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A comprehensive investigation into discrepancies in healthcare faced by black individuals and women: Examining socioeconomic, structural, and cultural barriers to equity in care

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Abstract

Concerns regarding health outcomes and disparities in treatments offered to Black individuals and women stem from various socioeconomic factors, including income inequality, access to healthcare, and health literacy. Structural racism and implicit gender biases within the healthcare system further exacerbate these inequities, leading to delays in care, misdiagnosis, and inadequate treatment. Black women, in particular, face an intersectional burden, experiencing both racial and gender-based discrimination in healthcare. These disparities contribute to poorer health outcomes, such as higher maternal mortality and poorer management of chronic conditions.

Keywords: Social Determinants of Health; Vulnerable Populations; Pulse oximetry; Community-based organizations; Implicit Bias; Intersectionality

1. Introduction

The healthcare system in the United States is deeply affected by longstanding disparities that disproportionately impact Black individuals and women, driven by a combination of socioeconomic, structural, and cultural barriers. These inequities are rooted in a history of systemic racism and gender bias within healthcare, leading to significant gaps in access to quality care, particularly for marginalized groups. Black patients face higher rates of chronic illnesses, delayed treatment, and poorer health outcomes due to implicit bias, geographical barriers, and underfunded healthcare services in predominantly Black communities. Women, on the other hand, experience gender-specific challenges, including the under-diagnosis of conditions like endometriosis and the dismissal of reproductive health concerns. Black women, at the intersection of these two identities, bear the compounded effects of racial and gender discrimination, which is particularly evident in maternal healthcare where they are three to four times more likely to die from pregnancy-related complications compared to white women. These outcomes are not due to biological differences but rather to implicit bias, neglect, and inadequate healthcare infrastructure. Moreover, the role of family caregiving significantly impacts these health disparities, as Black women often take on additional caregiving responsibilities that can strain their health and limit their access to care. Social determinants of health—such as income inequality, limited health insurance, and lack of access to preventive care—further exacerbate these disparities, creating a cycle of inequity that negatively impacts the health and well-being of these populations. This research aims to shed light on these systemic issues, emphasizing the urgent need for reform in healthcare policy, clinical practice, and provider training to address the inequities faced by Black individuals and women, ultimately striving for a more equitable healthcare system and, by extension, a more just society.

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1.1. Methodology

To effectively assess and define these socioeconomic factors, the author has utilized a multitude of quantitative and qualitative inquiry methods. These methods consist of the administration of a survey titled the Newark Health Quantitative Survey (NHQS) provided to both Newark Residents receiving health care and health care providers, interviews of profundity at local clinics, community leader-led tours, clinic observations, Cross-Sectional Study on Access to Reproductive and Preventative Healthcare administered via a survey, and a Longitudinal Study on Chronic Disease Management in Black and Latina Women via the recruitment of Black and Latina women to provide data on their health over several months (11/23-07/24) by collecting data from healthcare visits, treatment adherence, and outcomes of said treatments. Qualitative analyses were interpreted utilizing the structure of the Chronic Care Model (CCM).

1.2. Results

The study's findings demonstrate that community-based organizations in Newark play an essential role in offering social support and culturally aligned health knowledge, improving healthcare access for underserved populations. However, numerous structural barriers significantly impact the delivery of health and social services. These include institutional and structural racism, implicit bias within healthcare systems, transportation limitations, housing inequalities, health literacy challenges, and the demands associated with family caregiving roles for Women. Additionally, the research elucidates and highlights the issues that ensue from discrepancies in the accuracy of pulse oximetry for individuals with darker skin tones, which can lead to misdiagnosis or delayed treatment, further compounding these barriers and emphasizing the urgent need for improvements in healthcare technology and equitable practices.

1.3. Conclusion

The challenges identified in this study regarding healthcare access for Black Individuals and Women–both underserved populations–reflect broader global issues of health disparities influenced by structural racism and socioeconomic factors. Similar patterns of inequity are observed worldwide, where marginalized groups face barriers to quality care, exacerbated by inadequate healthcare technologies and systemic biases. The call for community-centered approaches highlights the importance of grassroots initiatives that address the unique cultural and social needs of diverse populations. To effectively tackle these multifaceted issues, systemic reforms in healthcare practices and policies are essential, emphasizing the need for holistic strategies that integrate health equity into various sectors, ultimately advancing social justice on a global scale.

