

# Linking Datasets to Address Racial Equity in Maternal and Child Health Outcomes

## Background

Racial disparities in maternal and child health outcomes impact populations across the United States. Having robust data to understand these disparities may inform more comprehensive initiatives and policies that address the impacts and root causes of inequities.

Looking at administrative datasets, such as hospital discharges and vital records, allows health professionals to monitor inequities by racial and ethnic communities. Often not captured in these data, however, is the complex interaction of social determinants—such as access to social support, racial discrimination, insurance coverage throughout pregnancy and postpartum, and access to paid family and medical leave—and their impact on health outcomes.

Public health surveillance systems monitor these outcomes and aim to answer questions on a broad range of contextual experiences. These systems can be combined with administrative data through data linkage, “a process that [matches records representing the same person](#) or entity derived from different data sources in order to generate new and more comprehensive datasets.” These linkages can help identify areas for [patient-centered outcomes research](#) and inform policy recommendation and programs that address maternal and child health disparities across racial and ethnic groups.

The [maternal mortality rate](#) for Black birthing parents was 69.9 deaths per 100,000 live births in 2021—2.6 times that of non-Hispanic white-birthing parents. [Infant mortality in 2019](#) exhibited similar trends, with a rate of 10.6, 8.2, and 7.9 deaths per 1,000 live births for non-Hispanic Black, Native Hawaiian or other Pacific Islander, and American Indian or Alaska Native live births, respectively. Black birthing parents are also at higher risk for [severe maternal morbidity](#), preeclampsia, and intensive care unit admissions during pregnancy.

## State Approaches to Data Linkages

### Linking Vital Records with Income Data

#### *California*

In a recent working paper on [maternal and infant health inequities in California](#), researchers linked administrative vital records with parental income data. This research found that “infant and maternal health in Black families at the top of the income distribution is markedly worse than that of White families at the bottom of the income distribution.” Linking vital records, a source that typically does not capture income information, with data sources that do, provided a novel and robust dataset illuminating the exacerbated disparities experienced by racial and ethnic minorities at all income levels.

### Using PRAMS to Monitor Health Outcomes

The [Pregnancy Risk Assessment Monitoring System \(PRAMS\)](#) allows jurisdictions to monitor various maternal and infant health indicators before, during, and after pregnancy. As one of the [few public health surveillance systems](#) collecting data on race-related experiences and discrimination, it also provides a better understanding of disparities among racial and ethnic groups. As part of ASTHO’s [Linking PRAMS and Clinical Outcomes Data Multi-Jurisdiction Learning Community](#), two state teams

from Massachusetts and Georgia used data linkage of PRAMS to explore racial disparities in maternal and child health outcomes.

#### *Massachusetts*

The Division of Maternal and Child Health Research and Analysis at the **Massachusetts Department of Public Health** linked PRAMS data with the [Pregnancy to Early Life Longitudinal Data System \(PELL\)](#), a data system linking birth files to hospital discharge records that can be later used to link hospital-based service records, [data on early intervention services](#), and other data documenting maternal and infant health experiences beyond birth.

Previously, both PRAMS and PELL data informed Massachusetts's 2022 report from the [Special Commission on Racial Inequities in Maternal Health](#), which provided policy-related recommendations on doula workforce development and equitable implementation of paid family and medical leave within the state. Sarah Stone, PhD, MPH, the director of the Massachusetts Office of Data Translation, notes that linking PRAMS, which provides insights into the social determinants shaping people's experiences during pregnancy, with the more administrative data included in PELL can further inform additional evidence-based initiatives to address inequities in maternal mortality and severe maternal morbidity.

#### *Georgia*

At the Maternal and Child Health Section of the Division of Epidemiology in the **Georgia Department of Public Health**, linkages between PRAMS and Georgia Vital Record data can provide insight into the [observed differences in health outcomes](#) among the state's diverse population. Jenna Self, MPH, Georgia's PRAMS project director and health surveys team lead, explains that "the linkages will help explore the association between maternal postpartum behaviors and negative infant health outcomes (e.g., mortality, hospitalization, emergency department visits) with the goal of understanding the health disparities" to inform future equity-focused initiatives. The development of a linked data environment will allow the Georgia Department of Public Health to ask and answer previously time and resource prohibitive questions.

## Recommendations

Data linkage can be a powerful tool to create enhanced datasets that better inform state initiatives to improve racial equity in maternal and infant health outcomes. To use data linkages that identify areas needing equitable public health efforts, states should:

- Build and strengthen cross-collaborative relationships within and between various state agencies owning the datasets to facilitate data sharing.
- Consider the racial equity impacts of performing data linkages by exploring research questions that lead to more evidence-based decision-making. Understanding the linked data using a racial equity lens can better inform equitable policy recommendations and programmatic planning.
- Examine which data sources, when linked, could fill in gaps of understanding and provide a wealth of information to identify disparities and point to specific gaps in quality healthcare.

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