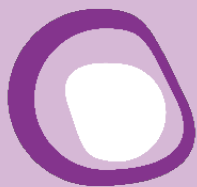


# Research Shows that Women with Disabilities Experience Severe Maternal Morbidity (SMM) at Higher Rates than Nondisabled Women

By: Madeline Crowley  
May 2025



National Center for  
**Disability &  
Pregnancy Research**

**Brandeis**

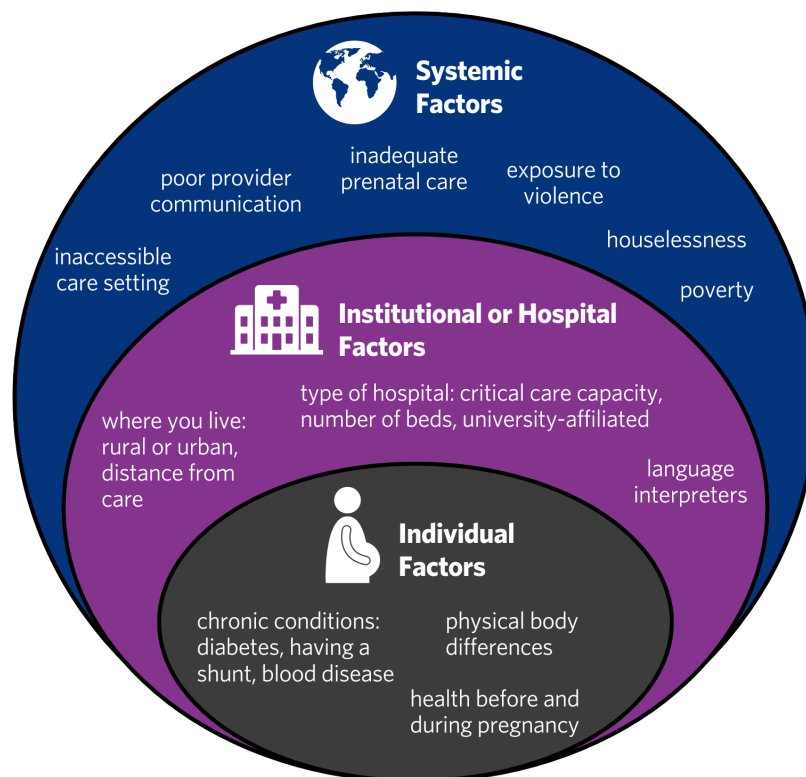
THE HELLER SCHOOL  
FOR SOCIAL POLICY  
AND MANAGEMENT

Lurie Institute for Disability Policy

# Introduction and Background

## What is Severe Maternal Morbidity?

Pregnant women with disabilities can experience serious negative health outcomes during pregnancy, labor and delivery, or after childbirth. Severe maternal morbidity (SMM) is a term used to describe unexpected negative health-related problems that can happen during or after giving birth. Some examples of health-related problems include cardiac arrest (the heart stops pumping), sepsis (blood infection), and hypertensive disorders (very high blood pressure). Different factors, such as personal health status, hospital access, and societal and environmental factors (like where you live and how close you live to a hospital), can impact the severity of SMM.



**Figure 1:** Multiple Levels of Factors that May Increase Risk of SMM.

This figure shows the many factors that can overlap to increase someone's risk for SMM. Research finds that the more adverse factors women with disabilities experience, the higher risk they are at for SMM. These factors are sometimes called "social determinants of health."

- **Systemic Factors** are societal issues that are out of someone's direct control. Some systemic factors listed in the figure include inaccessible care settings, poor provider communication, poverty, inadequate prenatal care, and exposure to violence. Experiencing one or more systemic factors increases the likelihood of SMM.
- **Institutional or Hospital Factors** are features of a hospital that impact how a person accesses care. Depending on where someone lives, in a rural or urban setting, they may have to drive far to get to a hospital or care provider. The type of hospital matters, too, like whether it has a critical care capacity to handle life-threatening issues. Other hospital factors that may determine someone's care experience are the size of the hospital and if it is affiliated with a university.
- **Individual Factors** are the specific health status of a pregnant woman with a disability. These factors can include chronic health conditions like diabetes or having a shunt, bodily or physiological differences, and preconception health and health during their pregnancy.

## Why Did the Researchers Do this Study?

The researchers wanted to learn if the risk for SMM varied for women with different types of disabilities compared to nondisabled women. This is different from other research because this study focused on how specific disability types may influence risk for SMM. The purpose of this research was to learn if there are specific steps that can be taken to reduce the risk of SMM in women with disabilities.

## What The Researchers Did

The researchers used national hospital data on deliveries (births) and delivery-related complications from 2016 to 2021. During those five years, there were 4,331,457 delivery hospitalizations. These included 128,413 (3%) hospitalizations to women with disabilities.

The researchers sorted these delivery hospitalizations into the following mutually exclusive six categories based on the women's disability type:

1. Vision only
2. Hearing only
3. Physical only

4. Intellectual/Developmental only
5. Psychiatric only
6. Multiple Disabilities

The researchers found differences in the health status and hospital access of women with and without disabilities.



