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The Influence of Health Insurance on Parent's Reports of Children's Unmet Mental Health Needs

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Abstract *Objective* The purpose of this study was to examine the prevalence of unmet mental health needs in children identified by parents as having long-term emotional and behavioral problems, to identify the characteristics of these children, and to evaluate the influence of health insurance status and type on the odds of reporting unmet mental health needs. *Methods* We used the National Survey of Children with Special Health Care Needs (NSCSHCN) to estimate the prevalence of unmet mental health needs among children with long-term emotional/behavioral conditions. Using logistic regression models, we also assessed the independent impact of insurance status and type on unmet needs. *Results* Analyses indicated that of the nearly 67% of children who needed mental health care or counseling in the previous 12 months, 20% did not receive it. Moreover, parents of uninsured children were more likely to report unmet mental health needs than insured children. Parents of children covered by public health insurance programs (Medicaid, Children Health Insurance Program-CHIP, Title V, Military, Native American) were less likely to report unmet mental health needs than those with children covered by private health insurance plans. *Conclusion* Results from this study suggest a need for expansion of health insurance coverage to children especially those with long-term mental health conditions. It also suggests a need for parity between mental and physical health benefits in private health insurance.

Keywords Mental health · Special health care needs · Unmet need · Medicaid · Children's Health Insurance Program

Abbreviations

CSHCN	Children with special health care needs
CHIP	Children's Health Insurance Program
EDB	Emotional, development, or behavioral
FPL	Federal poverty level
NSCSHCN	National Survey of Children with Special Health Care Needs

Introduction

Childhood is typically thought of as a joyful, unburdened time in life, but for many children chronic mental health conditions can severely lower quality of life for children and their families. Obtaining appropriate and adequate mental health services for children can be a difficult, if not impossible, task for many American families resulting sometimes in relinquishing legal custody of their children to states in order to gain Medicaid coverage [1]. The National Survey of Children with Special Health Care Needs (NSCSHCN) found that nearly 13% of U.S. children, or 9.4 million children [2], have special health care needs, defined by the Maternal and Child Health Bureau as those who "have or are at increased risk for a chronic physical, developmental, behavioral or emotional condition and who also require health and related services of a type or amount beyond that required by children generally"

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[3, 4]. One in five U.S. households with children has at least 1 child with a special health care need [2].

Descriptive statistics compiled from the National Survey of Children with Special Health Care Needs (NSCSHCN) show that 28.7% of the 13% of children were reported by their parents as having an emotional, developmental or behavioral problem defined as using or needing to use treatment or counseling for an emotional, developmental, or behavioral problem (EDB) [2]. Estimates of behavioral health problems from three studies of children ages 12–17 indicate that roughly 20% of youths experience such problems [5–7]. Figures on exactly how many children suffer from an EDB condition vary by age and by level of impairment from minimum to severe. The Methodology for Epidemiology of Mental Disorders in Children and Adolescents Study estimated that almost 21% of U.S. children ages 9–17 had a diagnosable mental or addictive disorder associated with at least minimum impairment [8]. It is quite possible that these estimates are low since there is still a stigma attached to mental health disorders. Getting those needs for mental health services met can be a challenge for even affluent families.

Previous Literature

Previous studies agree that children who are insured have greater access to health care services in general than uninsured children [9–16]. Other studies have analyzed the role of Medicaid and SCHIP in providing access to care for children in general or for those with special health care needs (not sub samples of children with specific conditions) [17, 18]. These studies found that poor children covered by Medicaid or SCHIP had better access to a usual source of care, fewer unmet health needs (medical, dental, medications and eyeglasses and mental health), and more physician contacts than poor uninsured children. A recent study found that CSHCN who were uninsured compared to those who were insured were statistically more likely to report that their mental health care needs were unmet [19]. These studies support the argument that uninsured children are the most vulnerable for unmet health needs including mental health. This research moves the previous literature forward by focusing only on children with special health care needs that have been identified as having long-term emotional and behavioral disorders. This strengthens the analysis by eliminating from the sample those children with short term episodic mental health needs. This research also focuses on testing whether private or public health insurance lowers the risk for unmet mental health need with a full discussion of policy implications specific to these findings.