Healthcare disparities have been an enduring issue within the medical system, particularly affecting marginalized communities such as Black individuals and women. Despite advancements in medical knowledge and technology, significant inequalities remain pervasive in healthcare delivery and access. Recent studies indicate that around **12% of Black Americans** report experiencing discrimination in healthcare settings (American Psychological Association, 2020). This alarming statistic prompts essential questions about the underlying causes of these disparities and the broader implications for public health.

At the intersection of race and gender, women, especially women of color, experience a unique set of challenges that exacerbate existing healthcare disparities. Implicit bias, which refers to the unconscious attitudes and stereotypes that shape our understanding of others, plays a crucial role in influencing healthcare interactions and outcomes. Healthcare providers, influenced by their own implicit biases, may unintentionally deliver different levels of care based on patients' race, gender, or socioeconomic status. These biases can manifest in various ways, such as inadequate pain management, misdiagnosis, and a lack of culturally competent care, ultimately leading to poorer health outcomes for marginalized groups. Discrimination in healthcare manifests as distinct and systematic patterns that can significantly influence medical care, leading to detrimental outcomes for marginalized communities. These patterns often arise from implicit biases, overt

Such discriminatory practices are especially detrimental for vulnerable populations suffering from chronic diseases, where continuous monitoring is crucial. A prime example of this is pulse oximetry, a noninvasive method used to assess oxygen saturation in both hospital and home settings. While pulse oximetry has become the gold standard for monitoring respiratory health, its limitations have been underscored during the COVID-19 pandemic, where its application was essential for determining disease progression and the need for supplemental oxygen. Unfortunately, studies have shown that pulse oximeters are less accurate for patients with darker skin tones, often failing to detect hypoxemia, which can lead to an overestimation of oxygen saturation levels. For instance, the rate of occult hypoxemia

has been reported to be more than double in patients with darker skin (21.5%) compared to those with lighter skin (10.2%).

This technological gap exemplifies a broader issue of implicit bias in medical devices, often manifested in the under-representation of dark-skinned patients in research and calibration trials. Such biases can perpetuate health inequities, affecting not only respiratory health but also overall health monitoring and disease management for marginalized groups. The FDA's 510(k) authorization process for pulse oximeters does not currently mandate comprehensive testing across diverse skin tones, leaving many FDA-approved devices prone to inaccuracies, especially in critical low oxygen saturation states encountered in emergency care. are calibrated primarily on lighter-skinned individuals, systematically excluding a significant demographic of patients who rely on accurate readings for chronic disease management and respiratory rehabilitation.

Pulse oximetry relies on the principle that oxygenated hemoglobin and deoxygenated hemoglobin have different absorption characteristics at specific wavelengths. According to the Classical Lambert-Beer Law, light intensity decreases exponentially with the length of the trajectory:

$$I_t = I_0 e^{-\epsilon(\lambda)\cdot C\cdot d}$$

Where It is the intensity of transmitted (or received) light, I_0 is the incident intensity, ε(λ) is the extinction coefficient or absorptivity at wavelength λ of tissue layers and chromophores such as hemoglobin, melanin, water, etc., C is the concentration of the absorbing substance, and d is the path length of light through the medium. The fraction of light that passes through a sample is defined as light transmittance *T*:

$$T = \frac{I_t}{I_0}$$

The undispersed absorbance or optical density A(λ) can be expressed as:

$$A(\lambda) = -\log(T)$$

The Beer-Lambert Law can be extended to situations where multiple absorbing mediums are encountered. If we know the respective extinction coefficients and the absorbance of light measured at different wavelengths, the total absorbance A(λ) of light in a medium consisting of n absorbing

