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Community Engagement Strategies to Increase Vaccination Rates among African Americans: A Systematic Review

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COMMUNITY ENGAGEMENT STRATEGIES TO INCREASE VACCINATION RATES AMONG AFRICAN AMERICANS: A SYSTEMATIC REVIEW

Abstract: The growing concerns and hesitations over vaccinations have contributed to the rising health disparity among African Americans. Vaccines are essential interventions used to prevent the spread of infectious diseases. With high levels of vaccine hesitancy, there has been a considerable decrease in vaccination rates, especially among African Americans. Different strategies are needed to address vaccine hesitancy at an individual and community level. Previous research has analyzed the effects of monetary incentives, mass media, and technology-based health literacy strategies on vaccination uptake. Despite these strategies, the health disparity among African Americans persists. Therefore, this systematic review will analyze community engagement strategies and their impact on increasing vaccination uptake among African Americans. Initially, 87 articles were retrieved from Pubmed, Google Scholar, and ScienceDirect. Inclusion and exclusion criteria were used to screen the primary studies, and CASP and JADED quality scores were assessed. After screening the articles through the exclusion and inclusion criteria, five reviewed studies were included in the systematic review. The findings from five reviewed studies indicated that the leading causes of vaccine hesitancy within African American communities were medical mistrust and lack of accessibility. The solutions that were effective at combating medical mistrust and lack of accessibility were implementing community forums and community-academic partnerships, where faith-based or highly respected leaders within the community facilitated these events. In addition, implementing vaccine access points can help increase the accessibility of vaccines. All five studies lacked statistical analysis, indicating that additional research is needed to investigate the statistical impacts of the different community engagement strategies on vaccinations.

Keywords: Vaccine Hesitancy, Vaccination, Community Engagement, Vaccination Uptake

Introduction

Vaccination plays a critical role in controlling infectious diseases. Vaccines contain a small amount of antigen, and when injected into the body, the immune system will recognize the foreign antigen and develop antibodies and memory T-lymphocytes to attack the antigens. The immune system will now be able to identify the disease or virus and allow for a more robust immune response if the individual is contracted (Ginglen & Doyle, 2022). Vaccines can create herd immunity, reducing hospitalization rates, severity, infections, and mortality (Mohammed *et al.*, 2022; Feikin *et al.*, 2022). In recent years, vaccine hesitancy has emerged as a public health issue, threatening the efficacy of vaccination campaigns to combat different infectious diseases.

Comparing the number of reported cases in the 20th century before vaccines were implemented to the 21st century, the number of smallpox, measles, and rubella cases has been reduced by more than 90% (Orenstein & Ahmed, 2017). Vaccine hesitancy is when individuals delay the acceptance or refusal of vaccination despite the availability of vaccination services (Ekezie, 2023). In general, people from ethnic backgrounds, such as African Americans, are already disproportionately affected by different diseases such as COVID-19, Hepatitis C, and more (NIH, 2023). However, vaccine hesitancy further exacerbates these disparities, hindering the collective efforts to provide equitable care. The effectiveness of vaccination depends on people's willingness. Changing behaviors is complex, requiring a systematic approach to understanding the factors influencing vaccination uptake (Marshall *et al.*, 2023). These factors can include misinformation and a lack of trust in medical institutions. Web-based studies have shown that 73.8% of respondents exposed to one misinformation theme had a vaccine hesitancy of 62.9%. Because of the lack of information about the COVID-19 vaccine, 59% of respondents refused the vaccine due to their perception of low levels of safety (Neely *et al.*, 2022; Krikorian *et al.*, 2022). In addition to misinformation, it is consistent that people's lack of trust in the medical system or medical interventions has also been tethered to vaccination hesitancy. In communities with low vaccination rates, 40% of respondents refused to get the

vaccination because it was unsafe. The speed at which the COVID-19 vaccine was created led to a lack of trust in the safety of vaccines, contributing to the high levels of people refusing to get the vaccine (Bogart *et al.*, 2022; Latkin *et al.*, 2021). So, it is critical to utilize different tactics in curating effective vaccination campaigns to bolster the rate of vaccinations.

