

Hospital care patterns vary greatly for children with complex medical issues

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Although children with high health care needs represent a small percentage of the overall pediatric population, they account for a large percentage of pediatric health care costs, including up to 40% of pediatric hospital charges. In recent years, there has been more information available about the medical care received by these children, but generally studies have been limited to care provided in hospital settings.

Researchers at The Dartmouth Institute for Health Policy and Clinical Practice and Dartmouth's Geisel School of Medicine recently published a unique study in the *Journal Pediatrics* that examines nearly the entire population of children with medical complexity in three states—Maine, New Hampshire and Vermont. They found significant differences across the hospitals providing care in inpatient days, outpatient visits, emergency room visits and diagnostic tests. Where children receive care strongly influences the type and quantity of care provided, even after controlling for patient age, diagnosis, and other factors.

For example, the care for children with medical complexity differed across the region's three children's hospitals. Patients cared for in one northern New England children's hospital spent almost twice as many days in the intensive care unit compared to a similar children's hospital in a different city. The number of x-rays, including CT scans with relatively high doses of radiation varied by more than 50% among the children's hospitals. Similar differences were found for other diagnostic tests.

"The data from studies using these methods could be used to evaluate cost-savings and care management programs for this group of high need patients," said first author, Shawn Ralston, MD, MS associate professor of pediatrics at Geisel.

In the study, Ralston and co-authors David Goodman, MD, MS, Wade Harrison, MPH, and Jared Wasserman, MS, of The Dartmouth Institute, also reported that several groups have described improving the management of such patients clustered around specialized children's hospitals—each reporting some measure of cost savings program. One group further described their experience of moving the locus of care into the community hospitals, achieving further cost savings and potentially improving the patient experience.

Although national data indicate that the number of children with medical complexity has grown substantially over in recent decades (likely due to increased newborn survival), current understanding of the [health care](#) utilization patterns has been limited in two important ways. First, the overwhelming majority of previous studies focused on the care of children already in hospitals. This study is the first to report on the difference chances that an entire population of these children receive care in hospitals as compared to outpatient settings. There also had been little attempt to study the variation in care across hospitals and health systems to better understand the quality, [costs](#) and intensity of services.

The Dartmouth study, which was funded by The Charles H. Hood Foundation, included children ages 30 days to 18 years with medical complexity residing in Maine, New Hampshire and Vermont for the period from 2007 to 2010. Patient information was derived from the commercial all-payer claims database and the Medicaid claims databases from each of the three states. The study included patients from one freestanding children's [hospital](#), three children's hospitals within larger academic medical centers and two regional hospitals.

According to the researchers, the study highlights the need for identifying best practices for this growing patient population in order to identify opportunities to improve quality and reduce costs in the care of [children](#) with medical complexity.

More information: [pediatrics.aappublications.org ...
09/29/peds.2014-3920](https://pediatrics.aappublications.org/doi/10.1177/09/29/peds.2014-3920)

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