The extinction coefficients can be expressed in terms of blood saturation as follows:

$$\epsilon_{HHb}(\lambda) \quad \text{and} \quad \epsilon_{HbO_2}(\lambda)$$

Substituting this into the ratio equation and assuming that $\Delta d(\lambda_1) / \Delta d(\lambda_2)$ remains constant, the oxygen saturation S_{pO2} can be written as:

$$S_{pO_2} = \frac{K_1 \cdot A_{AC}(\lambda_1)}{K_2 \cdot A_{AC}(\lambda_2)}$$

Although this straightforward derivation establishes the mathematical foundation for pulse oximetry, it omits a crucial element: light scatters as it passes through living tissues. It has been shown that if at least two emitters of specific wavelengths are used, it is possible to obtain oxygen saturation by applying the principles of pulse oximetry. From the constant part DC and the variable part AC of the detected PPG signals for two wavelengths λ_1 and λ_2, a quotient of quotients can be obtained:

$$Q = \frac{AC(\lambda_1)}{DC(\lambda_1)} \cdot \frac{DC(\lambda_2)}{AC(\lambda_2)}$$

This is related to oxygen saturation through:

$$S_{pO_2} = K_3 \cdot Q + K_4$$

Where (K_1, K_2, K_3, K_4) are calibration coefficients for a real medium, which are related to the hemoglobin absorption coefficients:

$$(\epsilon_{HHb}(\lambda_1), \epsilon_{HbO_2}(\lambda_1), \epsilon_{HHb}(\lambda_2), \epsilon_{HbO_2}(\lambda_2)).$$

Empirical calibration curves can also provide oxygen saturation levels. These curves are created by measuring the R ratio at various

However, melanin's high light absorption capacity interferes with these wavelengths, particularly the red light at 660 nm, resulting in a redshift effect that causes overestimation in patients with dark skin. To mitigate these limitations, emerging research suggests that pulse oximeters could benefit from incorporating additional wavelengths, such as near-infrared light, which can improve signal detection across various skin tones.

Moreover, the complexity of signal processing in multi-wavelength oximeters is crucial. Enhanced algorithms may be necessary to calibrate readings and interpret results accurately across diverse patient populations, which could involve machine learning models trained on extensive datasets that include a range of skin tones. To address the issues stemming from the inaccuracies in pulse oximetry, it is essential to improve the calibration and algorithmic processing of pulse oximeters to account for skin pigmentation differences. Research and clinical validation of multi-wavelength systems are vital, as they could lead to the development of devices that are more effective in delivering accurate oxygen saturation readings for all patients, ultimately reducing healthcare disparities and improving outcomes.

1.4. Study Sample and Setting

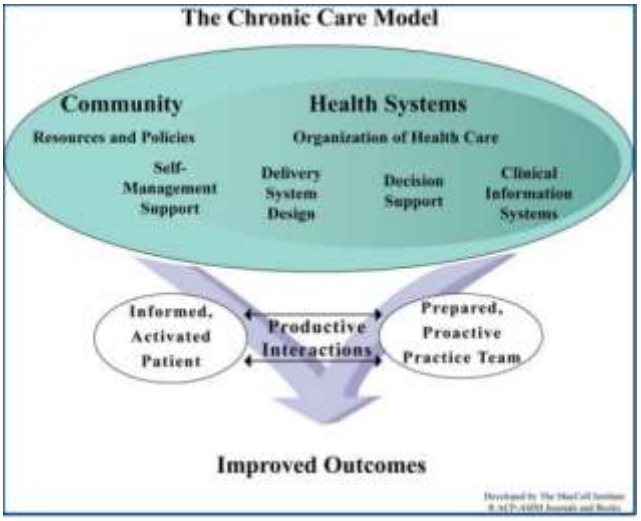
To assess and address healthcare disparities in Newark, a comprehensive, multi-method approach was used, consisting of surveys, interviews, community tours, and longitudinal studies. This initiative utilized the Newark Health Quantitative Survey (NHQS), a targeted survey conducted with

strategy included older adults from various racial backgrounds—specifically Black, Latino, White, and Asian groups. This diversity was crucial in capturing a comprehensive perspective on how race, gender, and socioeconomic conditions shape health behaviors and access to healthcare services among older adults.

1.5. Demographic Characteristics and Health Conditions

The cohort for the survey comprised individuals from diverse neighborhoods across Newark, with a deliberate focus on older adults residing in both low-income and mixed-income areas. This emphasis on socioeconomic status was vital to highlight the influences of economic conditions on healthcare utilization. Health conditions were self-reported by participants, with an emphasis on chronic illnesses that are prevalent among older adults, such as diabetes, hypertension, cardiovascular diseases, and respiratory conditions. Participants were prompted to indicate both diagnosed and undiagnosed health issues to ascertain whether limited healthcare utilization correlated with unaddressed health needs. The survey included a robust set of questions regarding participants' health status, economic resources, social support networks, and prior healthcare experiences. To better understand the constraints imposed by socioeconomic factors on healthcare access, the study recorded education levels and income brackets.

