

**Children with Medical Complexity in Oregon’s Patient-Centered Primary Care Home Program:
Cost and Utilization in the First Three Program Years
Summary for PCPCH Program Network**

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The medical home concept was developed initially for children and youth with special health care needs (CYSHCN).² CYSHCN require more health and related care than other children, and experience more health care disparities.³ Children with Medical Complexity (CMC) are a sub-population of CYSHCN who are particularly vulnerable and account for a disproportionate share of health care costs across the pediatric population.⁴ Based on the 2016 PCPCH Program evaluation,⁵ the Oregon Center for Children and Youth with Special Health Needs explored the service utilization and care cost for CMC (ages 21 years and younger). We analyzed data extracted from Oregon’s All Payers All Claims data for the first three years of PCPCH implementation and used the Pediatric Medical Complexity Algorithm (PMCA) chronic complex disease criteria to identify CMC.⁶

Expanding primary health care reform efforts to address the unique needs of children generally, and of those with medical complexity specifically, would benefit all Oregonians. Our findings suggest that innovation and improvement in health care quality and financing initiatives to support receipt of care in a medical home can reduce costs of care for CMC.

6.8% (74,254) of Oregon children and young adults (ages 21 years and younger) experienced medical complexity.

- Of these, two in five (43%) were completely privately insured.
- Similar proportions of children living in frontier (6.1%), rural (6.7%), and urban (6.9%) areas experienced medical complexity.

Although CMC comprised only 9.5% of all those continuously insured (aged 21 years and younger) in Oregon, they were responsible for 44% of total costs for that population.

CMC cared for in a recognized PCPCH (all three tiers) showed a 10.1% reduction in overall per-person expenditures, as compared to those who received primary care in a non-PCPCH recognized practice.

- These reductions in expenditures extended across primary care, specialty care, and pharmacy costs.
- Inpatient care expenditures per user were reduced by 34.6%.
- Cost reductions for CMC were not due to decreases in service utilization.
- The probability of service use for CMC served in both PCPCHs and non-PCPCHs in rural and urban areas was largely unchanged.

Our findings describe CMC who were insured, used health care services, and were served in primary care during the study time frame. The primary limitation of our exploratory study is the lack of a valid indicator of care quality. A second key limitation of our study is that we had to exclude claims data from a large Oregon health system due to concerns about the reliability of the data submitted by them during the study timeframe.

¹OCCYSHN is Oregon’s public health agency for children and youth with special health care needs. We partnered with Dr. Neal Wallace, OHSU-PSU School of Public Health, to analyze the APAC data. For more information, contact Dr. Alison Martin, martial@ohsu.edu.

²Berenson, R.A., Hammons, T., Gans, D.N., Zuckerman, S., ... & Williams, A.F. (2008). A house is not a home: Keeping patients at the center of practice redesign. *Health Affairs*, 27(5), 1219-1230.

³Abdi, F.M., Seok, D., & Murphey, D. (2020). *Children with special health care needs face challenges accessing information, support, and services*. Washington, DC: Child Trends.

⁴Cohen, E., Berry, J.G., Camacho, X., Anderson, G., Wodchis, W., & Guttmann, A. (2012). Patterns and costs of health care use of children with medical complexity. *Pediatrics*, 130(6), e1463-e1470. Neff, J.M., Sharp, V.L., Muldoon, J., Graham, J., & Myers, K. (2004). Profile of medical charges for children by health status group and severity level in a Washington state health plan. *Health Services Research*, 39(1), 73-89.

⁵Gelmon, S., Wallace, N., Sandberg, B., Petchel, S., & Bouranis, N. (2016). *Implementation of Oregon’s PCPCH Program: Exemplary practice and program findings. Final Report*. Portland, OR: Portland State University.

⁶Simon, T.D., Cawthon, M.L., Stanford, S., Popalisky, J., Lyons, D., ... & Mangione-Smith, R. (2014). Pediatric medical complexity algorithm: A new method to stratify children by medical complexity. *Pediatrics*, 133(6), e1647-e1654.