Literature Review

Theoretical framework

The Theory of Planned Behavior and the Social Ecological Model (SEM) were utilized for the systematic review. The Theory of Planned Behavior framework guides humans by three primary considerations that shape their behaviors: behavioral beliefs, normative beliefs, and control beliefs (Bosnjak *et al.*, 2020). Behavioral beliefs are when individuals perceive that performing behavior will lead to a good outcome. Normative belief evaluates how an individual will succumb to the social pressure to perform an activity. Lastly, control beliefs look at how accessible the behavior is for the individual to perform and their attitudes towards performing the behavior (Wolff, 2021). Figure 1 represents the Theory of Planned Behavior framework.

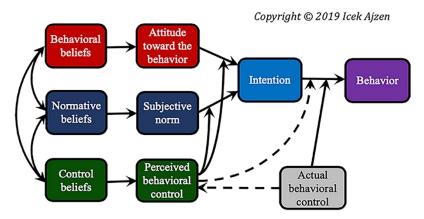


Figure 1. Theory of Planned Behavior. Source: Ajzen, I. (2019).

The Social Ecological Model (SEM) emphasizes how the different multiple levels of influence (individual, interpersonal, community, and societal) can shape health behavior (Salihu *et al.*, 2015). At the individual level, interventions can focus on increasing understanding of vaccination development, safety, and efficacy. At the interpersonal level, community members can foster the spread of accurate vaccine information. At the community level, community members collaborate with community leaders to build vaccine support. Finally, at the societal level, media campaigns and health policies can help communities foster an environment that encourages vaccinations (Kumar *et al.*, 2012). Figure 2 represents the social-ecological model.



Figure 2. Social Ecological Model. Source: Dahlberg & Krug. (2002).

Key Concepts and Variables

Vaccine hesitancy poses a significant challenge to achieving widespread immunity against infectious diseases. Herd immunity is essential in protecting communities with vulnerable populations who cannot receive the vaccine due to medical conditions. African Americans have historically experienced a wide array of health disparities, encompassing differences in health outcomes and accessibility to medical care compared to other ethnic and racial groups. Vaccine hesitancy significantly impacts African Americans, perpetuating these health disparities within this community. Studies have found that African Americans have the highest levels of vaccine hesitancy compared to other ethnic and racial groups (Malik *et al.*, 2020; Laurencin. 2021). Vaccine hesitancy is influenced by multifaceted factors such as socioeconomic status, cultural beliefs, accessibility to healthcare, and medical mistrust (Leigh *et al.*, 2023). These disparities highlight the urgent need for targeted interventions to increase vaccination rates within the African American community.

Community Engagement

Community engagement involves interacting with communities to address specific issues and achieve common goals (Afolabi & Ilesanmi, 2021). Addressing vaccine hesitancy with a community engagement approach leverages existing social structures and communication channels within the community to disseminate vaccine information. Collaborating with community centers, schools, and even community leaders to serve as conduits for health education and persuasion can help establish trust and encourage a change in health behavior (Sanders Thompson *et al.*, 2021). Community engagement strategies help address the various factors influencing people's vaccination decisions (Gilmore *et al.*, 2022).

Community engagement relies heavily upon establishing trust between healthcare providers and leaders within the community by establishing open and transparent communication to address concerns and provide accurate information to dispel misinformation (Rabin *et al.*, 2023). In addition, a community engagement approach incorporates elements such as vaccine education and tailored social marketing to allow public health officials to curate culturally sensitive and relevant health messages that resonate within this community (Brockman *et al.*, 2023). By having a solid resonation with these different resources, individuals are motivated to get the vaccine, ultimately combating vaccine hesitancy seen within communities with low vaccine uptake. This approach acknowledges that healthcare is not a one-size-fits-all approach and recognizes the importance of collaboration, community, and trust to help advance public health interventions.