By utilizing the joint framework of the Chronic Care Model (CCM), the study positioned healthcare access as a complex outcome shaped by the intersection of individual needs and wider social influences.



1.5.1. Data Analysis

The analysis of data from the survey employed a mixed-methods approach, integrating both quantitative and qualitative data. Quantitative analyses were conducted using logistic regression to identify predictors of healthcare utilization, focusing on critical variables such as race, income, education, gender, and health conditions. This approach facilitated the identification of significant patterns in healthcare access, particularly with respect to racial and gender disparities.

In addition to quantitative data, qualitative data gathered from open-ended survey responses underwent thematic coding. This process involved examining responses for recurring themes related to barriers to healthcare access, perceptions of healthcare quality, and the role of support structures. The qualitative insights gained from this analysis were essential for capturing nuanced experiences that may not be fully represented in the quantitative data.

1.5.2. Key Themes Identified

Two prominent themes emerged from the analysis:

2. Financial and Logistical Barriers to Healthcare

As transportation, appointment scheduling, and even providing financial help for prescriptions. This theme was particularly significant among Black and Latino respondents, who emphasized the importance of community and family support as a determinant of their healthcare access.

Moreover, community organizations emerged as essential resources. Many respondents, particularly older women, reported attending local health fairs or utilizing community clinics for preventive care. Community health workers were often highlighted as valuable sources of support, especially for non-English-speaking participants needing assistance in navigating healthcare systems. However, the reliance on family and community support also underscored a significant disparity; individuals lacking these support systems frequently faced heightened barriers to accessing healthcare.

2.1. Discussion of Findings

The findings from this study illuminate the deep-seated disparities in healthcare access and utilization among Newark's older adult population, which are significantly influenced by financial constraints and social support networks. The financial barriers highlighted in the survey underscore critical gaps in Medicare and Medicaid coverage for this demographic, particularly affecting women and racial minorities.

Addressing healthcare disparities among Newark's older adult population will likely necessitate multifaceted strategies that encompass expanded public healthcare resources, enhanced financial assistance for older adults, and increased support for community health programs.

2.2. Intersectionality of Struggle for Black Women

The struggles faced by Black women are multifaceted and deeply intertwined with the concepts of race, gender, class, and socioeconomic status. This intersectionality creates unique challenges that shape their lived experiences and

opportunities in society. Understanding the intersectionality of struggle for Black women requires an examination of how these overlapping identities interact and contribute to systemic discrimination and social inequities.

Black women in America have historically encountered a dual burden of oppression, stemming from both racism and sexism. The legacy of slavery, segregation, and discrimination has had lasting impacts on their social, economic, and political status. According to the National Women's Law Center, Black women face a double jeopardy of discrimination, often marginalized in both feminist movements and civil rights advocacy. For instance, Black women made up only 7% of the U.S. Congress as of 2021, illustrating their underrepresentation in political spheres that shape policies impacting their lives.

According to the Centers for Disease Control and Prevention (CDC), Black women are three to four times more likely to die from pregnancy-related complications than white women. Furthermore, Black women are disproportionately affected by chronic illnesses such as hypertension and diabetes, with rates of hypertension at 54% among Black women compared to 34% among white women. Implicit biases in medical treatment can lead to misdiagnosis and inadequate pain management, with studies showing that healthcare providers are more likely to underestimate the pain of Black patients. This systemic neglect reflects broader societal attitudes that devalue the lives and experiences of Black women.

2.2.1. Social and Cultural Factors

The social and cultural contexts in which Black women live also shape their struggles. They navigate a complex web of expectations and stereotypes, including the "Strong Black Woman" trope, which suggests they must be resilient and self-sufficient. According to a 2018 study by the American Psychological Association, 80% of Black women reported feeling pressure to appear strong, contributing to mental health challenges such as anxiety and depression.

Additionally, Black women often face discrimination in various social settings, including workplaces and educational institutions.

