Why do homeless women in New York state experience fewer hospital revisits after childbirth than housed women?

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Homelessness is a major public health challenge faced by many countries, and in many places, it has been aggravated by the economic downturn associated with the COVID-19 pandemic. Even in wealthy countries, homelessness remains a major social and public health issue. For example, in the USA, which is one of the wealthiest countries in the world, an estimated 600 000 individuals are homeless on any given night.¹ Homelessness is defined as the lack of 'a fixed, regular, and adequate night time residence' by the US Department of Housing and Urban Development.² Studies have found that homeless individuals are more likely to encounter barriers to accessing medical care, including poverty, family problems, poor health literacy and a lack of social support.³ Homelessness is an especially important issue among young women, as pregnancy among homeless women is common and, due to the lack of resources available for homeless women, the health and lives of both mother and baby could be affected if appropriate care cannot be delivered.⁴ Due to the intersection of homelessness, poverty, drug use and limited access to effective contraception, homeless female adolescents are more likely to report a pregnancy in a lifetime than their housed counterparts.⁵ Homelessness may impact the health outcomes of pregnant women and their babies,⁶ and pregnancy may also increase women's risk of experiencing homelessness due to dropping out of school or surviving domestic violence related to pregnancy.^{7,8}

Despite the critical importance of understanding the quality of care and outcomes of homeless women during pregnancy and delivery, research examining the health

and healthcare access among postpartum homeless women has been limited.

In this issue of *BMJ Quality and Safety*, Sakai-Bizmark and colleagues⁹ report the results of an observational study that analysed how rates of hospital revisits (ie, readmissions and emergency department (ED) visits) differ between postpartum homeless and housed women, using an administrative database of all hospitalisations and ED visits in New York state from 2009 to 2014. New York state has one of the highest numbers of homeless people in the nation, with 92 091 homeless individuals identified on a given night in 2019, accounting for more than 16% of total homelessness in the USA. From this state-wide database, 82 820 homeless postpartum women and 1 026 965 housed postpartum women were included. The authors found that after adjusting for patient characteristics, including demographics and pregnancy/neonatal complications, homeless postpartum women were less likely to revisit hospitals within 6 weeks after hospital discharge. They also found that homeless women were less likely to be hospitalised or visit the ED after hospital discharge than the low-income housed population, who are more comparable with the homeless population in terms of socioeconomic background than the general (including higher-income) housed population.

UNCLEAR MECHANISMS FOR LOW REVISIT RATES AMONG HOMELESS POSTPARTUM WOMEN

The study did not investigate the underlying mechanisms explaining why hospital revisit rates after delivery were lower among homeless women compared

with housed women. The authors discussed two possible explanations, but with very different interpretations regarding the quality of care⁹: (1) limited access to necessary hospital services among homeless women, suggesting a potential problem in the quality of care; (2) the protective effect of the respite and convalescent care that homeless women in New York state receive in homeless shelters after childbirth, suggesting possible directions to improve care for women with low incomes who do not have access to the same resources. Although these two mechanisms have vastly different implications, the authors did not empirically examine the plausibility of these two hypotheses, so they could neither support nor refute the mechanisms. However, the authors were able to explore whether the lack of access to healthcare could explain their findings, since approximately 75% of homeless women had public insurance in this sample. Presumably, these women did not face the issue of limited access to postpartum healthcare. In the USA, it is recommended that women who have delivered a baby visit an obstetrician 2 or 3 weeks after delivery to follow up on physical recovery, emotional health and any special needs related to pregnancy. During such appointments, an obstetrician may identify health issues that would otherwise go undetected. It is possible that homeless women generally have fewer interactions with healthcare providers, leading to missed opportunities to identify postpartum health issues. If this explanation is true, the low follow-up visit rate may be due to factors such as limited social support and childcare, low health literacy and lack of trust in healthcare providers. However, the administrative data used in the study were able to capture only events during mothers' hospitalisations and ED visits, and therefore this study was unable to evaluate ambulatory follow-up visits after delivery. Similarly, due to the data limitation, the study could not address the quality of perinatal care and postpartum maternal or child health outcome other than hospital revisits.