However, there is limited research evaluating the efficacy of community engagement strategies in increasing vaccination rates among African Americans. While, in theory, community engagement can address vaccination hesitancy and even tailor community-specific vaccination campaigns, more extensive research is needed. This systematic review will address, "What are the different community engagement strategies that can help increase vaccine uptake within the African American community?"

Methods

A systematic review was utilized to synthesize data from multiple studies to provide a more robust and accurate assessment of which strategies were effective in increasing vaccinations. A search was conducted from several online databases (Pubmed, Google Scholar, and BMC) to identify different peer-reviewed literature. The search was restricted to 2020 or newer literature with a title, abstract, and full text in English.

Search Strategy

The search strategy centered on determining the key concepts and utilizing them as keywords. These included "vaccinations," "vaccine strategy," "vaccine intervention," "vaccine hesitancy," "vaccine acceptance," "vaccine compliance," "community engagements," "increasing immunization rates," "increasing vaccinations,"

"increasing trust with vaccines," and "vaccine uptake." These keywords were combined using "AND" and "OR" operators to search for articles on vaccine strategies to increase vaccinations.

Inclusion and Exclusion Criteria

When looking specifically for vaccination strategies in terms of community engagements to increase vaccination, the search was not limited to certain vaccinations. All vaccinations for children, adolescents, and adults, such as hepatitis B, measles, pneumococcal vaccine, tuberculosis, seasonal influenza, and COVID-19, were all included. Articles that focused on rates among African Americans were included. Primary research studies that assessed the impact of a strategy to increase vaccination uptake were included. For the review, the study will include randomized controlled trials, quasi-experimental studies, cohort studies, case-control studies, cross-sectional studies, and qualitative studies that allow for data extraction regarding vaccination rates.

Studies that did not specifically evaluate the effectiveness of community engagement strategies regarding increasing vaccinations were not included. Cases that reported on the same study dataset were excluded. Studies that did not look at vaccination rates and did not have data regarding vaccinations were excluded from the review. Inclusion and exclusion criteria are illustrated in Table 1.

Study selection process

This process was broken down into two parts. The first part involved screening the title, abstract, and keywords to determine whether or not the study was eligible. Once the study was determined, the full text of the study was screened. The second part involved extrapolating the data to determine which studies were included and excluded.

Data extraction and Synthesis

Data extraction from the articles included four different characteristics. The first characteristic was the author, year, journal, study design, and population. The second characteristic included which vaccinations were analyzed. The third characteristic was what strategies were implemented to increase vaccination rates. Lastly, the fourth characteristic looked at the overall analysis of the data and what the outcome was.

Results

Data Collection

Initially, 87 articles were retrieved from Pubmed, Google Scholar, and ScienceDirect. Inclusion and exclusion criteria were used to screen the primary studies. Articles focused on utilizing community engagement strategies to increase vaccination rates among African Americans were screened for final review. Other inclusion criteria included full-text, English-language articles, studies published from 2020 to the present, and qualitative and quantitative designs. The JADED scores assessed the quality score for the different quantitative studies in the review. At the same time, a Critical Appraisal Skills Program (CASP) was used to determine the quality score for the various qualitative studies. Studies with at least a Jaded quality score of 3 and a CASP score of 8 or higher were included in the final analysis (Kim *et al.*, 2022; Critical Appraisal Skills Programme, 2018). Quality score assessment ensured that systematic review results were credible, valid, and reliable. Tables 1 and 2 list the data extraction results and quality score assessment scores of the included studies. Lastly, studies that analyzed African American vaccination rates and those over 18 years old were included in the final analysis. Two qualitative studies and three quantitative studies were included in the final analysis, as seen in Figure 1.

