

Local budgets may cause severe consequences for maternal outcomes in New Jersey

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Life-threatening outcomes of labor and delivery are associated with the amount of funding municipal governments spend on services ranging from fire protection and ambulance to parks, recreation and libraries, according to a new Rutgers study that found better maternal outcomes in the northern part of New Jersey.

The study, published in the *JAMA Network Open*, examined birth and hospital discharge records to assess the extent to which local [spending](#) on public services is associated with women suffering from severe maternal morbidity.

"We've known little about how municipalities' spending patterns are related to their residents' [health](#) until now," said lead author Felix Muchomba, an assistant professor at the Rutgers School of Social Work. "For instance, our findings suggest that more public health spending can increase healthcare resources available to the community that in turn could improve maternal health, and that more spending on libraries, which are many people's sole access to the internet, can

provide education or [health information](#) that could lead to better health outcomes."

The researchers analyzed more than one million [birth records](#) from 2008-2018 in all New Jersey municipalities. They linked each birth record to the mother's hospital discharge records from any inpatient hospitalizations at the time of delivery or within six weeks after giving birth. They also looked at U.S. Census bureau data on overall municipal spending in the mother's municipality of residence as well as spending specifically on education; public health; fire and ambulance services; parks, recreation and natural resources; housing and community development; public welfare; police; transportation; and libraries.

What they discovered was that with each additional \$1,000 spent per capita in these categories, the odds of having a bad maternal outcome—such as heart failure, kidney failure, cardiomyopathy and needing a blood transfusion—fell by 35 percent to 67 percent. Each year as many as 60,000 women in the United States experience unexpected outcomes during labor and delivery.

More spending on police, however, did not have the same positive association with better maternal outcomes, according to the study. In fact, it had a negative association. While more research is needed to determine why, the authors of the study point to modern models of policing, which use a preemptive approach that involves more frequent interactions with civilians, which can be stressful and traumatic and have adverse health effects. Higher police spending could also reflect an underinvestment in services that promote maternal health, they said.

The study also found better maternal outcomes in the northern part of the state than in the southern

region, with some exceptions like Newark (339.2 cases per 10,000 births). The rate ranged from 107.5 cases per 10,000 births (Westfield) to 378.5 cases (Bridgeton) per 10,000 births—more than two and a half times the rate the Centers for Disease Control and Prevention reports for the nation overall.

According to the data, the lowest rate of severe maternal morbidity (107.5) is only 36.5 cases lower than the national estimate, a surprising figure considering New Jersey has one of the highest median incomes and lowest poverty rates in the U.S.

Muchomba, who is also an associate faculty member at Rutgers' Institute for Health, Health Care Policy and Aging Research, says surveillance at the municipal level would be crucial for targeting resources that address maternal illnesses and death. Understanding differences in maternal outcomes at finer geographic levels can help identify problem areas as well as potential buffering and exacerbating factors.

Nancy E. Reichman, a study co-author and professor of pediatrics at Rutgers Robert Wood Johnson Medical School, said, "Our research provides important information for policymakers interested in improving [maternal health](#) in New Jersey by pinpointing problem areas and identifying types of municipal spending that appear to be important, such as spending on health, transportation and housing. This information has the potential to greatly benefit women in the state."

More information: Municipality-level variation in severe maternal morbidity and association with municipal and association with municipal expenditures in New Jersey, *JAMA Network Open* (2021). jamanetwork.com/journals/jamanetworkopen.2021.35161

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