Suicidal Ideation, Suicide Attempt, or Self-Inflicted Harm: Pediatric Emergency Department Visits, 2010–2014 and 2016

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Suicidal Ideation, Suicide Attempt, or Self-Inflicted Harm: Pediatric Emergency Department Visits, 2010–2014 and 2016

Suicide is a major preventable health concern for in the United States, especially in the pediatric population. While suicide is preventable, it does require intervention. Emergency departments (EDs) have been identified as an important site of care to identify individuals at risk, to provide timely support and intervention, and to facilitate entry into more intensive treatment, if appropriate.[1] Information on trends in ED utilization related to suicidal ideation, suicide attempt, or self-inflicted harm help inform resource needs.

The following tables show trends in ED visits for patients aged 5–14 years old related to suicidal ideation, suicide attempt, or self-inflicted harm using the Healthcare Cost and Utilization Project (HCUP) Nationwide Emergency Department Sample (NEDS). ED visits include those for patients who were treated in the ED and subsequently discharged home, admitted to the same hospital for care, transferred, or died. The first table shows trends in pediatric ED utilization related to suicidal ideation, suicide attempt, or self-inflicted harm by patient characteristics: age, sex, urban/rural location of patient's residence, and community-level income. The second table shows trends in the distribution of pediatric ED visits related to suicidal ideation, suicide attempt, or self-inflicted harm, by expected primary payer and discharge disposition.

In Fiscal Year 2016, the United States transitioned from the *International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)* to a modified version of the World Health Organization *International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS*). ED visits from 2010–2014 were identified using *ICD-9-CM*-coded diagnoses; and ED visits for 2016 were identified using *ICD-10-CM* diagnosis codes. Information for data year 2015 was not included because of the transition between coding schemes.[2] Under both ICD-9-CM and ICD-10-CM coding schemes, there were diagnosis codes related to suicidal ideation and self-inflicted harm. Diagnosis codes specific to suicide attempt were only available under ICD-10-CM. As a result of the transition and resultant change in identification of cases, comparisons of trends from ICD-9-CM estimates and ICD-10-CM estimates are not recommended.

The HCUP Partner organizations are listed in Appendix A. Background on the NEDS is provided in Appendix B. The ICD-9-CM and ICD-10-CM coding criteria for suicidal ideation, suicide attempt, and self-inflicted harm are provided in Appendix C.

If you know someone in crisis, call the toll-free National Suicide Prevention Lifeline[3] at 1-800- 273-TALK (8255), 24 hours a day, 7 days a week. The service is available to everyone. All calls are confidential. You can also visit the Lifeline's website at http://www.suicidepreventionlifeline.org.

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[1] Office of the Surgeon General (US); National Action Alliance for Suicide Prevention (US). 2012 National Strategy for Suicide Prevention: Goals and Objectives for Action: A Report of the U.S. Surgeon General and of the National Action Alliance for Suicide Prevention. Washington, DC: U.S. Department of Health & Human Services; September 2012. http://www.surgeongeneral.gov/library/reports/national-strategy-suicide-prevention/.

[2] In October 2015, the United States transitioned coding systems for reporting diagnoses and inpatient procedures from the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) to International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS).

[3] The National Suicide Prevention Lifeline is funded by the U.S. Department of Health and Human Services Substance Abuse and Mental Health Services Administration (DHHS / SAMHSA).

Table 1. Rate per 100,000 Population of Pediatric Emergency Department Visits for Suicidal Ideation, Suicide Attempt, or Self-Inflicted Harm by age, sex, urban/rural location, and community-level income, 2010–2014 and 2016

	Rate per 100,000 population					
	ICD-9-CM Coding					ICD-10-CM Coding
Patient Characteristics	**2010**	**2011**	**2012**	**2013**	**2014**	**2016**
Total	128.6	143.3	173.7	206.5	235.1	262.5
Age in years						
5-9	21.7	25.0	28.4	31.8	32.3	43.1
10-14	236.6	264.8	323.2	378.9	435.0	477.6
Sex						
Male	102.1	113.0	126.4	133.2	146.7	164.4
Female	156.4	175.0	223.3	283.0	327.6	365.0
Location of patient residence						
Metropolitan, Large Central	105.0	127.0	142.0	176.8	187.8	259.6*
Metropolitan, Large Fringe	111.9	133.4	160.6	204.0	205.5	232.4*
Metropolitan, Medium	145.9	153.7	225.7	234.7	313.1	269.8*
Metropolitan, Small	148.6	156.7	182.9	211.2	276.4	286.7*
Micropolitan	173.5	176.4	190.0	228.5	248.6	320.1*
Noncore	152.2	151.3	162.8	204.4	233.7	259.6*
Community-level income						
First quartile (lowest)	125.1	144.9	177.9	200.6	238.4	272.0
Second quartile	148.5	156.5	184.0	231.7	265.5	277.2
Third quartile	128.6	142.9	177.5	209.3	233.5	257.9
Fourth quartile (highest)	103.5	120.0	147.0	169.1	189.5	230.7

* The September 30, 2019 version of this document had incorrect estimates for 2016 by location of patient residence. They are corrected in this version.

Abbreviations: ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification; ICD-10-CM, International Classification of Diseases, Tenth Revision, Clinical Modification

Notes: No records were missing information on age or sex. Less than 0.6 percent of records were missing information on location and less than 2 percent of records were missing information on community-level income.