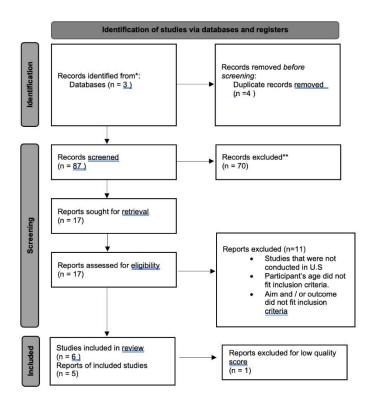


Figure 1: This diagram illustrates the screening process to include appropriate studies in the systematic review

Table 1. Characteristics of Included Studies (Quantitative)

Study (Authors' name)	Setting	Study Design	n	Population	Intervention	Primary Outcomes	Quality Score
Andrasik et al., 2021	Vaccination in Clinical Trials BIPOC	Mixed Methods	130,000	All demographics	Community- Based Participatory Research	Increased in vaccinations	3
Abdul- Mutakabbir et al., 2022	San Bernardino	Mixed Methods	1704	BIPOC	Community- Academic Model	Increased in vaccinations	3
Kerrigan et al., 2022	Washington DC	Mixed Methods	76	BIPOC	Community Inform Health Communication	Medical Mistrust Lack of Information Grassroot Movement	4

Table 2. Characteristics of Included Studies (Qualitative)

Study (Authors' name)	Setting	Theory	Sampling Procedure	Participant Characteristics	Data Analysis Approach	Key Themes	Quality Score
Dong et al., 2022	RAND American Life Panel	Vaccine Access Points Community Forums	Participants were randomly drawn from the panel	BIPOC	Analysis Qualitative Interview	1.Community Forums 2.Vaccine Access Points	9
Tijilos et al., 2023	Boston Medical Center	Community Forums led by community leaders	Assessed Publicly Recorded Sessions from forums	BIPOC	Identified 5 themes from the different recordings	1.Barriers to COVID-19 2. Mistrust 3. Desire to Learn about COVID-19 Vaccine 4. Community Engagement 5. Community Leaders	9

All five studies highlight the intricate relationship between cultural perceptions and vaccine hesitancy amongst African Americans. They all emphasize how medical mistrust, misinformation, and structural inequities can impact the community's willingness to accept vaccinations (Abdul-Mutakabbir *et al.*, 2022; Andrasik *et al.*, 2021; Dong *et al.*, 2022; Kerrigan *et al.*, 2022; Tijilos *et al.*, 2023). These studies also elucidate the critical role of community engagement strategies in restoring and rebuilding trust among African Americans. These strategies all aim to foster a conducive environment for vaccines.

Some community engagement strategies include utilizing community forums as a platform for education, discussion, and empowerment. Inadequate vaccine efficacy and safety information impact an individual's willingness to accept the vaccine (Andrasik et al., 2021; Dong et al., 2022). Utilizing community forums provides a safe space where individuals can openly express their concerns over vaccines, receive accurate information on vaccines, and engage in meaningful conversations with healthcare providers, public health officials, and different community leaders (Andrasik et al., 2021; Dong et al., 2022; Kerrigan et al., 2022; Tijilos et al., 2023). Other approaches include implementing vaccination access points within the community to help address structural barriers to receiving vaccinations (Abdul-Mutakabbir et al., 2022; Dong et al., 2022; Kerrigan et al., 2022). Vaccination access points can include collaboration with different community centers, schools, and workplaces with flexible hours to accommodate individuals with busy schedules. Other types of vaccination access points include mobile clinics that can be utilized as a grassroots mobilization to serve all regions of the communities, especially for individuals who may have limited transportation (Kerrigan et al., 2022). Lastly, community-based participatory research (CBPR) is a collaborative approach that involves the active participation and engagement of community members, researchers, and public health officials. CBPR allows researchers to evaluate different cultural, social, and systematic factors contributing to vaccine hesitancy and can tailor solutions based on the community's assessment (Andrasik et al., 2021).