Various studies examined unmet mental health needs at pre and post-enrollment into CHIP and found that lower unmet mental health needs after enrollment into a CHIP program [20–25]. In an analysis [26] of three nationally representative household surveys fielded in 1996–1998: the National Health Interview Study, the National Survey of American Families, and the Community Tracking Survey it was found that a higher percentage of children covered by public insurance had utilized mental health services (9–13%) than did uninsured children (4–5%) and privately insured (5–7%). These studies support the findings of this study that children insured by public health insurance programs are less likely to have unmet mental health needs than are children insured by private health insurance programs.

Mental Health Benefits

Historically mental health care benefits have been substantially more restricted than coverage for general physical health care [27–29]. "Typical mental health coverage consists of thirty inpatient days per year and twenty outpatient visits with 50% cost sharing" [30]. Another distinguishable difference between the treatment of mental health and physical health conditions is the existence of a "large, publicly funded and state-directed system of mental-health care" [28]. The Medicaid population includes most persons with several mental illness [28]. Private insurance typically pays for limited mental health benefits. When a person has a severe mental illness that is prolonged and severe they often end up on permanent disability making them eligible for Medicaid. This leads to gaps in coverage for others with less severe mental health conditions [28]. For children with emotional and behavioral problems that only minimally affect their lives private insurance and managed care programs may provide sufficient services. However for children with extensive treatment needs they may not receive all needed services unless they are a part of the public health insurance system such as Medicaid or the Children's Health Insurance Program. However even these programs vary by state in terms of the breadth and depth of treatment available for mental health conditions. Further research is needed to better understand state by state comparisons of CHIP programs.

Methods

Study Design and Data Collection

We examined the association between several variables; insurance status and type (public vs. private) and parent reported unmet need for mental health services. This research goes further than previous research by analyzing a subset of children with special health care needs- those with long-term emotional or behavioral conditions [19]. No

previous research that we are aware of has examined the influence of insurance on this group of children who may be in need of long-term, consistent access to mental health services. Nor has any research analyzed access to mental health care or counseling for this specific sample of children. Previous research has analyzed either access to health care in general (medical home, usual provider, visit within the last year) or for a more general sample (all children, or all special health care needs children) but not a specific service (mental health care or counseling) for a specific sample (long-term emotional and/or behavioral conditions). This research does just that.

We utilized the Andersen health behavioral model to design our research methods. Andersen [31] and Andersen and Newman [32] laid out the first complete conceptual framework for health service utilization. The initial behavior model posited that health service utilization was determined by a combination of individual, and societal determinants, and health system characteristics. The individual determinants of use of health services was posited to be a combination of their inclination to use services (predisposing characteristics), reasons which facilitate or hinder use (enabling characteristics), and their need for care (illness level-perceived and evaluated) [33].

We controlled for additional variables in our study based on the Andersen health behavior model [33] including: (1) predisposing factors-gender, age, race/ethnicity (2) enabling factors-poverty, and mother's or caregiver's educational level, number of adults in the household and (3) need factors-severity of condition. We expect to demonstrate a negative association between unmet mental health need and being insured and a negative association between unmet need and being insured by public health insurance.

The health care status of the children in each household was determined using the Children with Special Health Care Needs (CSHCN) Screener. The CSHCN screener is a five item parent-reported survey based on the federal Maternal and Child Health Bureau definition of CSHCN. Parents are asked a series of 5 questions about a specific health consequence. If a parent responds yes to any of the questions then they are asked two follow-up questions about whether the consequence is attributable to a medical, behavioral or other health condition and whether the condition is expected to last at least 12 months [34].

Only children with positive responses to one or more of the health consequences items and each of the follow-up questions (attributed to a medical condition and lasting longer than 12 months) qualify as having a special health care need [34]. Households that contained one or more children with special health care needs had only one interview conducted for one randomly selected child. There are no multiple respondent households.

Sample

The NSCSHCN included a total of 196,888 household (372,174 children) screening interviews [35] resulting in 38,866 interviews with households that contained a CSHCN. Interviews were completed for 750 households with special-needs children in each state. The NSCSHCN is the first survey to provide nationally representative data on the prevalence of CSHCN [36]. It found that almost 12.8 percent of U.S. children have special health care needs (SHCN), and 20 percent of households with children include at least one child with a SHCN [2]. Older children, boys, and non-Hispanic white and black children had higher prevalence rates [4]. Families in poverty, after adjusting for demographic factors, were found to be more likely to have a child with SHCN [4].