2.3. Women's Health as a Global Public Health Priority

Women’s health has increasingly gained recognition as a critical global public health issue, prompting various health guidelines and organizations to address the underdiagnosis and undertreatment of women’s health conditions. This growing awareness underscores the necessity of ensuring that healthcare systems deliver effective diagnostic and preventive measures specifically tailored for women. Such measures are particularly vital in outpatient settings, where a significant portion of preventive care is administered. The challenge lies in the myriad factors that can impede healthcare access, particularly for women. These barriers can include individual-level issues such as difficulties in securing a healthcare plan and systemic factors that hinder access to healthcare services even when insurance is available.

To tackle these challenges, it is crucial to identify and overcome barriers to healthcare access, particularly those that disproportionately affect women. Addressing these barriers is essential for providing appropriate longitudinal medical care, which encompasses age-appropriate screening, management of risk factors, and timely prescriptions and adjustments of medications.

A particularly pressing concern is atherosclerotic cardiovascular disease nationwide telephone-based survey, initiated by the Centers for Disease Control and Prevention (CDC), collects data from a representative sample of adult residents aged 18 and above across all 50 states, the District of Columbia, and U.S. territories, making it one of the largest telephone surveys globally. The analysis draws on BRFSS data collected from 2016 to 2019, with gender being self-reported and classified as binary (women and men). Other variables are also self-reported and validated against additional national datasets. The study did not require Institutional Review Board approval as it employed de-identified data from a publicly available source.

Access to healthcare coverage was identified by asking participants whether they had any form of healthcare coverage, including health insurance, prepaid plans, or government programs. Participants were also asked if they had delayed receiving medical care for various reasons, such as difficulties in getting through to healthcare providers, long wait times for appointments, or transportation issues. Furthermore, the study evaluated whether participants had a designated primary care physician (PCP) and assessed the duration since their last routine checkup, defining inadequate access as having gone over one year without such an appointment.

2.4. Study Findings

The study population comprised 1,737,397 individuals, translating to an estimated 255,200,373 adults aged over 18 in the U.S. Within this population, 54% were aged 45 or older, 51% identified as women, 63% as White, 12% as Black, 17% as Hispanic, and 9% had a history of ASCVD. Alarmingly, 12% of respondents reported lacking healthcare coverage, while 21% experienced delays in accessing healthcare, and 10% reported CRMNA. Notably, 23% indicated they did not have a primary care physician, and 26% had not had a routine checkup in over a year. Furthermore, 13% reported an inability to see a doctor due to financial constraints.

In the overall analysis, women were less likely than men to have an income of $75,000 or more and were more likely to be unemployed. Interestingly, while cardiovascular comorbidities were more prevalent in men, non-cardiovascular comorbidities were more frequently reported by women.

In multivariable-adjusted models, women showed a higher likelihood of experiencing delays in accessing healthcare (Odds Ratio: 1.26), being unable to see a doctor due to cost (1.29), and CRMNA (1.24). Conversely, women were less likely to report lacking healthcare coverage (0.71), not having a PCP (0.50), and not having had a routine checkup in over a year (0.72).

Disparities in health outcomes and treatment access are deeply intertwined with systemic biases and socioeconomic barriers that affect the quality of care provided to marginalized groups. The compounded impact on Black women, who face both racial and gender discrimination, emphasizes the critical need for a comprehensive approach to healthcare reform. Community-centered initiatives and enhanced cultural competence among healthcare providers are essential for dismantling these barriers. Investing in strategies that improve healthcare access while prioritizing health literacy and equity in treatment technologies can help address these inequities. Additionally, recognizing the importance of family caregiving roles and social prejudice, stereotyping, and uncertainties in clinical judgment, which severely compromise the quality of care individuals receive. Research identifies three key mechanisms through which discriminatory practices may emerge from healthcare providers: bias or prejudice against minorities, increased clinical uncertainty when diagnosing or treating minority patients, and stereotypes that influence providers' perceptions of minority patients' health behaviors (Balsa and McGuire, 2001a). These mechanisms collectively contribute to unequal access to resources, inconsistent health outcomes, and poorer overall healthcare experiences for patients from minority or low-income backgrounds, particularly under time constraints and limited information.

