

Mental Health Disorders in Medicaid-Enrolled Children with Complex Chronic Physical Health Conditions

Becker, J.E., Rodean J., Berry J.

Massachusetts General Hospital, Boston Children's Hospital, Harvard Medical School, Children's Hospital Association

The authors have no conflicts of interest to disclose.

Background

- Recent evidence suggests increased rates of psychiatric disease in adults with chronic medical conditions, which is associated with higher healthcare utilization and costs.
- Less is known about this comorbidity in children, despite the majority of serious mental illness presenting by age 14.
- While psychiatric comorbidity is known for certain pediatric disease entities, such as diabetes, cystic fibrosis, and epilepsy, little is known about the burden of mental illness across pediatric chronic, complex medical conditions more generally.

Objectives

- To measure the prevalence of mental health conditions (MHCs) in children with chronic complex physical conditions (CCCs).
- To assess the most common MHCs for particular CCCs.
- To assess variation in MHCs across the categories of CCCs.

Methods

- We used the 2016 IBM Watson Medicaid MarketScan database, a large, multistate claims database, to perform a retrospective, cross-sectional analysis of all inpatient, outpatient, and retail pharmacy utilization for youth age 3-18 continuously enrolled for at least 11 months in 2016.
- Medical and mental health diagnoses were categorized by ICD-10 codes.
- Descriptive analyses were performed to identify the comorbidity of medical and mental health diagnoses in the population.

Results

- The sample included 4,341,289 children, of whom 227,014 (5.2%) had a physical complex chronic condition (CCC).
- Among CCC patients, 41.5% (n = 94,200) had any mental health diagnosis, compared with 17.6% (n = 799,424) of non-CCC patients.**
- Every mental health condition was more common (ranging from 1.9-16.5 times more prevalent) in the CCC population than in the non-CCC population.**
- In the CCC population, the highest rate of mental health diagnosis was in those with a neonatal CCC (67.8%), and the lowest was in those with a Hematological/Oncological (32.3%) or Malignancy (33.2%) CCC.
- Suicide attempts were 6.5 times more likely in the CCC population than in the non-CCC population (1.3% vs 0.2%).**

Results

Table 1. Cohort Demographics for the Subset of Patients with CCCs.

Characteristics		No MHC (%) N = 132,794	MHC (%) N = 94,220
Age (years)	3-8	29.1	28.3
	9-12	25.0	25.2
	13-18	45.9	46.6
Race	White	46.9	55.6
	Black	30.6	23.1
	Hispanic	9.6	5.0
	Other	3.7	2.1
	Missing	9.3	14.2
Male		48.1	56.2
Capitated Plan		63.9	54.3

Figure 1. Prevalence of Mental Health Conditions by CCC Status.