Table 3 provides a brief overview of the results of the included studies and the association between community engagement strategies and overall vaccination rates among African Americans. The variables of interest included community engagement strategies and their impact on increasing vaccination rates among African Americans. None of the five studies included provided a p-value of significance.

Table 3. Results of Included Studies

Author	Quality Score	Intervention	Measures	Results	Significance
Abdul- Mutakabbir et al., 2022	3	Community- Academic Model (Vaccine Access Point)	Vaccines administered	Administered 451 vaccines to African Americans	N/A
Andrasik et al., 2021	3	Community-Based Participatory Research	Recruitment in vaccine clinical trial	Recruited 47% of BIPOC into clinical trial	N/A
Dong <i>et al.</i> , 2022	9	Community Forums Vaccine Access Points	Interview and Survey	Community Forums Vaccine Access Points	N/A
Kerrigan et al., 2022	4	Community Inform Health Communication	Interview and Survey	Medical Mistrust, Lack of Information, Grassroot Movement	N/A
Tijilos <i>et al.</i> , 2023	9	Community Forums led by community leaders	Interview and Survey	Barriers to COVID- 19, Mistrust, Desire to Learn about COVID-19 Vaccine Community Engagement	N/A

Discussion

Vaccination Background

Vaccine hesitancy continues to be a pressing concern, posing significant challenges to public health efforts. With high levels of hesitancy, many individuals across different communities need to be vaccinated, jeopardizing their health. According to Healthy People 2030, a national set objective created by the U.S. Department of Health and Human Services (HHS), 49.8% of Americans are vaccinated for Influenza (Healthy People 2030, 2023). This is below the 70% threshold the U.S Dept. HHS has set. The COVID-19 vaccination rates are higher than those for the influenza vaccine. However, it is also below the threshold of 80%. 69.5% of Americans have completed both shots for the COVID-19 vaccine (CDC, 2023).

Looking deeper into these statistics, African Americans have been disproportionately affected by vaccine hesitancy, perpetuating the disparity in health equity in this community. According to the CDC, African Americans rank the lowest for both the Influenza and COVID vaccinations. Less than 43% of African Americans have the Influenza vaccine. Only 51% of African Americans have a single dose of the vaccine, and only 9% have a bivalent booster (CDC, 2023). Several studies have analyzed different strategies to increase vaccinations among African Americans. This systematic review analyzed different community engagement strategies and their impact on vaccinations among African Americans. Results from the primary studies emphasized the importance of having

community forums led by highly trusted and respected leaders of the community (Andrasik *et al.*, 2021; Dong *et al.*, 2022; Kerrigan *et al.*, 2022; Tijilos *et al.*, 2023).

Medical Mistrust

Medical mistrust rooted in historical, social, and systematic factors remains a significant barrier to healthcare engagement. There has been an increased awareness of communities' mistrust toward medical advancements, approaches, and professions (Jaiswal & Halkitis, 2019). Historically, many injustices have been experienced by socially and economically marginalized groups. Between 1932 and 1972, the U.S. Public Health Service conducted the Tuskegee Syphilis Study, where Black men were subjected to syphilis despite having access to penicillin (Thorburn *et al.*, 2012). Forty-seven years later, the legacy of this experiment continues to be a pivotal contributor to medical mistrust (Jaiswal & Halkitis, 2019). Social determinants such as accessibility to care can also factor into vaccine hesitancy. There have been prominent instances where African Americans face a heightened risk of COVID-19 exposure and require more intensive care. However, the testing rates remain disproportionately lower due to their impediment to testing, diagnosis, and care (Webb Hooper *et al.*, 2020).