The sample for this study included 10,675 children who were identified in the screener interview as using or needing the use of treatment or counseling for an EDB condition that has lasted or is expected to last longer than 12 months. Of the 10,675 children, 7237 needed mental health care or counseling in the previous 12 months. This further narrows the sample of children down to those who were suffering from an emotional or behavioral condition. Most likely the parents of those children with developmental problems answered that the child did not need mental health care or counseling in the previous 12 months. Using this subsample of children strengthens the focus of this study on children with long-term EB conditions rather than including children experiencing episodic events that may require short-term mental health services. Our interest is focused on children who are severely affected by mental illness and who need long-term mental health treatment.

Variables

We defined mental health need as those children whose parents reported a need for mental health care or counseling in the previous 12 months ($N = 7237$, 67%). The 2001 NSCSHCN only examines a parent's report of the consequences of health conditions and not the diagnosis or condition itself. It is also important to note the survey instrument assesses parental perceptions only of need for treatment. Parental reports are still considered reliable and valid measurements of children's need but it is important to note this survey does not include an independent needs assessment [37, 38]. Unmet mental health need was defined by a parent's response to the following question: "Did (child) receive all the mental health care or counseling that he/she needed?"

We operationalized two enabling factors (insurance status and type) as follows: Insurance status (insured vs. uninsured) is operationalized as whether in the past

12 months the child was ever not insured. Those respondents who answered that the child was insured for the entire year were categorized as insured and those that were uninsured at some point in the year were categorized as uninsured even if they were only uninsured for one month. This follows the convention adopted by previous research [13, 15, 16] and presumes that children with gaps in insurance coverage are more at risk for unmet health service needs than those children who are covered for the entire year.

Health insurance coverage questions were asked with respect to the previous 12 months, creating some potential overlaps in type of coverage if the child changed types of coverage. Mutually exclusive categorical variables were created using the reported types of health insurance for those children who were insured for the entire previous 12 months. Our interest is in private insurance coverage versus public health insurance coverage. Four categories were created: private health insurance only, public health insurance only (Medicaid, SCHIP, Title V, Medicare, military, and/or Indian Health Service), combination of private and public, and other insurance (combining those who answered 'other' or 'unknown'). If a parent reported both private and public health insurance coverage categories at some time during the year then they were placed into the combined private and public category. This was also consistent with previous research [16].

Sociodemographic characteristics controlled for in this study included gender, age (0–5 years, 6–11, and 12–17), race/ethnicity (non-Hispanic white, non-Hispanic Black, Hispanic, and other), language (was the survey conducted in a language other than English), and mother/caregiver's education level (less than high school, high school education, more than high school education). Other variables controlled for included poverty level and family structure. Households were categorized as those with incomes below the federal poverty level, those between 100% and 200% of poverty, 201–399%, and at or above 400%. Marital status was not assessed in the NSCSHCN. Instead, the survey asked how many adults were living in the household. For this study a dichotomous variable was created identifying households with one adult and households with two or more adults.

Need factor due to the underlying mental health condition and its severity was operationalized using the following question: "Overall, how would you rank the severity of child's conditions or problems?" Parents were asked to pick a number between zero and ten where zero is the mildest and ten is the most severe. Following earlier research, this scale was collapsed into four categories where responses 0–3 = least severe, 4–5 = mildly severe, 6–7 = moderately severe, and 8–10 = most severe conditions [39].

Statistical Analysis

Analysis began with simple descriptive statistics. Multivariate analyses (i.e. logistic regression) was used to investigate the relationship between unmet mental health need and insurance status and type, while controlling for modifying effects. Possible confounders of the relationship between the main independent variable and unmet mental health need include covariates shown in previous studies to be significantly associated with unmet need, such as predisposing characteristics (age, gender, race, ethnicity, parental education, family structure), enabling resources (poverty level), and need factors (severity of condition).

Results

A complete description of the sample of children with a mental health need ($N = 7237$) can be found in Table 1. All estimates are weighted to reflect population characteristics and to be nationally representative.

What are the characteristics of children with unmet mental health needs?

