
Assessing the Child Mental Health Physician Workforce in a Time of Crisis: Patterns of Physician Delivered Mental Health Services for Youth

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Background

In October 2021, the American Academy of Pediatrics, the American Academy of Child and Adolescent Psychiatry, and the Children’s Hospital Association declared a national emergency in child and adolescent mental health.¹ These organizations explained that this crisis stemmed from the dual adversity of the COVID-19 pandemic and the struggle for racial justice. Indeed, studies have found increases in pediatric visits for suicidal ideation or attempts beginning in March 2020, demonstrating the escalating mental health needs of children and adolescents.^{2,3} Among minoritized youth, Black and rural-dwelling children have similar or higher mental health needs than their White and urban-dwelling counterparts, respectively.⁴ Even more troubling are data that suggest that the child and adolescent mental health crisis stretches back further in time. In 2019, more than 1 in 3 high school students reported persistent feelings of sadness or hopelessness, a more than 40% increase from 2009.⁵

In their declaration, the professional societies above called for accelerated strategies to address longstanding workforce challenges in child mental health.¹ Limited access to child mental health services stemming in part from shortages of child mental health professionals have long been recognized.⁶ However, compared to adults, far less is known about how child and adolescent mental health access is related to modifiable policies, such as insurance reimbursement, or how access differentially affects demographic and diagnostic groups.^{7,8} Better understanding patterns of pediatric mental health service use can inform efforts to improve provider distribution, training, integrated care models, and insurance barriers. As such, this study used a national data set identify key trends and disparities in use of office-based physician services for pediatric mental illness.

Methods

The National Ambulatory Medical Care Survey (NAMCS) from 2005 to 2019 as used to characterize pediatric mental health treatment delivered by physicians. The NAMCS is yearly survey of non-federally employed office-based physicians who are primarily engaged in direct patient care. Physicians are surveyed about themselves, their practice characteristics, and about their visits. The survey data can be weighted to produce nationally representative estimates. Data from Community Health Centers is only available for some survey years so these data were excluded for consistency. Further, the 2017 survey was also excluded from all analyses as this data was not made available for analysis because of data processing issues.

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This analysis focused on pediatric mental health visits, defined as those where the patient was between 4 and 17 years old. Mental health visits were identified based on physicians ICD-9 or ICD-10 mental illness diagnosis codes if they were among the first three diagnoses addressed at the visit. The research team grouped diagnoses into broad diagnostic categories, namely adjustment, anxiety, mood, developmental, conduct-related, substance use, and psychotic disorders. Next, analyses were conducted to identify whether visits were performed by primary care providers (PCP) or psychiatrists, though physician specialty data was only available until 2016.

Demographic trends in pediatric mental health visits using descriptive statistics weighted to produce nationally representative estimates are described. Bivariate tests to compare differences between groups included t-tests, chi-squares tests, and ANOVAs.

Key Findings

Among all pediatric office-based physician visits, 9.2% addressed mental illness from 2005 to 2011 (Table 1). This figure increased to 13.4% from 2012-2019, a 46% increase (Table 1). These findings are consistent with other researcher showing increasing use of mental health services by children and adolescents,⁹ likely reflecting increasing pediatric mental health needs.⁵

Table 1. Trends in the Percentage of Visits that Address Mental Health 2005-2019

	2005 - 2011	2012 - 2019	p-value
Overall	9.2 (8.4, 10.1)	13.4 (11.9, 15.0)	<0.0001
Sex			
Male	11.7 (10.5, 13.0)	16.0 (14.2, 17.8)	0.0001
Female	6.6 (5.9, 7.3)	10.8 (9.0, 12.5)	<0.0001
Age			
4-12	8.6 (7.6, 9.6)	11.3 (9.8, 12.7)	0.0028
13-17	10.3 (9.3, 11.4)	17.1 (14.8, 19.5)	<0.0001
Race/Ethnicity			
NH White	10.1 (9.0, 11.1)	14.6 (12.8, 16.4)	<0.0001
NH Black	10.3 (8.1, 12.4)	12.3 (9.6, 15.0)	0.2402
Hispanic	5.8 (4.7, 6.9)	10.6 (8.1, 13.0)	0.0006
NH Other	7.0 (4.7, 9.4)	12.9 (7.8, 17.9)	0.0389

