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Vaccine awareness in low socioeconomic, black, Indigenous, and people of color (BIPOC) communities

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Vaccine awareness in low socioeconomic, black, Indigenous, and people of color (BIPOC) communities

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Abstract

Vaccinations are the most significant advancements of science that have helped society. They have nearly eliminated some of the deadliest diseases in human history and have saved millions of lives. However, not everyone is aware of the advantages of vaccines. The purpose of this project is to explore the relationship between the accessibility of healthcare in the form of vaccination and the silent but deadly role that race and socioeconomic classes can play when it comes to public health. As the world is engulfed in a pandemic caused by COVID-19, vaccine awareness has become even more of a pressing and urgent matter. The main focus of this project will be discussing the influenza vaccine, COVID-19 vaccine, and the human papillomavirus vaccine. The project will include recommendations on healthcare and community improvement in the nurse's role that may aid in minimizing the disparities in our health system. Nurses are an integral part of vaccine education, and therefore, to adequately provide care for this community, they must understand the disparity that affects the community.

Vaccine awareness in low socioeconomic, black, Indigenous, and people of color (BIPOC) communities

Every year thousands of adults and children in the United States suffering severe health problems are hospitalized and even die due to diseases for which vaccines are available. For example, an annual average of 226,000 people may be hospitalized due to influenza, and 75% of the influenza hospitalizations are among patients aged ≥50 years. Annual deaths from influenza have ranged from approximately 3,000 to 49,000,3, with 90% of these deaths occurring among adults. Due to the widespread use of the pneumococcal conjugate vaccine (PCV7) in children and the dramatic reductions of invasive pneumococcal disease (IPD) in children, by 2012, approximately 32,000 cases of IPD occur, about 90% of which are among adults and among those cases, as many as 3,300 die, with more than 95% of these deaths occurring among adults. As many as 8,300 adults die annually from HPV-associated cancers. About 1 million cases of shingles occur annually among older adults, with approximately 10–50% suffering post-herpetic neuralgia (Lu et al., 2015).

Vaccination is the most effective strategy for preventing vaccine-preventable diseases and their complications. However, adult vaccination coverage remains low for most routinely recommended vaccines and well below Healthy People 2020 targets (Healthy People, 2020). Further, uptake of vaccines has historically been lower among all minority racial and ethnic groups compared to non-Hispanic white populations. Providing culturally appropriate preventive health care is an immediate responsibility that will grow over the decade. As the demographics of the population continue to shift, public health and health care systems will need to expand their capacity to protect the growing needs of a diverse and aging population.

Review of Literature

Influenza vaccine

The annual burden of influenza in the United States is significant, leading to 140,000-810,000 hospitalizations and 12,000-61,000 deaths each year since 2010 (CDC, 2021). The influenza vaccination is recommended for all persons aged six months and older to prevent influenza infection and reduce the likelihood of severe complications and death. Prevention or reduction in the severity of as many cases of acute respiratory illnesses as possible will be a critical step to reduce morbidity and mortality and conserve already strained health care resources. Influenza vaccines will be a critical intervention in this effort. Influenza vaccine effectiveness varies depending on factors such as the recipient's age and health and the match between the viruses represented in the vaccine and the ones that circulate in the community(Grohskopf, 2020).

Racial disparities in adult flu vaccination rates persist, with African Americans falling below Whites in vaccine acceptance. Black adults less likely to be immunized for influenza than White adults, and survey results confirm racial differences in factors related to vaccine uptake (Quinn et al., 2017). A study done by the Immunization Services Division of the Centers for Disease Control and Prevention in Atlanta, Georgia showed that both vaccinated and unvaccinated African Americans were significantly less likely than whites to report positive attitudes toward influenza vaccination. Even among respondents with provider recommendations, respondents with positive attitudes were more likely to be vaccinated than those with negative attitudes (Lindley et al., 2006)

After the severe 2017-2018 influenza season, overall vaccine coverage remained at about 45% during the subsequent (2018-2019) season, and long-standing and substantial disparities,

particularly by race and ethnicity, persisted in estimated coverage. Specifically, vaccine coverage estimates remained substantially lower for non-Hispanic Black, Hispanic, and American Indian/Alaskan Native adults than non-Hispanic White adults, as references by **Table 1** (Grohskopf, 2020).

