ABSTRACT

The United States has one of the highest maternal morbidity and mortality rates among developed nations. Data shows significant disparities in the rates among women of different races. Black women have a much greater maternal morbidity and mortality rate than White women, and this can be largely attributed to differences in quality of care in hospitals that serve primarily Black women. To decrease the racial disparity in maternal morbidity and mortality rates, and in turn reduce overall maternal morbidity and mortality in the United States, we must leverage the tools available to us. One of the most promising options is using health information informatics tools (HIIT) to more accurately assess each woman's social determinants of health, to launch quality of care initiatives through HIIT platforms, and to provide greater access to care through the use of telemedicine. It has been demonstrated that social determinants are good predictors of a woman's likelihood to experience adverse outcomes with pregnancy, HIIT can be used to assess these social determinants and to provide better informed care for all women. Quality of care initiatives launched through HIIT platforms create a more consistent quality of care and can be leveraged to provide more equitable quality of care across all hospitals to eliminate the gap in quality that exists between hospitals that serve primarily Black women and primarily White women. HIIT tools, like electronic health records, are already used in all hospitals in the United States, so leveraging them to reduce or eliminate the racial disparity in maternal morbidity and mortality rates is a plausible and practical approach.

THE RESEARCH IS CURRENTLY IN ITS EARLY STAGES

Very little data exists on the effectiveness of HIIT platforms in reducing racial disparities in maternal morbidity and mortality rates. There is data available regarding the use of HIIT platforms in addressing the social determinants of health that cause these disparities, and data demonstrating significant racial and ethnic disparities in rates of maternal morbidity and mortality in the United States. This data can be used to examine the potential for HIIT platforms to be leveraged to reduce the racial disparities in maternal morbidity and mortality rates.

BACKGROUND

In the United States, women die in 23.8 out of every 100,000 live births. For non-Hispanic Black women, this rate is 38.9 deaths per 100,000 births (Somer 2017). Deaths are only a small part of the problem, though, as maternal morbidity affects a great deal more women than maternal mortality does. Maternal morbidity has a variety of definitions, but generally any unintended outcome of pregnancy or delivery that results in significant health consequences for the woman is considered maternal morbidity.

The drivers of the disparities in maternal morbidity and mortality largely stem from differences in care received, differences in the hospital delivery occurs in (i.e. differences in hospital performance), disparities in the risk for and prevalence of certain health conditions (i.e. hypertension), and the mode of delivery (i.e. cesarean section or vaginal delivery) (Somer 2017). Social determinants of health are significant predictors of maternal morbidity and mortality (Howell 2018). Hospitals that serve primarily non-Hispanic Black women have significantly greater rates of maternal morbidity and mortality than hospitals that primarily serve non-Hispanic White women (Somer 2017).

WHAT ARE HIIT?

Health information informatics tools (HIIT) are technologies deployed to gather health information or provide health services. Examples of these include electronic health records and telemedicine visits.

RESEARCH METHODS

For this research, I conducted a systematic review of the literature based on both the PRISMA 2020 guidelines for systematic reviews and a JMLA article detailing the steps to a systematic review. These two method sources were selected because together they provided a thorough approach to compiling articles to answer the research question and PRISMA, specifically, is a common approach for biomedical research.

The databases searched were as follows: Google Scholar, PubMed, and Web of Science. Results that were published in English, published within the last five years (2016-2021), and contained "health information technology tools" and/or "maternal morbidity and mortality" in the article were selected.

The information gathered from selected articles was then synthesized into a literature review to explore the drivers of racial disparity in maternal morbidity and mortality, potential levers for reducing the disparity, and the use of HIIT to reduce the disparity.

INITIAL FINDINGS

- HIIT platforms, specifically electronic health records, can be used to screen for social determinants that a patient may present with that puts her at greater risk of maternal morbidity or mortality. Social determinants include race, education level, income, and community structure, among others.

  - In the case that individual social determinants cannot be addressed, geocoded data for the are the woman lives in may give an insight into potential risks for that individual.

- HIIT platforms, specifically telemedicine appointments, can be used to increase access to care in areas where access to providers such as maternal health specialists is restricted or nonexistent.

- HIIT platforms, specifically quality improvement initiatives launched via electronic health record software, can create standardized care practices, engage and inform patients, and monitor compliance and outcomes of standardized care practices. Standardized care can help to reduce the differences in the quality of care received by women in different hospitals.

NEXT STEPS

Further research into the effectiveness of HIIT in reducing racial disparities in maternal morbidity and mortality is needed. This will involve the implementation of the steps mentioned in the previous slide, and a quantitative analysis of the effectiveness of each step in reducing the disparities in maternal morbidity and mortality.

CLOSING THOUGHTS

While the research into using HIIT to reduce racial disparities in maternal morbidity and mortality is in its beginning stages, there seems to be promising evidence that these tools may be leveraged to reduce health inequities in the United States. Maternal morbidity and mortality is a significant issue in the United States and is an even greater issue for non-Hispanic Black women living in the United States. Addressing this issue is one way we can help to eliminate racial disparities in health care and reduce the overall maternal morbidity and mortality rate in the United States. Using tools that are already available to most healthcare providers is a practical and efficient method of addressing this issue and is deserving of further evaluation and research.

RESOURCES

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