

ORIGINAL RESEARCH

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PEER REVIEWED

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Subjects and measures

Study design and data

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Analysis

Table 1. Baseline Characteristics of Children With Chronic Physical Conditions, Medical Expenditure Panel Survey, 2008–2013

Characteristic ^a	Chronic Physical Conditions	Mental Disorder	No Mental Disorder	P Value
Total	4,640 (100)	609 (13.90)	4,031 (86.10)	.06
Mean age, y (SE)	10.98 (0.08)	11.73 (0.22)	10.86 (0.08)	<.001
Sex				
Male	2,714 (57.47)	407 (62.48)	2,307 (56.65)	.11
Female	1,926 (42.53)	202 (37.52)	1,724 (43.35)	
Race/ethnicity				
Hispanic	1,361 (19.03)	136 (13.17)	1,225 (19.98)	.004
Non-Hispanic white	1,526 (54.89)	253 (63.48)	1,273 (53.49)	
Non-Hispanic black	1,361 (18.44)	174 (16.20)	1,187 (18.80)	
Asian, non-Hispanic	183 (3.03)	14 (1.88)	169 (3.21)	
Other ^b	209 (4.61)	32 (5.27)	177 (4.51)	
Health insurance status				
Private	2,017 (59.02)	238 (58.24)	1,779 (59.15)	.76
Public	2,501 (37.99)	358 (39.40)	2,143 (37.76)	
Uninsured	122 (2.99)	13 (2.36)	109 (3.09)	
Poverty level ^c				
Poor	1,595 (21.67)	204 (21.22)	1,391 (21.74)	.99
Near poor	356 (5.46)	53 (5.72)	303 (5.41)	
Low-income	821 (16.17)	116 (16.58)	705 (16.10)	
Middle-income	1,095 (29.25)	140 (29.10)	955 (29.27)	
High-income	773 (27.45)	96 (27.38)	677 (27.47)	
US geographic region				
Northeast	887 (20.71)	131 (24.31)	756 (20.13)	<.001
Midwest	977 (22.03)	176 (30.06)	801 (20.72)	
South	1,737 (37.76)	219 (33.38)	1,518 (38.47)	
West	1,039 (19.50)	83 (12.25)	956 (20.67)	

Abbreviation: SE, standard error

^a Values are expressed as no. % unless otherwise indicated. Percentages and standard errors are based on weighted data to represent the civilian noninstitutionalized US population. Data source: Medical Expenditure Panel Survey, 2008–2013.

^b “Other race/ethnicity” includes American Indians, Native Hawaiians, and people who reported multiple races.

^c Poverty level is defined as poor (family income <100% of the federal poverty line [FPL]), near poor (family income from 100% to less than 125% of the FPL), low-income (family income from 125% to less than 200% of the FPL), middle-income (family income from 200% to less than 400% of the FPL), and high-income (family income ≥400% of the FPL).

Table 2. Multivariable Logistic Regression Determining the Odds of Children with a Physical Disorder Developing a Mental Health Disorder, Medical Expenditure Panel Survey, 2008–2013

Characteristic	Adjusted Odds Ratio (95% Confidence Interval)	P Value
Physical health status		
No physical disorder		1 [Reference]
At least 1 chronic physical disorder	1.62 (1.37–1.92)	<.001
Age, y	1.08 (1.06–1.09)	<.001
Sex		
Male		1 [Reference]
Female	0.49 (0.43–0.57)	<.001
Race/ethnicity		
Non-Hispanic white		1 [Reference]
Hispanic	0.40 (0.34–0.48)	<.001
Non-Hispanic black	0.53 (0.44–0.63)	<.001
Asian, non-Hispanic	0.23 (0.15–0.34)	<.001
Other ^a	0.92 (0.71–1.19)	.55
Health insurance status		
Private		1 [Reference]
Public	1.75 (1.44–2.14)	<.001
Uninsured	0.51 (0.35–0.75)	<.001
Poverty level^b		
Poor		1 [Reference]
Near-poor	0.96 (0.75–1.23)	.76
Low-income	0.96 (0.80–1.16)	.67
Middle-income	1.07 (0.89–1.29)	.46
High-income	1.24 (1.01–1.55)	.04
US geographic region		
South		1 [Reference]
Northeast	0.98 (0.80–1.19)	.82
Midwest	1.14 (0.94–1.39)	.19
West	0.67 (0.54–0.82)	<.001

^a “Other race/ethnicity” includes American Indians, Native Hawaiians, and people who reported multiple races/ethnicities.