Adults with health insurance are more likely to get vaccinated every year, while adults without health insurance are more likely never to get vaccinated. Adults without out-of-pocket payments and those for whom the cost of influenza vaccination is fully covered by health insurance are more likely to get vaccinated every year. Adults who do not get vaccinated every year are more likely never to get vaccinated due to low perceptions of vaccine effectiveness and risk of influenza infection, high perception of dangerous side effects, disliking shots, and "just not getting around to do it" (Abbas et al., 2018). Barriers for adults never getting vaccinated in comparison to only some years are lack of health insurance. Adults without health insurance are less likely to seek preventive care, including influenza vaccination (Jerant et al., 2013)

COVID-19 Vaccination

The devastation of the COVID -19 pandemic has been rippling through Black, Indigenous, and People of Color (BIPOC) communities throughout the United States. The Centers for Disease Control and Prevention have reported horrifyingly disproportionate age-adjusted rates of cases, hospitalizations, and deaths (**Table 5**). Black Americans have had hospitalization and death rates nine times as high as those for White Americans; American Indians and Alaska Natives have seen nine times as many cases and four times as many deaths as White Americans; and Latinx/Hispanic Americans have faced three times as many deaths as their White counterparts (CDC, 2021).

As mass COVID-19 vaccination efforts are underway in many countries such as the United States, the United Kingdom, and Canada. The disparities in vaccinations are on an uptake. A UK survey from January 15, 2021, shows substantially lower rates of COVID-19 vaccinations among over 80's in ethnic minority (Whites 42.5%, Black people 20.5%) and deprived communities (least deprived 44.7%, most deprived 37.9%) in England. There was a consistent reduced vaccination uptake in the Black Caribbean and Black African populations (50%) compared to the White population (70%) for adult vaccination programs. Similarly, data from the National Health Service Trust (NHS) in England shows lower COVIS-19 vaccination rates among ethnic minority healthcare workers; 70.9% in white workers versus 58.5% in South Asian workers and 36.8% in Black workers (Razai et al., 2021). These differences were observed in both adults and children.

Human papillomavirus vaccine

Up to 14 million people in the United States (US) acquire new human papillomavirus (HPV) infections each year, 1 with over 40,000 individuals from this population diagnosed with a new case of HPV-associated cancer annually (Jemal, 2013). Vaccination against HPV is highly effective at preventing HPV-associated cancers, yet the national HPV vaccination coverage remains low in the US. This culminated in the failure of the US to achieve the Healthy People 2020 target of 80% HPV vaccination coverage. In 2017, less than 50% of adolescents in the US were up to date with HPV vaccination, a stark contrast to other high-income nations with highly successful vaccination programs (Healthy People, 2020).

According to a study done by the Department of Epidemiology at the University of Texas, individuals with higher levels of education had significantly higher levels of awareness of

HPV and HPV vaccine than those with the least educational accomplishments(**Table 2**), while non-Hispanic whites had higher levels of awareness than all other racial/ethnic groups. Furthermore, consistent with other studies, HPV-related awareness was persistently at its lowest among those in the lowest income strata (annual income of <35,000 USD)(**Table 3**). Our finding of persistently low awareness levels among racial minorities (**Table 4**) and the under-educated, spanning several years, implies that existing strategies have not been effective at increasing awareness in these groups. Given that low socioeconomic status and under-education often coexist, particularly in ethnic and racial minority populations, it is essential to employ interventions that have a multidimensional approach to addressing barriers to HPV awareness (Chido-Amajuoyi et al., 2021).

