

Impact of Medicaid Managed Care, Race/Ethnicity, and Rural/Urban Residence on Potentially Avoidable Maternity Complications: A Five-State Multi-level Analysis

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Executive Summary

BACKGROUND AND OVERVIEW

Complications of pregnancy affect the lives of many women and infants. Previous research has suggested that some pregnancy complications affecting mothers during delivery hospitalizations may also be associated with inadequate prenatal care. Prior research has also found that African Americans are at higher risk of pregnancy-related complications than are non-Hispanic whites (hereafter whites), and that women receiving Medicaid benefits are at higher risk of pregnancy-related complications than those with private insurance. Previous work has yielded mixed findings about pregnancy outcomes by area of residence, and for women enrolled in Medicaid managed care (MMC) and Medicaid fee-for-service (MFFS).

This study examines pregnancy-related complications using Potentially Avoidable Maternity Complications (PAMCs) as an indicator of access. PAMCs were defined by an interdisciplinary team of experts on access to health services and health disparities. They are an indicator of access to prenatal care of reasonable quality, and of the healthy behaviors during pregnancy that should be promoted by successful prenatal care. The indicator is designed for use with large hospital discharge datasets.

The study analyzes pregnancy complication risks among women receiving Medicaid in two ways. First, we examine a large geographically diverse sample of women, using a sample of hospital discharge data from the Nationwide Inpatient Sample (NIS), part of the Healthcare Cost and Utilization Project (HCUP) of the Agency for Healthcare Research and Quality (AHRQ). The NIS provides inpatient hospital discharge data for 20% of U.S. community hospitals, from 28 participating states. This portion of the analysis focuses on the interaction between rural and urban hospital location, and mothers' race or ethnicity. Location is based on the delivery hospital; the NIS does not contain geographic residence information. Non MSA hospitals were defined to be rural. Next, the study examines the association of PAMC risks with:

- MMC versus MFFS
- Mothers' race or ethnicity
- County level MMC
- Rural or urban location.

This portion of the analysis uses data from California, Florida, Maryland, New York, and South Carolina. All data, except for those representing South Carolina, were from the Statewide Inpatient Databases (SIDs). The SIDs, also part of HCUP at AHRQ, provides 100% of inpatient hospital discharges in participating states. South Carolina data were obtained from the South Carolina Department of Health and Environmental Control. These states were selected because the data include payer information, which allows us to distinguish, among women receiving Medicaid, those who were enrolled in MMC and those who received care through MFFS, as well as race and ethnicity. The state level analysis includes two populous states, California and New York. These states include sizable groups of racially and ethnically diverse women, and include rural and urban areas.

In all state-level analyses, rural counties were defined as those with no more than 20,000 residents, not adjacent to metropolitan areas. In Florida, New York, and South Carolina, rural was defined by the mothers' area of residence. In Maryland, where individuals' residence

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counties were not known, rural was defined by the county of the delivery hospitalization. In the California data, neither patient nor hospital location was available.

KEY NATIONAL FINDINGS

- Mothers delivering in rural hospitals had lower PAMC risks than those with urban deliveries (adjusted odds ratio, OR, 0.78, CI 0.62-0.99). This was the expected finding, because mothers with high PAMC risks are likely to be directed to urban hospitals.
- In rural hospitals, African American women had greater PAMC risks than white women (adjusted OR 1.72, CI 1.26-2.36). This suggests notable prenatal care access barriers for rural African Americans.
- In urban hospitals, adjusted PAMC risks were substantially lower for Hispanics and Asians than for whites (OR .51, CI 0.43-0.61, OR 0.32, CI 0.18-0.55, respectively).

KEY STATE-LEVEL FINDINGS

Rural/Urban Differences:

- There were no notable PAMC risk differences between residents of rural and urban areas.

