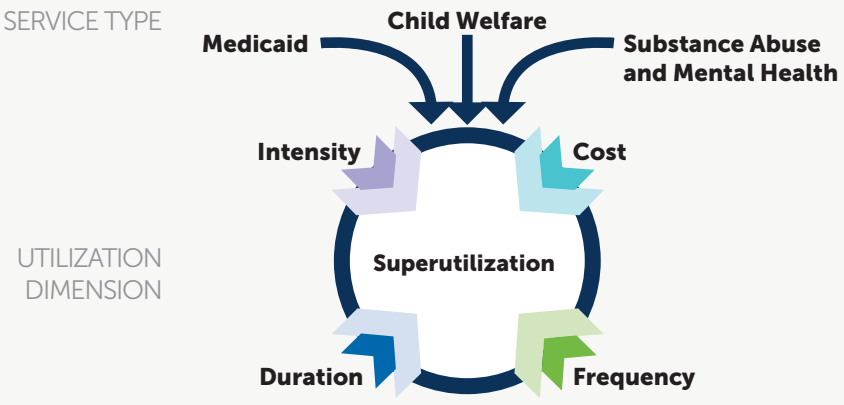
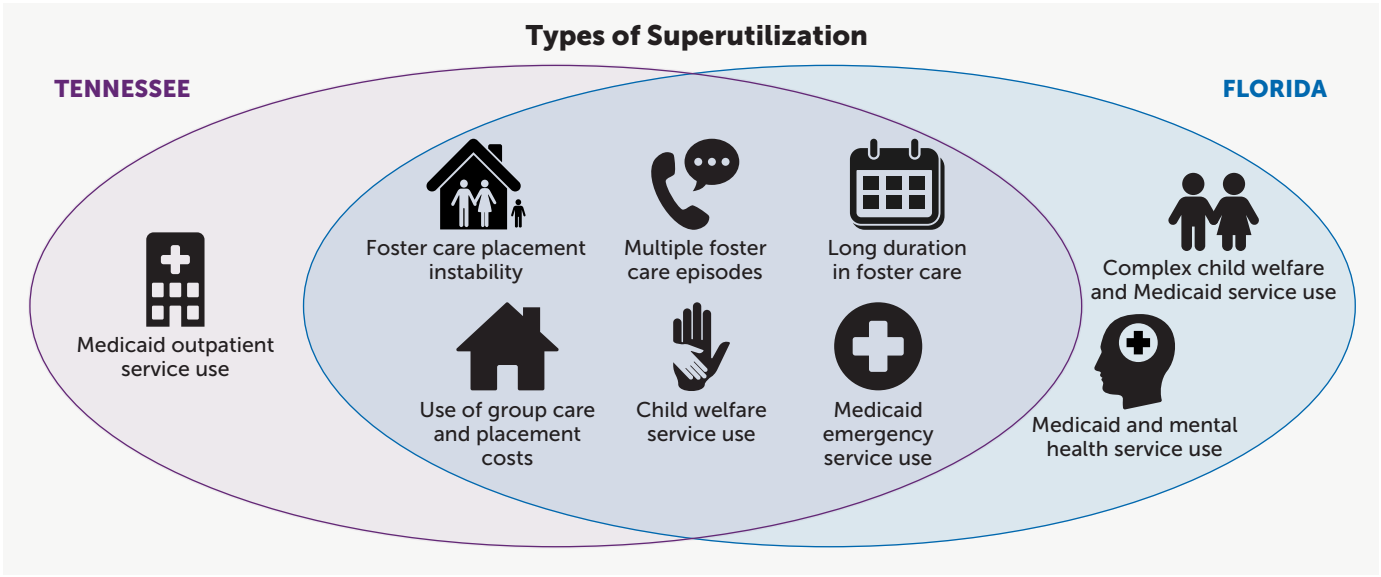
Helping States Use Linked Administrative Data and Advanced Analytics to Better Serve Children and Families

Children and families involved with the child welfare system often have an acute need for health, mental health, substance use treatment, and other services to ensure a safe and nurturing home environment. Better understanding these complex and intertwined needs can help child welfare agencies work with and support families to ensure that they receive the right support at critical junctures. A recent study by Casey Family Programs and Mathematica Policy Research demonstrated the potential of linked administrative data and advanced analytics to uncover insights about child welfare and health care services to identify actionable strategies to improve the lives of the children and families in the child welfare system.

The study used linked administrative data from child welfare and Medicaid from two sites: (1) the state of Tennessee and (2) the three-county region of Hillsborough, Pasco, and Pinellas counties in Florida. For Florida, the administrative data included other substance abuse and mental health services. The use of cross-system linked administrative data in both sites provided a rich set of data on service use for children in the child welfare system.

Mathematica researchers linked administrative data from child welfare, Medicaid, substance abuse, and mental health services to identify areas of high use of services, or superutilization, among children in foster care. By looking at frequency, duration, intensity, and costs of services, they were able to measure superutilization across multiple dimensions, which provided a more nuanced understanding of service use among children in foster care.





Using advanced data analytics, Mathematica researchers identified several types of superutilization. Tennessee and Florida had many similar and a few distinct types of superutilization.

The project team also identified the most important predictors of one type of superutilization, specifically high numbers of foster care placement moves—or placement instability—which can be detrimental to children's well-being. The most important predictors at time of entry into out-of-home placement were similar across sites and included child welfare factors (child's age, number of prior child welfare investigations, and length of stay in prior foster care episodes) and prior Medicaid service use (outpatient physical health services, outpatient behavioral health services, and emergency physical health services). In Florida, important predictors also included prior non-Medicaid substance abuse and mental health service use. The results are key to understanding what factors known at time of entry in foster care contribute to a high risk of placement instability and to spotting those factors early enough to provide at-risk youth with the support and services needed to prevent frequent moves.

The results also demonstrate the potential power of leveraging data across systems, which states could more readily use to assess and improve service delivery.

MORE INFORMATION ABOUT STUDY FINDINGS

The study findings are available as an executive summary and technical report on Mathematica's website: https://www.mathematica-mpr.com/our-publications-and-findings/projects/super-utilizers-of-child-welfare-and-other-services.

A web-based summary of the findings is available on the following Casey Family Programs website: https://www.casey.org/building-the-bridge/.

USING LINKED DATA AND ADVANCED ANALYTICS

If your state or local child welfare agency is interested in leveraging linked administrative data, using advanced analytics, or conducting a similar study to understand high use of services, please contact Elizabeth Weigensberg, at EWeigensberg@mathematica-mpr.com or (312) 585-3287 at Mathematica Policy Research.

Mathematica is a national leader in policy research. Their staff draw on extensive knowledge of policies and programs to design and implement analytics and improvement solutions that maximize the power of data. Mathematica's approach to working with child welfare agencies starts with collaboration; uses technology to create efficient solutions; and leverages staff with expertise in child welfare, data quality, and innovative methods.

Mathematica can help child welfare agencies to:

- Assess and improve child welfare data quality through planning, monitoring, and reporting
- Conduct data linking and advanced analytics with innovative methods to provide actionable information for decision making
- Provide program improvement support to identify strategies to overcome challenges and achieve better child welfare outcomes
- Evaluate the effectiveness of child welfare reforms, programs, and policy changes