Women with intellectual and developmental disabilities, psychiatric disabilities, and multiple disabilities were more likely to **live in ZIP code areas with lower median household incomes**. This means that, on average, women from these three disability groups were more likely to be poorer than their nondisabled counterparts.



Women with any disability had higher rates of **public health insurance** compared to women without disabilities. This makes sense as Medicaid covers care for many disability healthcare services. However, Medicaid coverage varies by state, which may affect the type of care disabled women get.



Women with vision disabilities or multiple disabilities were more likely to **deliver in large hospitals**, compared to women without disabilities.



Women with any disability, regardless of type, had higher rates of **deliveries in urban teaching hospitals** compared to women without disabilities.



Except for women who had hearing disabilities, women with all other types of disabilities, including those with multiple disabilities, were more likely to have **high blood pressure**, compared to nondisabled women.



Women with vision disabilities or multiple disabilities also had higher ratios of **pre-existing diabetes and BMI of 40 or higher** compared to their nondisabled counterparts.



Women with physical disabilities, intellectual or developmental disabilities, psychiatric disabilities, or multiple disabilities had higher rates of **substance use disorder** compared to women without disabilities.

These disability type-specific findings are important.

As shown in Figure 1, poverty, chronic health conditions, and where you live may increase the risk of SMM. Because disabled women are more likely to experience many of the individual, hospital, and systemic factors associated with adverse pregnancy-related outcomes, disability status and disability type may increase the risk of SMM during labor and delivery.

### Comparing Population Groups: Adjusting the Data

The researchers then investigated the risk of SMM among the six disability groups. To see if there were differences in the risk for SMM complications between disabled women and nondisabled women, the researchers had to organize the data. This is a research process called adjustment.

Through adjustment, researchers try to isolate variables, like disability status and type, that may influence birth outcomes. Statistical adjustment is a way of comparing groups. This means that researchers compared deliveries to women with and without disabilities who were the same age, had similar household income levels, and lived in the same zip codes. This method can help us to better understand the outcomes we observe.

## **What they learned**

### **Disabled women experience a higher risk for SMM compared to nondisabled women**

Overall, women with disabilities had a significantly higher risk of SMM during labor and delivery compared to women without disabilities. Out of 10,000 deliveries observed in the data, 396 disabled women experienced SMM, compared to 177 nondisabled women.

Additionally, when the researchers looked at the type of adverse events that were reported in the medical record, they found that women with disabilities were more likely to experience heart and breathing complications than women without disabilities.

### **The risk of SMM varies by disability type**

Not all women with disabilities experienced the same risk for SMM. Among women with different disabilities, women who were blind and women with physical disabilities had the highest risk of SMM compared to women without disabilities.

## **Take-Aways**

This study gives us more information about the risk of SMM based on disability status and type. The study also helps us to better understand personal, economic, and environmental factors that may affect birth outcomes among women with disabilities.

The findings from this study suggest that women with disabilities are more likely to experience factors associated with increased risk for SMM.

It should be noted that *many women with disabilities can and do have healthy pregnancies and deliveries*. However, further research and increased awareness of the risks pregnant women with disabilities may experience are needed to improve disabled women's pregnancy-related health outcomes.

## Suggestions to Support Change



Women with disabilities may face barriers to getting timely and good prenatal care, which is the care you get before having a baby. Prenatal care is important because doctors can help identify and manage potential issues during labor and delivery. Improving access to good prenatal care for disabled women is crucial.



Doctors, nurses, and other healthcare workers should learn more about how to provide care for people with disabilities during pregnancy and birth.



Policymakers should know about the potential for adverse birth outcomes in women with disabilities and how their likelihood of having pre-existing chronic conditions impacts healthcare outcomes.



Women with disabilities face challenges that can impact their pregnancy outcomes, such as less social support and unemployment. Increased attention to mitigating these issues could improve pregnancy-related experiences and outcomes for all women, but especially for women with disabilities.

## Credit

Akobirshoev, I., Vetter, M., Horner-Johnson, W., Lomerson, N., Moore Simas, T. A., & Mitra, M. (2024). Severe Maternal Morbidity by Disability Status and Type in the United States. *O&G Open*, 1(3), 027. <https://doi.org/10.1097/og9.0000000000000027>

## Funding

Research reported in this publication was supported by the National Institute on Disability, Independent Living, and Rehabilitation Research under Award Number 90DPHF0011. The content is solely the responsibility of the authors and does not represent the policy of NIH, NICHD, NIDILRR, ACL, or HHS, and you should not assume endorsement by the Federal Government.

## How to Cite This Brief

Crowley, M. (2025). Research Shows that Women with Disabilities Experience Severe Maternal Morbidity (SMM) at Higher Rates than Nondisabled Women. National Center for Disability and Pregnancy Research, Brandeis University, Waltham, MA.

## Contact



Visit our website: [DisabilityAndPregnancy.org](https://DisabilityAndPregnancy.org)



Follow us on social media: [Instagram.com/DisabilityPregnancy](https://Instagram.com/DisabilityPregnancy) or visit [linktr.ee/LurieInstitute](https://linktr.ee/LurieInstitute)



Email us: [Disability-Pregnancy@Brandeis.edu](mailto:Disability-Pregnancy@Brandeis.edu)