It is also possible that the respite and convalescent programmes at shelters provided to homeless women in New York was the major contributor of lower revisit rates among homeless patients found in this study, given the potential importance of post-delivery management in preventing readmissions among women with problematic deliveries and comorbidities.¹⁰ In fact, New York state has among the highest level of shelter use; the probability of homeless individuals using a shelter on a given night is more than 95% in New York, in contrast to less than 67% across the USA.¹¹ If this were the main explanation of the study's findings, there would be a concern that the findings may not be generalisable to other states. For example, this study reported that homeless women had lower crude rates of caesarean section and premature rupture of membranes (which are risks for readmission) than housed women in New York. However, in a

recent study that used data from three states (Massachusetts and Florida as well as New York) to study similar research questions,¹² these metrics were similar between homeless and housed women hospitalised for delivery. This suggests that New York may have unique features that enable homeless mothers to receive high-quality care that are unavailable in other states. More detailed research on postpartum support, patient satisfaction and clinical conditions (eg, maternal infection, depression, exacerbation of pre-existing conditions) between homeless and housed women, including studies in areas with different homeless policies and quality of maternal care for homeless mothers, should be able to clarify whether the findings from this study were unique to New York. Including the perspectives and experiences of these women themselves, rather than relying on administrative data, is likely to provide valuable additional insights. Such research will require overcoming the difficulties in defining a representative homeless population, the reluctance to participate by the homeless individuals and the stigma of the homeless population by the research team.

SHOULD WE ADJUST FOR SOCIOECONOMIC FACTORS IN MEASURING QUALITY INDICATORS?

The study by Sakai-Bizmark *et al*⁹ also contributes to the current discussion regarding whether postpartum hospital revisits can be used to measure the quality of perinatal care at hospitals.¹³ Recent studies suggest that postpartum readmission rates differ by race/ethnicity and insurance status,^{14 15} but it has also been reported that hospital-level variation is negligible.^{15 16} Given these findings, some may advocate the use of socioeconomic status (SES) in risk adjustment to use postpartum hospital revisit rates as a metric of the quality of maternal care. If SES reflects risk factors difficult for hospitals to address (patients' pre-existing clinical conditions and access to post-discharge care), simply using hospital revisit rates without accounting for SES may penalise hospitals that provide care to many patients with low SES.¹⁷ Conversely, critics of this position may be concerned that accounting for SES in risk adjustment would lead to acceptance of a lower quality of care for socially disadvantaged mothers. Adjusting for SES may mask the disparities in the quality of care by SES and allow hospitals not to take the measures required to reduce postpartum hospital revisits among such patient populations (such as discharge planning and connection to social welfare services).

Similar discussions are ongoing in areas beyond maternal care. For example, in the USA, the Hospital Readmission Reduction Program (HRRP), initiated in 2013, penalises hospitals with high risk-adjusted 30-day readmission rates for some medical conditions and surgical procedures.¹⁸ This programme has been criticised for not accounting for SES in its risk adjustment model, given that individuals with lower

SES generally have higher adjusted 30-day readmission rates than those in higher SES groups.¹⁹ To overcome this problem, the HRRP started to classify hospitals into five levels based on the percentage of patients with Medicaid dual-eligibility in 2019 following the implementation of the 21st Century Cures Act and compare hospital performance within each group of hospitals.²⁰ Furthermore, regardless of whether adjusted for SES or not in the statistical model, presenting overall patient outcomes may obscure hospital-level variations in the quality of care for socially disadvantaged populations. For example, even though a hospital looks good in terms of patient outcomes as a total, it does not necessarily mean that the quality of care for a socially disadvantaged population is good if the hospital has a low proportion of such a population. To 'unmask' the healthcare disparities among socially disadvantaged populations, the National Quality Forum has proposed having each hospital present quality measures stratified by SES.¹⁷

Here, it is important to note that SES can be measured in multiple ways, including income, educational attainment and Medicaid dual-eligibility status. Ultimately, which SES indicators should be considered and whether to adjust for them may be evaluated on a case-by-case basis, depending on the outcome measures and their empirical relationship with the SES indicators. The study by Sakai-Bizmark *et al* shed light on the potential importance of using housing status as an additional indicator of SES besides income related to postpartum hospital revisits. Future research is warranted to understand whether collecting information on housing status and presenting both risk-adjusted overall estimates and estimates stratified by housing status and other indicators of SES improves insight in overall quality of care delivered and also more specifically for underrepresented socioeconomic groups.

CONCLUSION

It appears that homeless pregnant women who have delivered a baby experience fewer hospital readmissions and lower ED revisit rates than housed women in New York, which seemingly contradicts prior studies that suggested poorer health outcomes for homeless women.^{6 12} A better understanding of the reasons for this finding—whether homeless pregnant women fare better than housed women or whether their health outcomes are just unobserved—is critically important to learn how to appropriately provide high-quality pregnancy and delivery care for homeless women. Pregnant and postpartum homeless women are clearly among the most vulnerable groups in our society, and efforts should continue to shed light on their health problems and access to health and social services.

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