Throughout the included studies, these factors of medical mistrust rooted in historical, social, and systematic factors continue to be emphasized. Many African Americans have high levels of medical mistrust because of the systemic oppression's negative impacts and exploitation in communities of color (Dong *et al.*, 2022; Kerrigan *et al.*, 2022; Tijilos *et al.*, 2023). With the fast development of the COVID vaccine, coupled with the lack of information and unfamiliarity surrounding vaccine development and licensing, how can African Americans establish trust with interventions that ensure safety and inclusion, particularly in light of historical injustices (Kerrigan *et al.*, 2022; Tijilos *et al.*, 2023)? In addition, several studies point to vaccine structural barriers, where the lack of accessibility and insufficient efforts to increase the distribution of vaccines within the communities factor into low levels of acceptance of the vaccines (Dong *et al.*, 2022; Kerrigan *et al.*, 2022; Tijilos *et al.*, 2023).

Community Forums

Community forums allow for more tailored communication that resonates with community concerns. These forums foster collaboration between community members, healthcare providers, public health officials, and community leaders to help increase overall awareness and knowledge. Community forums have successfully addressed the opioid crisis in rural communities, measured by increasing community engagement in local grassroots coalitions after the forum (Palombi *et al.*, 2019). In addition to the opioid crisis, community forums also play a pivotal role in improving mental health. These forums foster social connections for people with lived experiences and empower individuals to better understand their recovery (Smith-Merry *et al.*, 2019).

Addressing vaccine hesitancy through community forums can be pivotal in vaccination uptake. The included studies have emphasized the importance of having these forums facilitated by the different faith leaders and or well-trusted leaders within the community to disseminate credible information to combat the mistrust (Andrasik et al., 2021; Dong et al., 2022; Kerrigan et al., 2022; Tijilos et al., 2023). Individuals may resonate more with the information as there is a high level of trust between community members and the different faith leaders or well-trusted leaders in the community (Kerrigan et al., 2022; Tijilos et al., 2023). In addition, Establishing these forums requires leveraging social networks and reliance on trusting community voices, which community leaders have access to (Andrasik et al., 2021; Dong et al., 2022; Kerrigan et al., 2022; Tijilos et al., 2023). By providing this community with a safe space, people can ask questions and engage in conversation to be better informed about the vaccine and address any misinformation that has been disparaged.

Vaccine Access Points

Another component to address vaccine hesitancy was implementing vaccine access points. Many individuals may be unaware of where to receive the vaccine or lack transportation to the vaccination site (Andrasik *et al.*, 2021; Dong *et al.*, 2022). By creating these accessible vaccination sites within the community, many individuals can travel to these sites and receive a vaccination. Eliminating these structural barriers can have a tremendous impact on increasing vaccinations. These vaccination sites can be utilized as grassroots mobilizations in neighborhoods and communities, where community forums can be held, and resources and information about vaccinations and other health education material can be passed out (Kerrigan *et al.*, 2022). This strategy can help foster social networks and a strong community presence, as seen in increased vaccinations in different communities (Andrasik *et al.*, 2021; Dong *et al.*, 2022).

Implementing vaccination access points has been successful in increasing vaccinations among Asian Americans. The Eastern Michigan University for Health Disparities Innovation and Studies established 34 COVID-19 vaccination sites and was able to increase vaccinations within this community (Wu et al., 2022). Through needs assessment, Asian Americans have difficulty registering or scheduling appointments for COVID-19 vaccination, so having these accessible vaccination sites in trusted locations helped address the disparities in accessibility for this community.

Community-Based Participatory Research

CBPR has been shown to help increase overall health in communities. This is done through active community engagement to address specific concerns and tailor interventions to meet the community's needs (Dulin *et al.*, 2011). CBPR has been commonly used for the evaluation of program interventions through the collaboration of community members. Through the application of CBPR, there have been improvements in housing outcomes, reducing publicly funded service utilizations and ameliorating alcohol-related harm (Collins *et al.*, 2018). In addition, CBPR has helped expand upon current mandates of patient-centered research and practice (Israel & Satcher, 2013). CBPR empowers community members to take ownership of their health through active participation and collaboration with healthcare providers, public health officials, and researchers (Suarez-Balcazar *et al.*, 2020).