Clinical Evaluation

The disparities that affect vaccination speak to a system that is broken. The hesitancy attached to vaccines that affect low socioeconomic, black, Indigenous, and people of color (BIPOC) communities has severe implications in current times. The pandemic continues to have a disproportionate effect on people from ethnic minorities, with higher COVID-19 morbidity and mortality and more significant adverse socioeconomic consequences. Without an effective vaccination strategy to mitigate the risks, the situation will worsen. Moreover, the differential uptake will further exacerbate pre-existing health inequalities and marginalization of ethnic minority groups.

Building trust

Healthcare professionals, such as nurses and doctors, must establish trust with these marginalized groups to effectively help the community. Trust could be established by funding and supporting the community, and primary care-led vaccination efforts, as general practitioners, are likely to be more trusted by the communities they serve because of relationships built over time. Engaging community groups, champions, and faith leaders and resourcing targeted, culturally competent interventions would also help reduce vaccine hesitancy (Razai, 2021). The legitimate concerns and informational needs of ethnic minority and low socioeconomic communities must not be ignored, or worse still, labeled as "irrational" or "conspiracy theories." Healthcare professionals need to engage, listen with respect, communicate effectively, and offer practical support to those who have their doubts about the vaccination process (Majeed & Molokhia, 2020).

Currently, the world is amidst a global pandemic that has put even the best healthcare systems into shambles. The communities most affected by COVID-19 are low socioeconomic, black, Indigenous, and people of color (BIPOC). BIPOC communities have been affected tragically and disproportionately by this pandemic and, therefore, require a thoughtfully planned forum—one that conveys a genuine tone of respectful interaction to share experiences, impart observations, vent frustrations, express hopes, air skepticism, and relay questions. The community engagement efforts of the COVID-19 Prevention Network (CoVPN), led by the National Institute of Allergy and Infectious Diseases (NIAID)-funded networks, provide one model for community partnership. The CoVPN has worked to ensure that communities have the resources they need to make informed decisions about participation in Covid-19 vaccine trials in the short term and vaccine acceptability and uptake in the long term. These efforts are grounded in frequent and ongoing discussions with long-standing community partners to ensure that our

understanding of community fears and uncertainty is accurate and to share challenges and obstacles faced in our efforts, and work together to identify strategies for overcoming them (Quinn & Andrasik, 2021).

Healthy People 2020

Healthy People 2020 goals for immunization and infectious diseases are rooted in evidence-based clinical and community activities and services for the prevention and treatment of infectious diseases. Objectives new to Healthy People 2020 focus on technological advancements and ensuring that States, local public health departments, and non-governmental organizations are vital partners in the Nation's attempt to control the spread of infectious diseases. Objectives for 2020 reflect a more mobile society and the fact that diseases do not stop at geopolitical borders. Awareness of disease and completing prevention and treatment courses remain essential components for reducing infectious disease transmission (Healthy People, 2020).

Healthy People 2020 strives to identify nationwide health improvement priorities, help to increase public awareness and understanding, and provide opportunities for progress. They provide measurable objectives and goals that are applicable to the national, state and local levels. When it comes to vaccinations, it is categorized under immunizations and infectious disease, where they have objectives as to how to use vaccination to effectively eliminate preventable death and disease. The first objective is to " Reduce cases of varicella (chickenpox) among persons aged 17 years of age or under- IID-1.10". At baseline, 586,000 persons aged 17 years of age and under were reported to have had chickenpox (varicella) in the past year in 2008. The target is 100,000 persons aged 17 years of age and under. Another objective is “Achieve and

maintain an effective coverage level of 2 doses of hepatitis A vaccine among children by age 19 to 35 months- IID-7.8." At baseline, 53.0 percent of children aged 19 to 35 months in 2012 received two or more doses of hepatitis A vaccine. The target goal is to reach 85.0 percentage. An essential objective they have is regarding the influenza vaccine. The objective is to "Increase the percentage of health care personnel who are vaccinated annually against seasonal influenza-IID-12.13". At baseline, only 55.8 percent of health care personnel were vaccinated against influenza during the 2010–11 influenza season. The target goal is to increase vaccinations against influenza in healthcare workers to 90.0 percent. Healthy People 2020 has projected these objectives to set forth a goal that can be measurable and that both state and local health facilities can use to improve health in these areas.