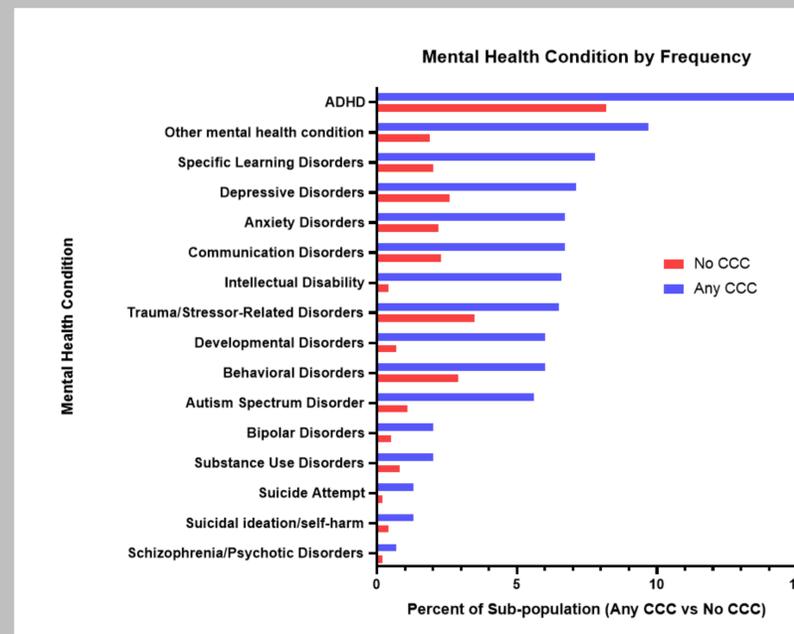
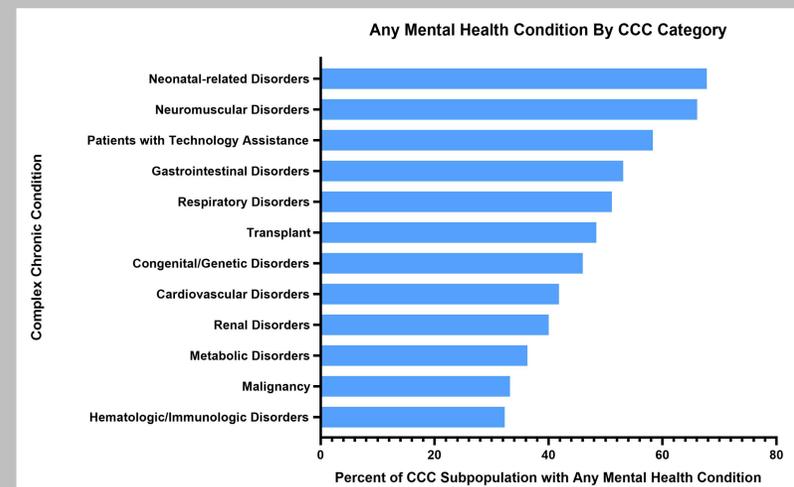


Figure 2. Prevalence of Mental Health Disorders by CCC Category.



Results

Figure 3. Prevalence of Mental Health Disorders by CCC Category.

CCC Body System	Three Most Prevalent Mental Health Conditions		
Congenital/Genetic	ADHD	SLD	Com
Cardiovascular	ADHD	Dep	Anx
Gastrointestinal	Dev	ID	SLD
Hematologic/Immunologic	ADHD	Traum	Com
Malignancy	ADHD	Anx	Traum
Metabolic	ADHD	Dep	Traum
Neonatal-related	Dev	SLD	Com
Neuromuscular	ID	SLD	ADHD
Renal	ADHD	SLD	Dev
Respiratory	Dev	SLD	ID
Technology-assisted	Dev	ID	SLD
Transplant	Suic	Traum	ADHD

Legend:

ADHD: Attention-Deficit/Hyperactivity Disorder; **Anx:** Anxiety Disorders; **Com:** Communication Disorders; **Dev:** Developmental Disorders; **Dep:** Depressive Disorders; **ID:** Intellectual Disability; **SLD:** Specific Learning Disorders; **Suic:** Suicide Attempt; **Traum:** Trauma and Stressor-Related Disorders

Conclusions

- Our study demonstrates a significant burden, more than twice the prevalence, of psychiatric illness among children with CCCs compared to those without.
- ADHD was the most prevalent mental health condition among all CCCs.
- There were high rates of trauma- and stress-related disorders in patients with cardiovascular disease and transplants in particular, suggesting a need for close monitoring in this subpopulation.
- We found relatively low rates of mental health conditions among pediatric oncology patients, which may suggest that systematic implementation of mental health care in these patients has been beneficial.
- Our study's limitations include that it is cross-sectional and examining only the Medicaid population.
- However, our findings take a first step in understanding the comorbidity of psychiatric and physical illness in children in a systematic way.

Future Directions

- To further understand the effect of co-occurring medical and psychiatric disease on the healthcare system, we will look at healthcare costs and utilization in this cohort.