The implications of these inaccuracies extend beyond respiratory health, particularly for minority populations with chronic conditions that require regular monitoring. Misleading assessments can create a "false sense of well-being," delaying interventions and sometimes resulting in preventable emergency situations. These disparities highlight the pressing need for device manufacturers to prioritize clinical accuracy in pulse oximeters designed for diverse populations. Many existing devices are calibrated primarily on lighter-skinned individuals, systematically excluding a significant demographic that relies on accurate readings for effective chronic disease management and respiratory rehabilitation.

Addressing these disparities requires a multifaceted approach that includes policy reforms, regulatory updates, and increased research on medical devices across diverse populations. Community-based organizations and grassroots initiatives play a crucial role in advocating for health equity and ensuring that healthcare devices and practices meet the needs of all demographics. By fostering awareness about issues like pulse oximetry inaccuracies and collaborating with local health clinics to distribute culturally competent resources, these organizations empower individuals to make informed decisions about their health while challenging systemic biases within healthcare.

One critical area affected by these disparities is the monitoring of oxygen levels, which is often assessed through pulse oximetry, a vital tool in managing respiratory health. Pulse oximetry has become a gold standard for assessing oxygen saturation in both hospital and home settings, as it provides a noninvasive means to monitor respiratory health. Widely used during the COVID-19 pandemic to monitor disease progression and determine the need for supplemental oxygen, pulse oximetry's popularity has unfortunately masked a significant limitation: its reduced accuracy for assessments, creating a "false sense of well-being" that delays interventions or referrals, sometimes leading to emergency situations that could have been preventable. The inaccuracies in oxygen saturation measurement underscore the pressing need for device manufacturers to consider clinical accuracy in devices designed for diverse populations. Many existing pulse oximeters Substances will be the sum of their independent absorbances.

The pulsatile nature of blood flow allows for differentiation between the absorbed light during systolic and diastolic phases of the cardiac cycle. The time-dependent arterial pulsation of the transmission signal, also called the AC

component, is separated from the total transmission signal. The strength of the AC component is only about 1 to 2% of the total transmission. The DC component of the transmission signal is defined as the transmission without blood volume pulsation. During one pulse, the time-derivative of the total absorbance or the differential absorption can be approximated with the DC(λ) component and the AC(λ) component intensities as follows:

$$\frac{dA(\lambda)}{dt} = A_{DC}(\lambda) + A_{AC}(\lambda)$$

Where I_{min} is the minimum transmission after systolic rise, and I_{max} is the diastolic maximum transmission of light. The ratio of two differential absorptions with different wavelengths, known as the ratio-of-ratios R, is used to calculate oxygen saturation:

$$R = \frac{\Delta A(\lambda_1)}{\Delta A(\lambda_2)}$$

Known oxygen saturation levels and fitting a mathematical function to the collected data. A common generalization of this relationship is:

$$S_{pO_2} = f(R)$$

Where R represents the ratio between the red and infrared light signals. In practice, R can be obtained from the PPG signal using different methods.

Incorporating a multi-wavelength approach can be modeled by the Beer-Lambert law as previously described. The differential absorption within the Beer-Lambert model can be represented in matrix notation for a system with n wavelengths and m analytes:

$$dA(\lambda) = \epsilon_{\lambda,HbX} \cdot C(Hb) \cdot \Delta d_\lambda$$

Where Δd_λ is the optical path-length for wavelength λ and C(Hb) is the hemoglobin concentration. Notably, the path-length in the Beer-Lambert model is unrelated to the wavelength, and this linear equation can only be resolved if m is equal to or larger than n, meaning four wavelengths are necessary to identify four hemoglobin types.

The technical aspects of pulse oximetry reveal further challenges tied to skin pigmentation and optical technology. Traditional pulse oximeters use two wavelengths of light, typically red and infrared, to estimate blood oxygen saturation levels.

Both Newark residents receive healthcare and healthcare providers.

To gain further insights, in-depth interviews were held with eight community leaders who provided valuable perspectives on health challenges in underserved communities. These interviews were complemented by tours of local clinics and healthcare facilities, revealing important aspects of care, such as the conditions in these environments and specific practices aimed at harm reduction. One clinic, for example, was observed offering free syringes to individuals using injectable drugs, a practice that demonstrates a commitment to harm reduction and infection control but also raises important questions about supporting patients with addiction beyond immediate health needs.