Conclusion

In conclusion, the discovery of vaccines has benefited human history in many ways. Most importantly, it has nearly eliminated many diseases and prevented many deaths. However, not all communities are given an equal chance with vaccination. Historically, uptake of vaccines has been lower among all minority racial and ethnic groups compared to non-Hispanic white populations and between different socioeconomic classes.

The statistics of vaccinations among low socioeconomic, black, Indigenous, and people of color (BIPOC) communities through this literature review have shown a massive disparity in our healthcare system. As healthcare professionals, the way to understand vaccine hesitancy and mistrust in the healthcare system in these communities is to listen to their concerns. By building trust and relationships with people, we can slowly reduce the vaccine hesitancy in these communities and close the disparity gap in our healthcare systems.

Appendix

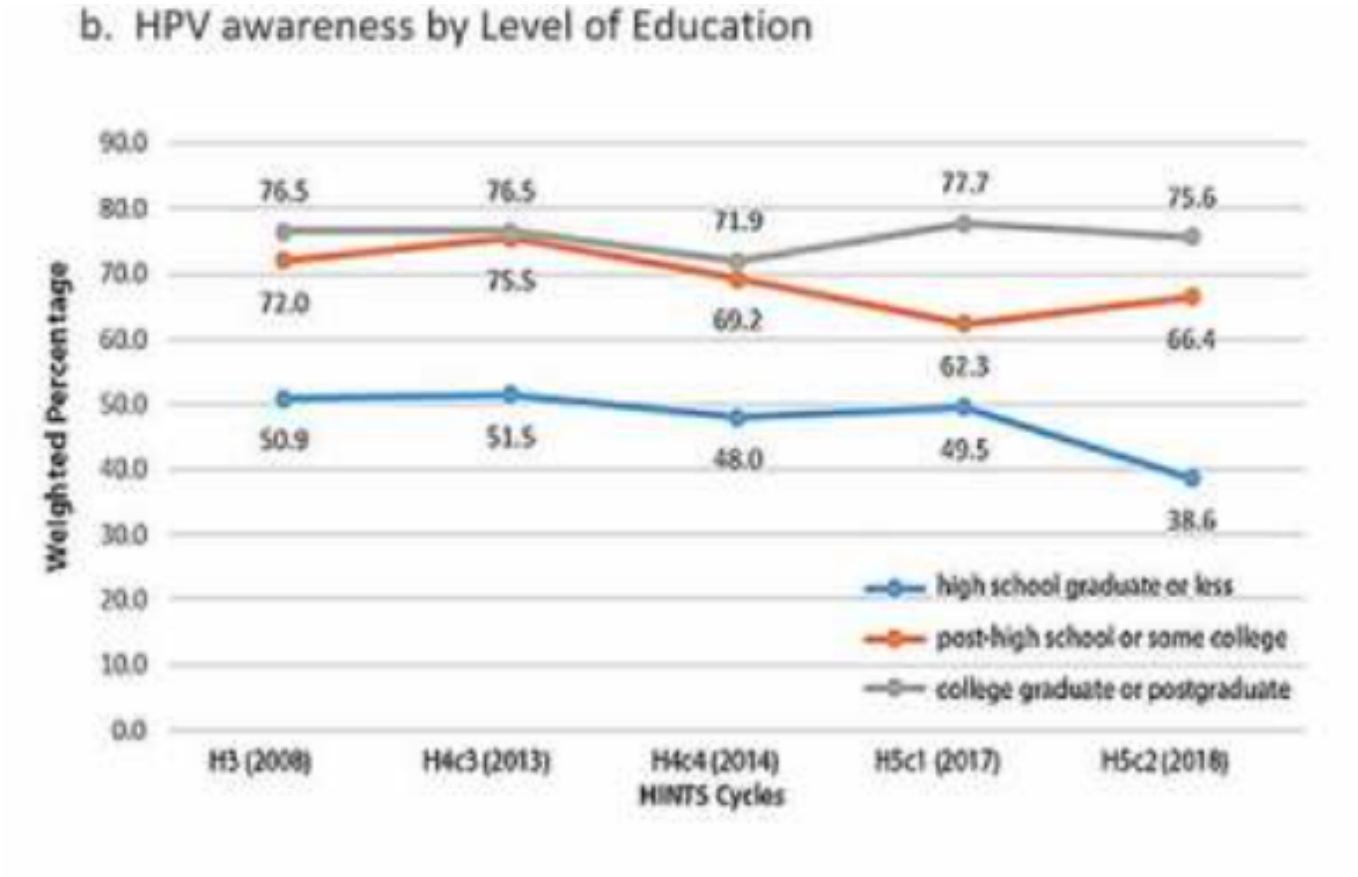
Table 1

Table. Estimated Influenza Vaccination Coverage Among US Adults by Race and Ethnicity for 2017-2018 and 2018-2019 Influenza Seasons[3]

Group	Vaccination coverage, %	
	2017-2018	2018-2019
Overall	37.1	45.3
Non-Hispanic		
White	40.2	48.7
Black	32.3	39.4
Hispanic	28.4	37.1
Asian	42.0	44.0
American Indian/Alaskan Native	33.1	37.6
Other or multiple races	32.4	39.7

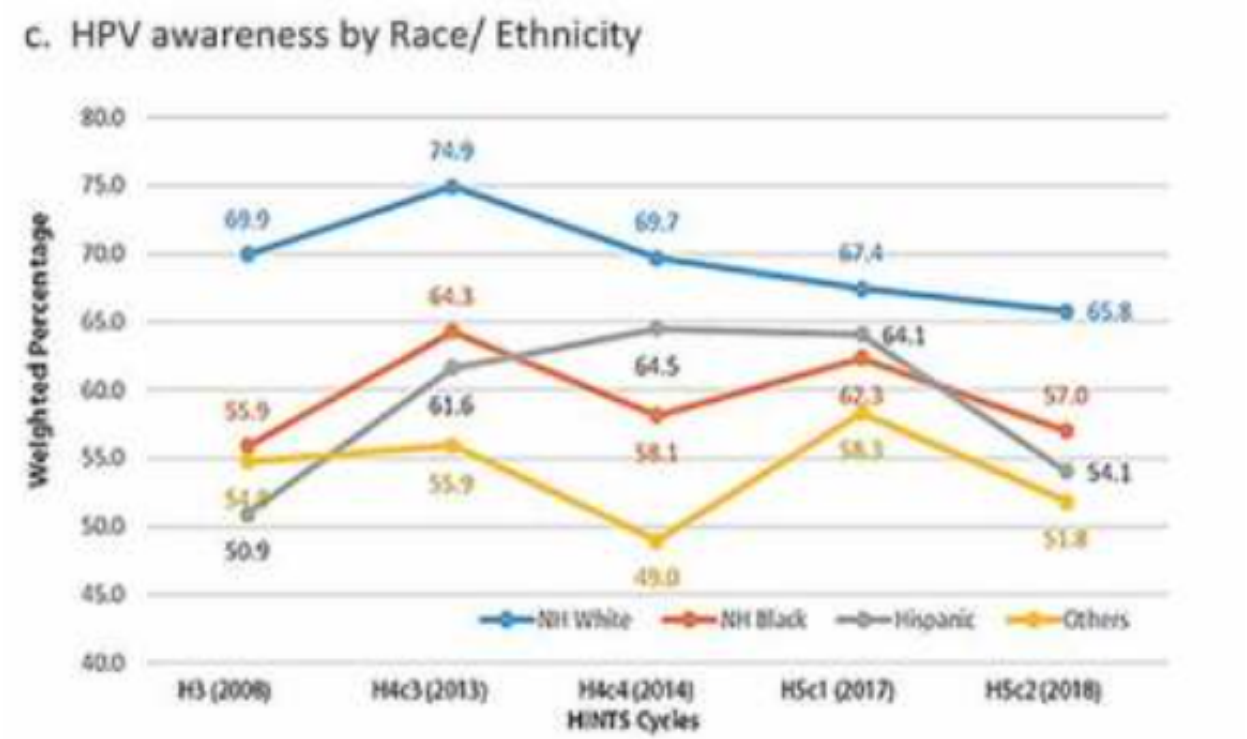
(Grohskopf, 2020)

