Neighborhood Racial and Economic Polarization, Hospital of Delivery, and Severe Maternal Morbidity

Summary

Tune into another episode of Avalere’s Journal Club Review podcast series on Avalere Health Essential Voice. In this segment, Dr. Sura Edmond, a Research Scientist in the Center for Healthcare Transformation, joins Associate Mali Khan to discuss the findings, themes, and relevant application of a contemporary healthcare publication.

Transcription

Mali: Hello, and welcome to another episode in the Avalere Health Essential Voice series focused on the findings and themes from Avalere’s Journal Club. In this series, we provide commentary on a contemporary publication presented at an internal Journal Club meeting, a monthly gathering to critically assess the methods, analyses, and application of newly released studies.

My name is Mali Khan and I am an Associate at Avalere with a background in Public Health from the University of North Carolina. Joining me today is Sura Edmond, a Research Scientist in Avalere’s Center for Healthcare Transformation. Sura is an obstetrician gynecologist (OBGYN) by training, and is proficient in surgical and medical devices, evidence-based medicine, and patient
advocacy.

In today’s episode, we will be discussing, “Neighborhood Racial and Economic Polarization, Hospital of Delivery, and Severe Maternal Morbidity” published in Health Affairs.

Before we dive into the details, I wanted to highlight the reason we chose to discuss this article. The research showcases the impact of social factors on maternal health, which is becoming a topic of importance in our current healthcare climate.

This research highlights the impact of social factors on maternal health. The article also speaks to the underlying structural issues that contribute to health disparities, which have become a prominent focus amid the COVID-19 pandemic.

Sura will delve further into the study and its relevance to our work at Avalere. Sura, can you provide some background on these health disparities and the trends we are seeing in relation to maternal health and race and ethnicity?

**Sura:** Thank you, Mali. This was an interesting article. Existing disparities occur along racial and ethnic lines. Severe maternal morbidity (SMM) is any life-threatening condition or procedure that occurs during childbirth, including unexpected outcomes of labor and delivery that result in significant short-term or long-term health consequences. According to the CDC, the most common are blood transfusion, hysterectomy, and ventilation – whether it be mechanical or hand-ventilation.

SMM and maternal mortality are important public health issues, as they are steadily rising in the United States. One in 3 SMM cases is preventable. Maternal mortality is 3 times more likely to occur in Black women, after correcting for income and education. SMM is 100 times more frequent than maternal mortality. In New York City, Black women are 3 times more likely, and Latina women are 2 times more likely, to experience SMM than white women.

Structural racism and polarization, the extreme concentration of one group, are determinants of SMM, especially when looking at urban areas. Other risk factors include comorbidities, poor health behaviors, quality of care, and, interestingly, delivery hospital. In New York City, Black and Latina women are more likely to deliver in hospitals with higher rates of SMM.

**Mali:** These numbers highlight the impact of race and ethnicity on maternal health. The study’s authors were interested in this variation related to SMM risk. What factors were they looking at
when they were determining risk, and how did the choice of delivery hospital fit into the study?

**Sura:** The authors wanted to add to the current evidence base to connect polarization to severe maternal morbidity. The primary objective was to examine New York City’s racial and economic spatial polarization in association with SMM. They expected the highest SMM risk in neighborhoods with the highest concentration of Blacks to whites, low-income households to high-income households, and low-income Black households to high-income white households.

The secondary objective was to examine whether women from the most racially or economically polarized neighborhoods delivered in hospitals located in similarly polarized neighborhoods. They expected to see partial mediation of the association.

**Mali:** How did the researchers design the study to encompass all these different factors, and what did polarization mean for them?

**Sura:** This study used a cross-sectional design comprised of 313,600 women and 40 hospitals in New York City. They used birth records and hospital discharge data for delivery hospitalizations from 2012-2014, and survey data from 2012-2016.

Racial and economic spatial polarization was defined as extreme concentration of residents from a certain racial, ethnic, or economic background in a given area. The results were broken down to look at polarization by race, income, and race/income combined. These were grouped into quintiles, with quintile 1 being the highest relative concentration of Black, low income, or low-income Black households, and quintile 5 the lowest.

**Mali:** Knowing the researchers’ expectations, what did the study find? Did it support their hypotheses?

**Sura:** The researchers found the risk for SMM highest in quintile 1 for all measures. For race measures, the factors associated with delivery hospital were about 1/3, comorbidities were half, and there were also sociodemographic characteristics. Women in highly polarized neighborhoods were most likely to deliver in hospitals in similarly polarized neighborhoods for all measures. The starkest difference was in income.

**Mali:** It looks like there is a strong association between race/income and SMM. It is also interesting to see the impact of delivery hospital on this relationship. Is there more to this story? And what can we take away from this? In your own experience as an OBGYN, what have you
seen in terms of maternal health outcomes?

**Sura:** SMM risk was highest among neighborhoods with extreme polarization, likely because they lack resources. SMM risk differed among racial and ethnic lines, with the highest association being among Blacks and Latinas. White women have better access to high quality care and transportation. Hospital quality and neighborhood polarization are also risk factors. So, interventions should focus on access to high quality care and housing policies.

Unfortunately, this is a trend that I have seen since I began my residency through to my time as an attending physician. There has not been much headway in addressing it. I think the awareness generated from this article and recent conversations on this topic are helping to expose the issues, hopefully leading to effective change.

**Mali:** Those last points will be important in thinking about maternal health and how those underlying factors contribute to health disparities. This study revealed some important and relatively unexplored considerations. What do you think is important for our clients to know about this topic?

**Sura:** I think it is important that foundations interested in these topics consider where to place funding. It’s really a matter of where the dollar is being spent.

As far as pharmaceutical companies, they would be interested to know how racial disparities across geographies affect their uptake.

We must keep in mind the underlying issue of how health systems contribute to poor quality of care, which can be a loaded topic. Health systems strive to provide quality care, but there are economic factors to consider. They need to find a way to balance these two considerations.

Also, looking at zip codes and data could provide insights about gaps in care and how to target these areas to affect change.

We may also want to look at life sciences companies that have women’s health initiatives or are interested in joining these conversations. There has been a recent groundswell of these initiatives looking at maternal morbidity and mortality in the US, so hopefully these conversations will continue. There are many clients that are thinking about social factors, like housing, which have impacts on uptake.
Finally, there is the area of shared decision making and discussion between provider and patients, working with patients on language that could help build trust around the experience. We can make sure women have information about hospitals and their statistics to become empowered patients. I think that would really lend more credence and help them become involved in their own care.

Mali: Thank you so much for the valuable information today, Sura, and thank you all for tuning into Avalere Health Essential Voice Journal Club Review. Please stay tuned for more episodes in our series. If you would like to learn more, please visit us at our website www.avalere.com.