2.4.1. Survey Design and Sampling in Newark Health Quantitative Survey (NHQS)

The Newark survey was meticulously designed to evaluate disparities in healthcare utilization among older adults, specifically emphasizing gender and racial disparities within this demographic. The survey specifically targeted Newark residents aged 65 and older, a group recognized for its heightened healthcare needs due to age-related health challenges. To ensure a diverse representation that reflects the ethnic composition of Newark, the sampling

These metrics not only allowed the identification of health disparities but also facilitated an exploration of their underlying drivers, as economic resources and social networks often play pivotal roles in determining healthcare accessibility. Importantly, the sample aimed for near-equal gender distribution, which enabled meaningful gender comparisons within the analyses of racial and socioeconomic disparities.

2.4.2. Theoretical Approach

To examine the multifaceted factors impacting healthcare access and utilization among older adults in Newark, the survey employed a socio-ecological model. This theoretical framework recognizes that health behaviors are influenced by various interrelated layers, including individual factors (health status, age, gender), interpersonal dynamics (family support), community contexts (access to local healthcare facilities), and broader societal factors (policies related to Medicare or Medicaid and socioeconomic structures). By considering these dimensions, the survey sought to understand not just individual health behaviors but also the societal influences that shape those behaviors.The socio-ecological model in partnership with the CCM is particularly pertinent for comprehending health disparities, as they both highlight the interplay between environmental, policy, and social support structures that impact healthcare access.

A significant number of participants, particularly women and individuals from minority backgrounds, identified financial constraints as a major barrier to accessing healthcare services. Key financial barriers included transportation costs, co-payments, and out-of-pocket expenses that were not covered by Medicare or Medicaid. Women in the survey, especially those identifying as Black or Latina, frequently reported having to prioritize essential expenses like food and housing over healthcare, resulting in delayed or entirely foregone medical treatment. Logistical barriers were also prevalent among respondents reliant on public transportation. Many participants expressed concerns about limited mobility and unreliable transportation options. Respondents from low-income neighborhoods often had to travel outside their local areas to access specialized healthcare services, which compounded the time and financial burdens associated with seeking care.

3. Reliance on Community and Family Support Networks

The survey also revealed the critical role that family and community networks play in facilitating healthcare access. Participants who reported strong family support—especially older adults living with adult children or relatives—indicated experiencing fewer barriers when seeking healthcare. Family members frequently assisted with logistical challenges such as

Older women, especially those who identify as Black or Latina, often experience greater health needs coupled with fewer economic resources, rendering them more vulnerable to barriers in accessing healthcare. These financial constraints not only hinder timely healthcare access but also contribute to a cycle of worsening health conditions that often remain unaddressed due to cost concerns.

The dependence on family and community networks indicates a crucial area for potential policy intervention. While social support from family and community can provide essential resources for healthcare access, such reliance points to systemic gaps in publicly available healthcare services. The lack of robust, accessible public healthcare options compels many older adults to depend on informal support systems, which are neither universally available nor sustainable as primary means of accessing healthcare.

Moreover, the socio-ecological model emphasizes that healthcare access disparities are not merely individual issues but are shaped by broader societal structures, including the availability of affordable healthcare services, existing policies governing Medicare and Medicaid, and access to reliable transportation.

3.1. Economic Disparities

Economic inequality is a significant aspect of the struggles faced by Black women. They are often concentrated in low-wage jobs with limited access to benefits and job security. According to the U.S. Bureau of Labor Statistics, Black women earn approximately 63 cents for every dollar earned by white, non-Hispanic men. This wage gap is even wider for Black women with higher education, as they earn about 80% of what white women with similar degrees make. Moreover, Black women are more likely to be single heads of households, with 29% of Black families led by single mothers compared to 8% of white families. These economic challenges lead to increased reliance on social services, limited access to quality healthcare, and reduced opportunities for education and career advancement. A report from the Institute for Women's Policy Research highlights that 43% of Black women live in poverty, compared to 12% of white women, reflecting the disproportionate impact of economic disparities.

3.2. Healthcare Access and Disparities

Healthcare access is another critical area where the intersectionality of struggle for Black women manifests. They face significant barriers to receiving adequate healthcare services, influenced by socioeconomic status, geographic location, and systemic biases within the healthcare system.