Table 2



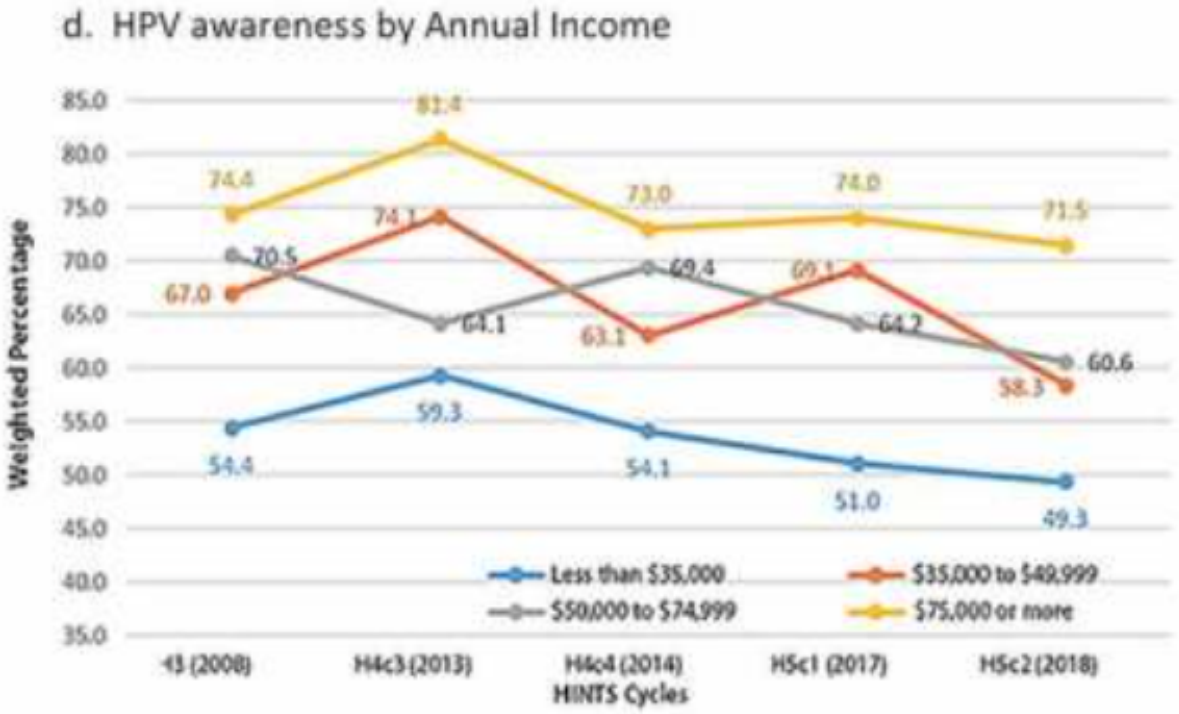
(Chido-Amajuoyi et al., 2021)

Table 3



(Chido-Amajuoyi et al., 2021)

Table 4



(Chido-Amajuoyi et al., 2021)

Table 5

Rate ratios compared to White, Non-Hispanic persons	American Indian or Alaska Native, Non-Hispanic persons	Asian, Non-Hispanic persons	Black or African American, Non-Hispanic persons	Hispanic or Latino persons
Cases[1]	1.6x	0.7x	1.1x	2.0x
Hospitalization[2]	3.5x	1.0x	2.8x	3.0x
Death[3]	2.4x	1.0x	1.9x	2.3x

(CDC, 2021)

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