^b Poverty level is defined as poor (family income <100% of the federal poverty line [FPL]), near poor (family income from 100% to less than 125% of the FPL), low-income (family income from 125% to less than 200% of the FPL), middle-income (family income from 200% to less than 400% of the FPL), and high-income (family income ≥400% of the FPL).

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Table 3. Unadjusted and Adjusted Health Care Cost for Children With a Physical Disorder and No Mental Disorder and for Children With Mental and Physical Comorbidities, Medical Expenditure Panel Survey, 2008–2013

Health Care Cost, \$ ^a	Unadjusted Cost			PValue	Adjusted Mean Cost Difference, \$ (SE) ^b	PValue
	Physical Disorder and Mental Disorder (N = 609)	Physical Disorder But No Mental Disorder (N = 4,031)	Unadjusted Cost Difference			
	Mean Cost, \$ (SE)					
Total health care cost	6,494.06 (541.74)	3,619.49 (326.16)	2,874.57 (629.88)	<.001	2,630.67 (428.21)	<.001
Prescription drug cost	2,257.71 (214.58)	1,133.49 (208.98)	1,124.22 (295.96)	.02	1,055.41 (187.36)	<.001
Emergency care cost	237.86 (45.85)	121.05 (9.36)	116.80 (45.92)	.01	77.25 (26.96)	.004
Inpatient cost	721.23 (289.43)	512.34 (108.31)	208.89 (311.48)	.50	143.02 (226.79)	.53
Outpatient cost	463.16 (141.53)	389.81 (106.77)	73.35 (171.93)	.67	48.91 (113.71)	.67
Office-based visit cost	1,944.94 (211.10)	790.17 (83.19)	1,154.77 (224.39)	<.001	894.16 (118.38)	<.001
Home health care cost	386.64 (182.40)	183.77 (35.60)	202.87 (190.90)	.28	344.91 (261.09)	.19
Dental visit cost	426.52 (59.98)	421.81 (51.36)	4.71 (79.66)	.95	34.59 (51.33)	.50
Other medical cost	55.97 (7.90)	67.00 (7.38)	11.03 (11.23)	.32	−12.84 (13.15)	.33

Abbreviation: SE, standard error.

^a Expenditures adjusted for inflation with the Consumer Price Index to reflect 2013 dollars.

^b Cost difference adjusted for age, sex, race/ethnicity, health insurance status, poverty level, and geographic region.

Condition/Disorder	ICD-9-CM Code	Clinical Classification Code
Chronic physical condition		
Juvenile rheumatoid arthritis	714	202
Asthma	493	128
Epilepsy	345	83
Diabetes mellitus	250	49,50
Infantile cerebral palsy	343	82
Spina bifida	741	216
Congenital anomalies	746, 754, 755	213
Sickle-cell disease	282	61
Cystic fibrosis	277	56
Blindness and low vision	369	89
Color and night blindness	368	89
Hearing loss	389	94
Acute lymphocytic leukemia	204	39
Acute myelogenous leukemia	205	39
Brain tumors	191	35
Neuroblastoma	194	41
Wilms tumor/nephroblastoma	189	33
Lymphoma	200, 201, 206	38, 37
Rhabdomyosarcoma	171	21
Retinoblastoma	190	41
Bone cancers	170	21
Mental disorder		
Affective psychoses	296	657
Anxiety	300	651
Depression	311	657
Conduct disorders	312	65
Oppositional-defiant disorders	313	652
ADHD	314	652
Personality disorders	301	658
Acute stress	308	651
Adjustment disorders	309	655
Delusions	297	659
Other psychoses disorders	298	659

Abbreviations: ADHD, attention-deficit hyperactivity disorder; ICD-9-CM, *International Classification of Diseases, 9th Revision, Clinical Modification*.

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