The American Association of University Women reports that Black women are 12% less likely to be hired than equally qualified white men, reflecting systemic biases in employment practices.

3.3. Advocacy and Resistance

Despite these challenges, Black women have historically been at the forefront of social justice movements, advocating for their rights and the rights of their communities. For instance, the Combahee River Collective, formed in 1974, was a pioneering group that articulated the importance of intersectionality in feminist and civil rights discourse. They emphasized the need for policies that address the unique struggles faced by Black women.

In recent years, movements such as **#BlackLivesMatter**, co-founded by Black women, have highlighted the importance of intersectionality in addressing systemic racism and social injustice. According to the Pew Research Center, 60% of Black women expressed that they believe activism is necessary to achieve equality, demonstrating their commitment to fighting for change.

(ASCVD), which stands as the leading cause of morbidity and mortality not only in the United States but also among women specifically. Studies reveal that women diagnosed with ASCVD frequently face delays in accessing timely healthcare services. Moreover, they tend to undergo fewer diagnostic procedures and experience poorer health outcomes compared to their male counterparts.

The American Heart Association's guidelines on the prevention of cardiovascular disease in women emphasize that access to primary care services is a fundamental determinant of effective preventive care for women. This access is not just a matter of convenience; it is a critical component of women's health strategy that requires urgent attention.

3.4. Research Objectives and Methodology

This study investigates the prevalence of challenges related to accessing medical care and cost-related medication non-adherence (CRMNA) among women, with a specific focus on those with ASCVD. The analysis aims to explore how gender intersects with age, race, and ASCVD status to identify subgroups of women who may face heightened barriers to accessing medical care.

Data from the Behavioral Risk Factor Surveillance System (BRFSS) is utilized in this study.

3.5. Statistical Analysis

The analysis of demographic variables, comorbidities, healthcare access difficulties, and CRMNA utilized survey weights to ensure the representativeness of the U.S. population, as established by the BRFSS. Baseline characteristics were summarized using weighted percentages and stratified by gender. Multivariable logistic regression models assessed the relationship between gender and difficulties accessing healthcare and CRMNA among the overall study population and specifically among individuals with ASCVD.

Furthermore, the interplay of gender with age categories (men and women under and over 45 years) and race/ethnicity was examined, using men under 45 years as a reference group. The analyses were adjusted for various covariates, including age, race/ethnicity, education level, household income, employment status, and comorbidity burden, which encompasses conditions like hypertension, diabetes, and cancer. Odds Ratios (with 95% Confidence Intervals) were computed and visually represented through bar charts.

The analysis further revealed that younger women were particularly susceptible to access challenges compared to their male counterparts, with Odds Ratios indicating significant delays in healthcare access (1.47), inability to see a doctor due to cost (1.39), and higher rates of CRMNA (1.51). Additionally, Black women reported a higher likelihood of delays in healthcare access (1.40) and inability to see a doctor due to cost (1.46) compared to their White male peers.

Among individuals with ASCVD, women consistently demonstrated lower rates of healthcare coverage (6.7% vs. 7.8%) and absence of a PCP (7.6% vs. 10.6%). However, they were more likely to face delays in healthcare access (28.6% vs. 23.7%), be unable to see a doctor due to cost (17.7% vs. 14.0%), and report CRMNA (20.7% vs. 14.3%). While these

trends persisted in multivariable-adjusted models, statistical significance was notably observed for the absence of a PCP (Odds Ratio: 0.62) and inability to see a doctor due to cost (1.25).

4. Conclusion

The challenges identified in this study regarding healthcare access for Black individuals and women—both underserved populations—reflect broader global issues of health disparities influenced by structural racism and socioeconomic factors.

Embracing a holistic approach to healthcare that integrates these considerations into policy and practice is crucial for fostering a more equitable system that serves all individuals, irrespective of their racial or gender identity. Determinants of health will facilitate more tailored solutions for vulnerable populations.

Addressing healthcare disparities is not merely about improving individual health outcomes; it is a vital step toward achieving broader social justice and equity. Through sustained efforts at both community and systemic levels, meaningful change in health equity can be achieved, leading to healthier and more resilient communities for generations to come.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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