Source: Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), ICD-9-CM Diagnoses from 2010–2014 and ICD-10-CM Diagnoses in 2016

Table 2. Distribution of Pediatric Emergency Department Visits for Suicidal Ideation, Suicide Attempt, or Self-Inflicted Harm, by expected primary payer and discharge disposition, 2010–2014 and 2016

	ICD-9-CM Coding					ICD-10-CM Coding
Characteristics	**2010**	**2011**	**2012**	**2013**	**2014**	**2016**
Number of ED visits	52,307	58,900	72,177	84,691	96,437	108,208
Expected primary payer, %						
Medicare	0.3	0.5	0.6	0.3	0.4	0.5
Medicaid	47.3	50.5	51.2	48.9	54.0	54.3
Private insurance	41.2	38.7	38.5	40.6	37.2	37.9
Self-pay	5.9	5.4	5.2	4.9	4.5	3.7
Other	5.0	4.7	4.3	5.2	3.7	3.5
Discharge disposition from the ED						
Admitted to as an inpatient	20.5	18.5	21.1	19.6	23.2	16.2
Transferred to an acute care Hospital	12.4	11.3	10.7	11.1	9.1	9.7
Transferred to other health care Facility	22.7	26.5	27.0	27.0	27.4	28.6
Died	0.1	0.1	0.1	0.1	0.1	0.1
Routine discharge home	43.0	42.3	40.3	40.8	38.9	44.2
Other nonadmission dispositions, including left against medical advice	1.2	1.3	0.9	1.4	1.3	1.2

Abbreviations: ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification; ICD-10-CM, International Classification of Diseases, Tenth Revision, Clinical Modification

Notes: Less than 0.4 percent of records were missing information on expected primary payer and less than 0.1 percent of records were missing information on discharge disposition.

Source: Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), ICD-9-CM Diagnoses from 2010–2014 and ICD-10-CM Diagnoses in 2016

Appendix A. HCUP Partner Organizations Participating in the NEDS, 2016

Arizona Department of Health Services
Arkansas Department of Health
California Office of Statewide Health Planning and Development
Connecticut Hospital Association
District of Columbia Hospital Association
Florida Agency for Health Care Administration
Georgia Hospital Association
Hawaii Health Information Corporation
Illinois Department of Public Health
Indiana Hospital Association
Iowa Hospital Association
Kansas Hospital Association
Kentucky Cabinet for Health and Family Services
Maine Health Data Organization
Maryland Health Services Cost Review Commission
Massachusetts Center for Health Information and Analysis
Minnesota Hospital Association (provides data for Minnesota and North Dakota)
Mississippi State Department of Health
Missouri Hospital Industry Data Institute
Montana Hospital Association
Nebraska Hospital Association
Nevada Department of Health and Human Services
New Hampshire Department of Health & Human Services
New Jersey Department of Health
New York State Department of Health
North Carolina Department of Health and Human Services
North Dakota (data provided by the Minnesota Hospital Association)
Ohio Hospital Association
Oregon Association of Hospitals and Health Systems
Oregon Office of Health Analytics
Rhode Island Department of Health
South Carolina Revenue and Fiscal Affairs Office
South Dakota Association of Healthcare Organizations
Tennessee Hospital Association
Texas Department of State Health Services
Utah Department of Health
Vermont Association of Hospitals and Health Systems
Wisconsin Department of Health Services
Wyoming Hospital Association

Appendix B. Healthcare Cost and Utilization Project (HCUP) Nationwide Emergency Department Sample (NEDS)

The Healthcare Cost and Utilization Project (HCUP) is a family of health care databases and related software tools and products developed through a Federal-State-Industry partnership and sponsored by the Agency for Healthcare Research and Quality (AHRQ). The Nationwide Emergency Department Sample (NEDS) was created to enable analyses of emergency department (ED) utilization patterns and to support research, public health professionals, administrators, policymakers, and clinicians in their decision-making regarding this critical source of care. The ED serves a dual role in the U.S. healthcare system infrastructure, as a point of entry for approximately 50 percent of inpatient hospital admissions and as a setting for treat-and-release outpatient visits.[4]

The NEDS are 20-percent stratified samples of hospital-owned EDs from the HCUP State Inpatient Databases (SID) and State Emergency Department Databases (SEDD). The SID contain information on patients initially seen in the ED and then admitted to the same hospital. The SEDD capture information on ED visits that do not result in an admission (i.e., treat-and-release visits and transfers to another hospital). The NEDS are available from 2006 through 2016, which allows researchers to analyze trends over time. Key features of the 2016 NEDS include:

- Information on ED visits from 953 hospitals located in 36 States and the District of Columbia, approximating a 20-percent stratified sample of U.S. hospital-based EDs
- Patient demographics characteristics (e.g., sex, age, urban-rural designation of residence, national quartile of median household income for patient's ZIP Code)
- Expected payment source (e.g., Medicare, Medicaid, private insurance, self-pay, no charge, and other)
- Total ED charges (for ED visits) and total hospital charges (for inpatient stays for ED visits that result in admission)
- Hospital characteristics (e.g., trauma center indicator, region, urban-rural location, teaching status).

[4] Merrill, C. T. and Owens, P. L. (2007). Hospital Admissions That Began in the Emergency Department for Children and Adolescents, 2004. HCUP Statistical Brief #32. June 2007. Agency for Healthcare Research and Quality, Rockville, MD. Retrieved June 9, 2008 from www.hcup-us.ahrq.gov/reports/statbriefs/sb32.pdf