Table 2 presents the descriptive statistics for the sample by the variable mental health need. In summary the sample of children with unmet mental health needs ($N = 1301$) were older rather than younger, were predominantly male, and white. Nearly half of children with unmet mental health needs had mothers with more than a high school education. Over 60% of them came from households with incomes below 200% of FPL and over 70% live in households with 2 or more adults present. Most of the children with unmet mental health needs had conditions rated as moderately severe or most severe. Twenty-six percent of them were uninsured at some point during the year compared to only 10.4% of the children with met mental health needs. Nearly equivalent percentages were covered by private and public health insurance only.

The children with met mental health needs ($N = 5865$) were also more likely to be older. There were more males than females and they were predominately white too. They were also mostly from families where the mother had more than a high school education and, they were living in households with higher incomes (nearly 60% were from households with incomes above 200% of the federal poverty level). They were also predominantly from households with two or more adults present (76.4%). The children tended to have milder (ranked as least severe or mildly severely) conditions (51.3% vs. 37.7%) than those with

Table 1 Description of sub-sample of children who needed mental health care or counseling in the previous 12 months ($N = 7237$)

Variable	*N* (%)
Age (in years)	
0–5	434 (6.0)
6–11	3016 (41.7)
12–17	3781 (52.3)
Sex	
Male	4735 (65.5)
Female	2499 (34.5)
Race	
White, non-Hispanic	5365 (74.6)
Black, non-Hispanic	668 (9.3)
Hispanic	634 (8.8)
Other race	524 (7.3)
Survey conducted in another language	
Yes	139 (1.9)
No	7048 (98.1)
Mother's education level	
Less than high school	747 (10.8)
High school graduate	1882 (27.2)
More than high school	4282 (62.0)
Poverty level	
Below 100% FPL	1349 (20.1)
Between 100 and 200% FPL	1741 (26.0)
201%–399% FPL	2196 (32.8)
At or above 400% FPL	1410 (21.1)
Family structure	
1 Adult	1775 (24.7)
2 or more adults	5410 (75.3)
Severity of condition	
Least severe (0–3)	1466 (20.4)
Mildly severe (4–5)	2146 (29.8)
Moderately severe (6–7)	2021 (28.1)
Most severe (8–10)	1565 (21.7)
Health insurance status	
Insured entire year	6222 (86.4)
Uninsured some point during previous year	983 (13.6)
Health insurance type	
Private only	3360 (49.2)
Public only	2188 (32.1)
Combination of private and public	954 (14.0)
Other insurance	323 (4.7)

unmet mental health needs. Nearly 90% of the children with met mental health needs were insured for the entire year with just over 50% covered by private health insurance and another 32% covered by public health insurance.

Bivariate analyses utilizing independent-samples *t*-tests and one-way between-groups analysis of variance were used to determine if there were significantly different rates of unmet mental health needs for the control and independent variables. Results revealed significant relationships between unmet mental health need and the independent and control variables (except for gender). However, the effect sizes were very small for all the variables except for poverty and insurance status (small to moderate effect). The highest percentages of variance explained were found for insurance status (2.3%) and for poverty (2.9%).

Logistic regression was used to analyze whether insurance status influences the prevalence of unmet mental health needs. The binary logistic regression model is used to estimate variables (for this question: insurance status and type) which influence prevalence of unmet mental health need while accounting for confounding and effect modification. The overall model ($N = 6234$) was significant with a chi-square value of 363.20 with 17 degrees of freedom and a *P*-value of 0.000. The results from this binary logistic regression model indicate that insurance status ($\chi^2 = 170.29$, 1df, $P = 0.000$) is significant. The adjusted OR for insurance status and prevalence of unmet mental health needs was 2.94 (95% CI, 2.50–3.46). In summary the results from this model indicate that being uninsured versus insured increases your likelihood of having unmet mental health needs by a factor of 2.94 thus supporting our hypothesis. Being uninsured makes you nearly 3 times more likely to have unmet needs.

Other variables that were significant predictors of unmet mental health needs and decreased the likelihood of having unmet mental health needs included being aged 6–11 years old versus 12–17 years old ($\chi^2 = 17.38$,1df, $P = 0.000$) of a higher socio-economic status versus below 100% of FPL (400%+ of FPL, $\chi^2 = 17.16$,1df, $P = 0.000$), and having a mother with a high school education versus more than a high school education ($\chi^2 = 4.42$,1df, $P = 0.035$). Other variables that were significant predictors of unmet mental health needs and increased the likelihood of having unmet mental health needs included being black versus white, non-Hispanic ($\chi^2 = 7.28$, 1df, $P = 0.007$), having only one adult in the household versus two or more adults ($\chi^2 = 6.035$, 1df, $P = 0.014$) and reporting a more severe condition versus the least severe, (most severe, $\chi^2 = 40.98$, 1df, $P = 0.000$).