Medicaid Managed Care (MMC) and MMC Penetration:

- In no instance was MMC associated with higher PAMC risk.
- In Maryland and New York, MMC reduced PAMC risks:
 - Women in MMC had lower PAMC risk than women in MFFS (adjusted OR=0.44, CI 0.39-0.50 for Maryland; adjusted OR=0.77, CI 0.67-0.89 for New York).
 - Greater MMC penetration was associated with reduced PAMC risk for women enrolled in MMC: for each 1% penetration increase, PAMC risks were reduced by 0.83% in Maryland, and by 1.07% in New York.

Race and Ethnicity:

- For African Americans, adjusted PAMC risks were higher than for whites in four of the five states: California (OR 1.20, CI 1.07-1.35), Florida (OR 1.14, CI 1.07-1.22), Maryland (1.23, CI 1.09-1.39), and New York (OR 1.68, CI 1.48-1.92).
- For Hispanics, adjusted PAMC risks were notably lower than for whites in three states: California (OR 0.43, CI 0.43-0.51), Florida (OR 0.71, CI 0.64-0.78), and Maryland (0.40, CI 0.31-0.51).

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- For Asians, adjusted PAMC risks were substantially lower than for whites in the four states with a sufficient number of Asian mothers: California (OR 0.55, CI 0.46-0.66), Florida (0.39, CI 0.17-0.87), Maryland (OR 0.51, CI 0.30-0.85), and New York (0.57, CI 0.43-0.77).
- South Carolina data provided rich information about individual characteristics. African Americans in South Carolina were much more likely than whites to be unmarried, disabled, living in poverty, to have diabetes or hypertension, and to live in a rural area. After controlling for these and other risk factors, the adjusted odds of a PAMC did not differ between African Americans and whites. Nonetheless, because of their greater prevalence of notable risk factors, African American South Carolinians are at much higher risk of pregnancy complications than are women in other groups. The greater prevalence of PAMC risk factors among African Americans in South Carolina suggests that unadjusted results provide the more reasonable foundation for policy development.

POLICY RECOMMENDATIONS (SEE DISCUSSION IN CHAPTER 5)

Our results support the following recommendations:

- The Secretary of the Department of Health and Human Services (The Secretary) should direct the Centers for Medicare and Medicaid Services (CMS) to encourage the enrollment of pregnant Medicaid beneficiaries into managed care. Managed care should include outreach, case management, management of major chronic diseases, and special focus on risk factors among women in vulnerable groups and their providers, including: cultural competency of prenatal care providers; case management and other forms of support; transportation to prenatal care providers; health care home visits; and, faith-based interventions focused on healthy lifestyles.
- The Secretary should direct CMS to monitor Medicaid deliveries in MMC and MFFS, to identify contractors who do not appear to be referring appropriately. Policymakers and practitioners should develop guidelines for practitioners in rural areas that will improve rates of referral to urban hospitals for women with high PAMC risks. Practitioners should be monitored and potential sanctions developed.
- The Secretary should direct the Health Resources Services Administration to expand Healthy Start in rural areas. Currently only about 10% of Healthy Start programs are in rural areas. Greater access to Healthy Start, particularly for vulnerable women, may reduce pregnancy complications.

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RECOMMENDATIONS FOR FURTHER RESEARCH

- Conduct additional state-level analyses of the impact of MMC penetration on pregnancy complications, using the PAMC indicator.
- Evaluate outcomes of expanding access for at-risk mothers to Healthy Start, Community Health Centers, and other innovative initiatives using the PAMC indicator.
- Perform further analyses of race and ethnicity and PAMC risks, focusing on specific subgroups among Hispanic and Asian women, e.g., Cuban Americans, Mexican Americans, Japanese Americans, and Chinese Americans. Another analysis should examine PAMC risks for American Indians. Studies such as these can help to identify groups that might particularly benefit from expanded prenatal care outreach.
- Conduct quantitative analyses of state and county level Medicaid programs, to examine possible differential selection processes between women in MMC and MFFS.
- Develop guidelines to help rural providers direct women at high risk of pregnancy complications to urban hospitals, which are better equipped to manage complications.