The largest relative increases were among visits for female, adolescent, and Hispanic patients. Non-Hispanic black patients were the only demographic group without a statistically significant increase in visits. Compared to non-mental health pediatric visits, pediatric mental health visits were more likely to involve patients who were male, non-Hispanic white, adolescent aged, and urban dwelling (Table 2). These results stand in contrast to evidence that Black and rural-

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dwelling children have similar or higher mental health needs than their white and urban-dwelling counterparts, respectively.⁴ There is similarly evidence that girls more often report persistent sadness or hopelessness, poor mental health, and suicidal ideation than boys.⁵

Table 2: Characteristics of visits by whether mental health was addressed 2005-2019

	No Mental Health	Mental Health	p-value
Sex			<0.0001
Male	50%	63%	
Female	50%	37%	
Age			<0.0001
4-12	64%	56%	
13-17	35%	44%	
Race/Ethnicity			<0.0001
NH White	65%	71%	
NH Black	11%	11%	
Hispanic	19%	13%	
NH Other	6%	5%	
Rurality of Patient Residence			<0.0001
Urban	87%	81%	
Rural	13%	13%	

From 2005 to 2015, there was a decrease in the percentage of mental health visits performed by PCPs and an increase in the percentage of mental health visits performed by psychiatrists (Table 3). In 2005-2008, PCPs accounted for 60% of pediatric mental health visits. However, this percentage fell to 47% by 2013-2015—a shift that may be the result of an increasing concentration of child psychiatrists in the U.S., despite evidence of persistent shortages nationally.¹⁰

Table 3. Trends in the percent of pediatric MH visits delivered by psychiatrists vs primary care providers

	2005 - 2008	2009 - 2012	2013 - 2015	p-value
Primary Care	59.7	61.3	47.0	0.0325
Psychiatry	34.4	34.5	42.6	
Other	5.9	4.2	10.4	

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Over 60% of psychiatrists treating pediatric mental illness were in the Northeast and West, compared to only 43% of PCPs treating pediatric mental illness (Table 4). Approximately 94% of psychiatrists treating children were in metropolitan areas, compared to 86% of PCPs. Compared to PCPs, psychiatrists less often accepted private insurance or Medicaid as forms of payment.

Table 4. Differences in Practice Characteristics among Physicians Treating Pediatric Mental Health 2005-2016

	Primary Care	Psychiatrist	p-value
Census region of physician practice			
Northeast	16.4	29.6	<0.001
Midwest	24.8	16.1	
South	34.3	25.2	
West	24.4	29.0	
Physician practice in MSA?			
No	14.4	5.6	<0.001
Yes	85.5	94.4	
Accepting any new patients?			
No	5.8	10.4	0.007
Yes	94.2	89.6	
For new patients, physician accepts: Private insurance			
No	5.6	29.0	
Yes	94.4	71.0	<0.001
For new patients, physician accepts: Medicaid			
No	25.5	53.8	<0.001
Yes	74.5	46.2	

In all, study findings found evidence of increasing child pediatric mental health service by office-based physicians. However, these services were disproportionately distributed away from demographic groups with known high mental health needs. Though findings identified increasing relative use of specialty mental health services, psychiatrists were highly geographically concentrated and had relative low rates of insurance acceptance, further demonstrating persistent access barriers for disadvantaged and minoritized groups.

Discussion and Policy Implications

Study findings reflect national trends in the increasing rate of child mental health needs. Continued disparities in mental health care access persist with office-based physician mental health services disproportionately delivered to non-Hispanic White, urban-dwelling males. PCPs are critical to the delivery of mental health care for youth, particularly in certain geographic areas of the US and in non-urban settings. These findings are consistent with studies that have explored physician service patterns in adults.¹¹ There is an increase in the proportion of youth mental health services delivered by psychiatrists—showing a promising trend in a growing psychiatrist workforce. Yet, psychiatrists were less likely to accept Medicaid and private insurance. These results point to persistent access barriers to specialized pediatric mental health treatment, necessitating policy solutions to extend the reach or alter the distribution of these services. Continued investment in collaborative care and tele-consultation models can support PCPs in delivering mental health care. Focused effort on incentivizing psychiatrists' participation in insurance and Medicaid is needed, possibly through ensuring adequate reimbursements for psychiatrists, who received lower Medicaid payments than PCPs in some states.¹² Further increasing the distribution of psychiatrists in the US via targeted loan forgiveness initiatives and other incentives is needed to bolster specialty mental health service delivery for youth.

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