The second logistic regression model explored the hypothesis that children covered by private health insurance only are more likely to have unmet mental health needs than children covered by public health insurance only. The overall model ($N = 5902$) was significant with a chi-square value of 165.03 and 19 degrees of freedom and a *P*-value of 0.000. The adjusted OR for public health insurance type and prevalence of unmet mental health needs was 0.79 (95% CI, 0.65–0.96). In

Table 2 Characteristics of children with met ($N = 5865$) and unmet mental health needs ($N = 1301$)

	Unmet mental health need *N* (weighted %)	Met mental health need *N* (weighted %)
Age (in years)		
0–5	98 (9.6)	329 (6.1)
6–11	469 (37.8)	2525 (45.5)
12–17	734 (52.6)	3005 (48.4)
Sex		
Male	850 (64)	3837 (64)
Female	451 (36)	2025 (36)
Race		
White, non-hispanic	891 (65.2)	4424 (71.1)
Black, non-hispanic	159 (18.9)	501 (12.6)
Hispanic	138 (10.1)	490 (11.1)
Other	100 (5.8)	417 (5.2)
Survey conducted in another language		
Yes	44 (3.9)	94 (2.3)
No	1257 (96.1)	5771 (97.7)
Mother's Education Level		
Less than high school	177 (19.8)	561 (16.4)
High school graduate	339 (34.5)	1521 (30.6)
More than High school	735 (45.7)	3511 (53)
Poverty level		
Below 100% FPL	305 (29.8)	1030 (17.9)
Between 100 and 200% FPL	394 (31.4)	1328 (23.6)
201%–399% FPL	356 (26.2)	1818 (32.3)
At or above 400% FPL	151 (12.7)	1255 (26.3)
Total adults in household		
1 Adult	380 (28.7)	1378 (23.6)
2 or more adults	915 (71.3)	4441 (76.4)
Severity of condition		
Least severe (0–3)	165 (10.1)	1295 (21.4)
Mildly severe (4–5)	346 (27.6)	1781 (29.9)
Moderately severe (6–7)	418 (32.8)	1580 (27.1)
Most severe (8–10)	365 (29.5)	1177 (21.7)
Insurance status		
Insured entire year	926 (74)	5241 (89.6)
Uninsured some point during previous year	365 (26)	604 (10.4)
Insurance type		
Private only	522 (41.8)	2810 (50.1)
Public only	407 (41.7)	1756 (32.3)
Combination of private and public	136 (12.1)	811 (12.3)
Other insurance	50 (4.4)	267 (5.2)

summary the results from this model indicate that being covered by public health insurance only versus private health insurance only makes it less likely that you will have unmet mental health needs by a factor of 0.79 thus supporting our hypothesis. The adjusted OR for a combination of public and private health insurance type and prevalence of unmet mental health needs was 0.65 (95% CI, 0.52–0.83) therefore, suggesting that even a combination of public and private health insurance versus private only provides a protection against unmet mental health needs.

One other variable was a significant predictor of unmet mental health needs and decreased the likelihood of having unmet mental health needs- being aged 6–11 years

versus being aged 12–17 years ($\chi^2 = 13.15$,1df, $P = 0.000$). Other variables that were significant predictors of unmet mental health needs and increased the likelihood of having unmet mental health needs included being black, non-Hispanic versus white, non-Hispanic ($\chi^2 = 6.35$, 1df, $P = 0.012$) having only one adult in the household versus two or more ($\chi^2 = 5.237$, 1df, $P = 0.022$) and reporting a more severe condition versus the least severe, (most severe, $\chi^2 = 43.710$, 1df, $P = 0.000$).

Tables 3 and 4 display the results for both logistic regression models.