CBPR can address vaccine hesitancy by increasing awareness and knowledge to address vaccination misinformation (Andrasik *et al.*, 2021). In addition, CBPR allows for tailored interventions to address the barriers and challenges faced by African Americans, such as accessibility and mistrust (Andrasik *et al.*, 2021; Dong *et al.*, 2022; Kerrigan *et al.*, 2022; Tijilos *et al.*, 2023). By utilizing CBPR to engage with the community to assess their needs, researchers can promote sustainable solutions by involving the community in planning and implementing interventions.

Limitations

This systematic review analyzed the different community engagement strategies to increase vaccination rates among African Americans. All low-quality studies were excluded from the review, and only JADED quality scores of 3 or higher and only CASP quality scores of 8 or higher were included for final analysis. Study limitations included a need for more data availability and having studies without any significance.

The main limitation of the systematic review primarily revolved around the included studies' lack of quantitative measures to conduct a substantial extent of data analysis. Not p-values or even confidence intervals can hinder the results to draw valid conclusions and generalizability. In addition, none of the studies can explain whether or not these strategies had a significant impact on increasing vaccination rates. Having a statistical analysis component to the systematic review is critical in making meaningful insights and evaluating the significance of these community engagement strategies, further enhancing the validity and reliability of the study.

This review lacks a substantial data analysis because of the limited data available to evaluate community engagement's effects on vaccination rates among African Americans. This further highlights the importance and need for research within this field so that public health officials can better serve the needs of the African American community to eradicate the health disparity gap.

Future Directions

Although limited research and data are available on this topic, more research is needed. Because there is a lack of data available, having research that includes that quantitative aspect can provide a better insight into determining whether there were significant impacts in vaccination by employing different community engagement strategies. Secondly, studies utilize a community needs assessment to understand the community's needs better.

More extensive studies with comprehensive measurements of vaccination rates before and after implementing a community engagement strategy can lead to a more substantial data analysis. Second, having larger sample sizes in the study and collecting more quantitative measurements, such as the percentage of how different prominent factors contribute to vaccine hesitancy and how that is shifted once a community engagement strategy is implemented. Another quantitative aspect that studies can also include is engagement levels from the community engagement strategies. Do these strategies engage with the different African American communities worldwide? Data that reflect these questions can help researchers draw better conclusions about which strategies are better at increasing vaccinations.

Future studies should also conduct a community needs assessment within the different African American communities that can help determine what is most necessary for that community. A community needs assessment provides a holistic approach to assessing the community's health needs, focusing on physical, mental, and social well-being, structural challenges to population health, and barriers to vaccinations (Ravaghi *et al.*, 2023). By conducting a health need assessment such as a CBPR, studies can incorporate a mixed method approach to include the qualitative work done on the community to determine further the best strategy to employ for increasing vaccination rates.

Conclusion

In conclusion, vaccination is pivotal in protecting individuals from infectious diseases. All five included studies for the systematic review highlighted that vaccine hesitancy undermines the efficacy of vaccines. The proliferation of misinformation, mistrust, and the availability of vaccinations are the prominent factors contributing to high vaccine hesitancy levels in African American resulting in disparities seen in low vaccination rates within these demographics. Employing community engagement strategies, such as community forums, accessible vaccination sites, and Community Based Participatory Research can help better inform, provide, and serve the community's needs. These approaches help assess the community's needs and can serve as platforms for open dialogue, fostering understanding and dispelling vaccine misinformation. In addition, vaccination access points can help eliminate structural barriers and ensure that vaccines reach all community segments.

This systematic review has limitations where further research is warranted for evaluating and determining the significance of utilizing community engagement's strategy to bolster vaccinations. All five studies lack an indepth data analysis that can provide better insight into how effective these strategies are at increasing vaccine uptake. To overcome these barriers to vaccination, public health officials should employ a community needs assessment to gain better insight into the specific community. By doing so, public health officials can successfully implement an effective strategy that resonates with the community to increase vaccine uptake.

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