusted systems and agents led to reduction of vaccination hesitancy, increased vaccine uptake, and acceptance as	Level VII
Tarasov, K. (2021, October 1). Why it's not possible for the Covid vaccines to contain a magnetic tracking chip that connects to 5G. *CNBC - TECH*. https://www.cnbc.com/2021/10/01/why-the-covid-vaccines-dont-	None	Can the COVID vaccines contain a tracking microchip or make you magnetic?	Expert reviewed content of conspiracy theories	• There is no evidence that COVID vaccines can contain tracking microchips or make people magnetic because of size, and absence of	Businesses get millions of dollars by collecting customer information, but they do not use vaccines to do so.	Level VII

References	Theoretical / Conceptual Framework	Research Question(s)/ Hypotheses/Purpose	Research Methodology	Analysis & Results	Conclusions/Recommendations for future research/practice	Grading the Evidence
contain-a-magnetic-5g-tracking-chip.html				power sourced transmitters. • A large population of Americans (about 30%) believe in this theory		
University of Maryland Medical System. (2020). *10 Common Vaccine Myths Busted*. Vaccine Myths Busted: https://www.umms.org/coronavirus/covid-vaccine/facts/myths-busted	None	What are the ten common vaccine myths?	Expert reviewed content of COVID-19 myths	Experts from the University of Maryland Medical System refuted 10 common COVID-19 vaccine myths	Despite being one of the greatest innovations ever made by humans, there is still misinformation and disinformation concerning vaccines. Experts from the University of Maryland Medical Systems debunked common misconceptions about vaccinations.	Level VII
Williams, J. T., Miller, A., & O'Leary, S. T. (2020). Sacred or secular? Exploring religious Coloradans' questions about vaccines. *Vaccine, 38*(45), 6971–6974. https://doi.org/10.1016%2Fj.vaccine.2020.09.034	None	• What are the religious individual's concerns about vaccines in mainstream religious congregations unaffected by outbreaks? • What are the priorities for future vaccine-related interventions in religious communities?	A qualitative research design involving a strategy of partnership formation, listening circles, and participant questions.	• Rather than religious concerns, participants focused on secular ones regarding vaccinations. • The hesitation or unwillingness to be vaccinated was motivated by secular rather than religious reasons. • Religious individuals are concerned about secular issues about vaccination not necessarily the religious issues.	As a result, long-term vaccination priority should be determined by issues including vaccine safety and efficacy and seasonal flu vaccinations	Level V

Note. Evidence graded using the hierarchy of evidence model from "Evidence-based Practice Step by Step: Critical appraisal of the evidence: Part I," by E. Fineout-Overholt , B. M. Melnyk, S. B Stillwell, and K. M Williamson, 2010, *American Journal of Nursing, 110*(7), p.47-52.