Discussion

Summary of Findings

The results from these logistic regression models indicate that insurance status and type are significant. In comparison to insured children, uninsured children are nearly 3 times more likely to have unmet mental health needs. We also found that being covered by public health insurance only versus private health insurance only makes it about 20% less likely that you will have unmet mental health needs. We also found that children insured by a combination of public and

Table 3 Binary logistic regression results for the relationship between unmet mental health needs and insurance status (insured versus uninsured), demographic, socio-economic and severity of condition

Variable	B	Wald	df	*P*	Adjusted odds ratio	Lower CI	Upper CI
Health insurance status							
Insured entire year	1.08	170.29	1	0.000	Ref		
Uninsured some point					2.95	2.51	3.47
Age							
0–5 years old	0.01	0	1	0.959	1.01	0.77	1.32
6–11 years old	−0.3	17.39	1	0	0.74	0.64	0.85
12–17 years old					Ref		
Sex							
Male	−0.01	0.05	1	0.829	0.98	0.86	1.13
Female					Ref		
Race							
White, non-hispanic					Ref		
Black, non-hispanic	0.31	7.29	1	0.007	1.36	1.09	1.7
Hispanic	0.03	0.04	1	0.842	1.03	0.80	1.32
Other race	0.11	0.68	1	0.409	1.11	0.86	1.43
Survey in another language							
No					Ref		
Yes	0.34	1.76	1	0.184	1.40	0.85	2.30
Mother's education level							
Less than HS	−0.06	0.32	1	0.574	0.94	0.75	1.17
HS graduate	−0.17	4.43	1	0.035	0.84	0.72	0.99
More than HS					Ref		
Poverty level							
Below 100% FPL					Ref		
Between 100 and 200%	0.15	2.59	1	0.108	1.17	0.97	1.41
201%–399% FPL	−0.13	1.55	1	0.213	0.88	0.72	1.08
At or above 400% FPL	−0.53	17.17	1	0.000	0.59	0.46	0.76
Family structure							
1 Adult	0.19	6.03	1	0.014	1.21	1.04	1.41
2 or more adults					Ref		
Severity of condition							
Least severe (0–3)					Ref		
Mildly severe (4–5)	0.38	11.57	1	0.001	1.46	1.17	1.82
Moderately severe (6–7)	0.64	33.87	1	0.000	1.89	1.53	2.35
Most severe (8–10)	0.73	40.99	1	0.000	2.08	1.66	2.61

Table 4 Binary logistic regression results for the relationship between unmet mental health needs and insurance type (public, private, or a combination of public and private)

Variable	B	Wald	df	*P*	Adjusted odds ratio	Lower CI	Upper CI
Health insurance type							
Private					Ref		
Public	−0.23	5.54	1	0.019	0.79	0.65	0.96
Combination	−0.42	12.34	1	0.000	0.66	0.52	0.83
Other	−0.03	0.03	1	0.871	1.03	0.74	1.43
Age (in years)							
0–5	0.11	0.54	1	0.462	1.11	0.84	1.48
6–11	−0.27	13.16	1	0.000	0.76	0.65	0.88
12–17					Ref		
Sex							
Male	−0.02	0.06	1	0.803	0.98	0.85	1.14
Female					Ref		
Race							
White, non-hispanic					Ref		
Black, non-hispanic	0.30	6.36	1	0.012	1.35	1.07	1.70
Hispanic	0.09	0.49	1	0.484	1.10	0.84	1.43
Other race	0.21	2.46	1	0.116	1.23	0.95	1.59
Survey in another language							
No					Ref		
Yes	0.06	0.04	1	0.844	1.06	0.59	1.89
Mother's education level							
Less than HS	−0.06	0.26	1	0.61	0.94	0.73	1.20
HS graduate	−0.65	3.65	1	0.06	0.85	0.72	1.00
More than HS					Ref		
Poverty level							
Below 100% FPL					Ref		
Between 100 and 200%	0.02	0.04	1	0.832	1.02	0.83	1.25
201%–399% FPL	−0.33	7.88	1	0.568	0.72	0.57	0.90
At or above 400% FPL	0.78	29.12	1	0.345	0.46	1.03	1.42
Family structure							
1 Adult	0.19	5.24	1	0.022	1.21	1.03	1.42
2 or more adults					Ref		
Severity of condition							
Least severe (0–3)					Ref		
Mildly severe (4–5)	0.40	11.68	1	0.001	1.50	1.19	1.88
Moderately severe (6–7)	0.69	35.24	1	0.000	1.99	1.59	2.51
Most severe (8–10)	0.81	43.71	1	0.000	2.24	1.76	2.85

private health insurance are about 35% less likely to have unmet needs than those covered by private insurance only.

