Growing Evidence for Successful Care Management in Children With Medical Complexity

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The last decade has heralded strategies to identify the population of children with medical complexity (CMC), quantify the striking magnitude of CMC health care costs, and document and address their unmet needs. Although dedicated programs designed to better coordinate CMC care (ie, “complex care”) have materialized rapidly, the rate of program growth has outpaced the generation of evidence for their effectiveness. Observational and uncontrolled studies have consistently suggested that complex care may lower costs by reducing hospital use; however, 2 randomized controlled trials have yielded mixed results. The discrepancies in these randomized controlled trials introduce uncertainty about the anticipated cost savings from complex care programs around the country, whereas the array of distinct complex care program models creates ambiguity about how health systems and policymakers should promote implementation.

In this month’s issue of Pediatrics, Bergman et al report findings from the Coordinating All Resources Effectively (CARE) learning collaborative, which sought to transform 10 children’s hospital complex care programs and 42 referring primary care pediatrician practices across the United States. Using the Institute for Healthcare Improvement’s Breakthrough Series Collaborative model, local teams implemented 4 key change concepts: (1) family-driven “dynamic care teams,” (2) shared plans of care, (3) access plans that included individualized contingency planning for acute concerns, and (4) patient registries for population management.

Between 2015 and 2017, sites enrolled a convenience sample of 8096 CMC (defined by Clinical Risk Group categories 5b–9). Using statistical process control and propensity-matched analyses, the authors observed significant reductions in hospital and emergency department use and corresponding reductions in annual total, inpatient, and emergency department spending (4.6%, 7.7%, and 11.6%, respectively) during the collaborative. Perhaps as expected, the cost in both groups decreased over the study period; however, the CARE group reductions were larger despite simultaneous increases in pharmacy and home health spending. CARE’s geographic reach and the corresponding racial, ethnic, and cultural diversity of the CMC involved support the generalizability of these findings.

The painstaking efforts required for collaboration and data sharing across the CARE network not only are commendable but also advance the complex care field by adding another link in the growing evidence chain for complex care programs and lower cost of CMC care. The pragmatic nature of this study makes it its contribution particularly unique; Bergman et al demonstrate that “common sense”
actions may demonstrably decrease the total cost of care for CMC, a finding that apparently translates to both dedicated specialty programs and traditional primary care clinics. By embedding activities within a learning collaborative, clinicians retained flexibility to operationalize the workflows for their local context. The creation and sharing of a summary of health conditions, a list of who to call when and for what, and step-by-step instructions to address acute illness or changes from baseline presumably contributed to the successful management of CMC at home rather than in acute care settings.

It is worth noting that a learning collaborative design imposes some inherent scientific boundaries, and it will be valuable to view these results alongside those from the large multisite randomized controlled complex care trial currently underway in Ontario. Despite a rigorous propensity-matching process in the CARE collaborative, observable baseline differences existed between eligible and enrolled (and enrolled and matched) CMC. This underscores the need for research to clarify motivators for complex care referral, enrollment, and retention. With respect to changes in acute care use, children likely respond to complex care models in different ways. By extension, what complex care achieves and how it achieves it for any given child is likely not uniform in cross section or over time.

To more completely understand the influence of interventions on the total cost of CMC care, future economic analyses should account for the cost of family-delivered care at home (person-hours) and determine if that changes with complex care enrollment; the analyses should also account for the potential effects on parent employment or workforce re-entry. Whether certain CARE sites achieved similar activities with more efficiency could be an informative corollary in future work. Additionally, if CMC spend less time in the inpatient setting, understanding the effect on health systems may not be straightforward in that it can be both challenging for systems in traditional payment arrangements and beneficial in risk-sharing alternative payment models.

As the concept of value from complex care evolves, inclusion of noncost outcomes will be important. In their recent work, Bergman et al take an important step on a long journey toward better understanding the nuances and tools needed to optimize health and intelligent spending for CMC. CARE continues to light the path forward for investigating strategies that have a positive impact on this important population.

ABBREVIATIONS
CARE: Coordinating All Resources Effectively
CMC: children with medical complexity

REFERENCES


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