Children's Hospital of Philadelphia PolicyLab

Association of a Targeted Population Health Management Intervention with Hospital Admissions and Bed-days for Medicaid-enrolled Children

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As the proportion of children with Medicaid coverage increases, many pediatric health systems are searching for effective strategies to improve management of this high-risk population and reduce need for inpatient resources. OBJECTIVE: To estimate the impact of a targeted population health management intervention for Medicaid-eligible children on hospital admissions and bed-days. DESIGN: Difference-in-differences. SETTING: Academic pediatric health system with 31 in-network primary care practices. PARTICIPANTS: Medicaid-enrolled children ages 0-18 who received care at the health system's hospital and primary care practices. EXPOSURES: Targeted deployment of integrated team interventions on behalf of a primary care network, each including electronic medical record registry development and reporting alongside a common longitudinal quality improvement framework to distribute workflow across interdisciplinary providers. Registry and reporting tools allowed for timely identification of high-risk patients with increasing healthcare utilization and triggered proactive medical and care management across inpatient and outpatient settings. MAIN OUTCOMES AND MEASURES: Trends in inpatient admissions and bed-days (per month per 1000 beneficiaries) from January 1, 2014-June 30, 2015 (pre-implementation period), compared to July 1, 2015-June 30, 2017 (post-implementation period). RESULTS: In-network patients experienced a reduction of 0.39 admissions (95% CI: (-0.68,-0.10); p=0.009) and 2.20 bed-days (95% CI: (-3.49,-0.90); p=0.001) per 1,000 beneficiaries per month compared to out-of-network patients. Accounting for disproportionate growth in medically complex children who were in-network to the health system experienced a monthly reduction in admissions of 0.54 per 1,000 beneficiaries (95% CI: (-0.95,-0.13); p=0.01), and the reduction in bed-days of 3.25 per 1,000 beneficiaries (95% CI: -5.04,-1.46; p=0.001) compared to out-of-network patients. CONCLUSION AND RELEVANCE: A population health management approach providing targeted integrated care team interventions for children with medical and social complexity within a primary care network had a large aggregate effect on service utilization compared with an out-of-network comparison group. Standardizing the work of teams with quality improvement methods and integrated information technology tools may provide a scalable strategy for health systems to mitigate risk from an increasing population of Medicaid-eligible children.

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