Limitations

Parental Report

Using parents to report on their perceptions of both need for mental health and whether the child had received all needed care can be both a strength and a limitation [15, 39]. The NSCSHCN provides the first attempt at a consumer-driven national measurement of perceived need for mental health care. However, parents may misreport need. The NSCSHCN does not provide the perspective of any other key players, especially health care providers, in measuring the extent to which CSHCN have a need for mental health services and whether or not there is unmet need. Other researchers have been concerned with this

limitation as it pertains to reporting whether or not a child had a medical home [40].

Traditionally in clinical and research work adults answer for children. The quality of the data is based on parental recall and accuracy in assessing health status. Even though the research suggests that parents may be able to more accurately report physical health functioning than emotional health functioning [37, 38, 41] there is no research that analyzes parent's ability to report need for specific health services. The NSCSHCN relies solely upon parental reports of need and this is a clear limitation to the data. In summary relying upon parents as proxy reporters of their children's health functioning and need for services may be somewhat problematic. However it seems necessary in a large-scale national survey such as the NSCSHCN. Also relying solely upon children, especially young children, to report on such complex health issues as emotional/behavioral/developmental problems could be potentially even more troublesome.

It has also been cited that parents may misreport insurance coverage [42]. One of the reasons for this may be respondent fatigue. The NSCSHCN interview was administered following the National Immunization Survey. The combined administration time was approximately 30–35 min. Fatigue may have led to misreporting insurance status and type [42]. This same study analyzed the rate of uninsured children in the full NSCSHCN and found that only 8.3% of all children (not just those identified as having SHCN) were uninsured, much lower than other surveys [42]. The design of the health insurance questions may be the cause of this lower uninsured rate [42]. It appears that the uninsured rate from child-level questions rather than household level questions is 31% lower [42]. Finally, some CSHCN are excluded from or underrepresented in the survey, including those in institutions, the homeless, and those in migrant populations [40] which would increase the rate of uninsured children.

Policy Implications

There are several policy implications of this study including several potential solutions to the system barriers that may impede access to mental health care for children. The first is extending health insurance coverage to uninsured children and the second is achieving parity of coverage for mental health benefits.

An ideal policy solution is to extend health insurance coverage to all children regardless of family income. In the United States steps towards universal care for children have taken place in the past several years through the creation of the Children's Health Insurance Program. A potential policy solution is to increase health insurance coverage under CHIP. CHIP, established in 1997 under the Balanced Budget Act of 1997, expanded health insurance coverage to low-income children who do not qualify for Medicaid. States have the flexibility in defining eligibility but generally provide coverage for children in families with incomes between 100% and 350% of the federal poverty level. Research is needed to determine which state's CHIP programs are resulting in increased utilization of mental health services [43]. Providing a more thorough array of mental health benefits under CHIP and expanding and standardizing eligibility across the states to 350% of FPL are potential policy solutions to meeting children's mental health needs. It's also important to note that enrollment procedures under CHIP need to be strengthened to be sure that all children who are eligible are receiving coverage.

An important implication of this study is the finding that public health insurance versus private health insurance lowered the risk of having unmet mental health needs thus indicating a limitation of private health insurance coverage. A proposed policy solution to this problem is mental health parity laws at the state or federal level that mandate equivalent coverage for mental health and physical health conditions. The first federal parity law passed in 1996 required private health insurance companies (with over 50 employees) to equalize their annual and lifetime limits on mental and physical health benefits [44]. In 2000 the General Accounting Office reports that while most employers complied with the law, 87% of them enacted other restrictions on mental health benefits such as limiting the number of outpatient sessions and inpatient days to substitute new barriers for those ruled out under the 1996 law [45]. In an effort to eliminate these new barriers federal legislation that would provide parity for mental health in outpatient sessions, inpatient days, co-payments, deductibles and maximum out-of-pocket expenses is needed [46].

Clinical Implications

Findings from this study inform clinical practice in several ways. The first implication to practice is the knowledge of the importance of health insurance. This includes making information about enrollment into public health insurance programs available to families in a variety of practice settings. CHIP provided health insurance for over 4 million children in 2005 [47]. One major problem is how to reach and enroll children. There is evidence that many uninsured children are actually eligible for public health insurance programs but are simply not enrolled [17, 48]. Health care providers can play an important role in providing enrollment materials to families and thus expanding access to mental health services.

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