

Mortality of Emergency Department Suicide Attempt Visits after Discharge: Results from the 2014 National Hospital Care Survey

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Suicide Attempts/Self-Harm

- In 2014, intentional suicide/self-harm was the tenth leading cause of death in the United States. There were 42,826 deaths (1.6% of all deaths) attributed to suicide and self-harm.¹
- Research has shown more women than men attempt suicide/self-harm while a higher percentage of men die from suicide/self-harm.²
- Of those that have attempted suicide/self-harm, men have higher rates of alcohol abuse and women have been found to have a higher prevalence of depression.³

¹Heron M. Deaths: Leading causes for 2014. National vital statistics report; vol 65 no 5. Hyattsville, MD: National Center for Health Statistics. 2016

²Canetto, S. S. and Sakinofsky, I. (1998), The Gender Paradox in Suicide. *Suicide and Life-Threatening Behavior*, 28: 1–23. doi:10.1111/j.1943-278X.1998.tb00622.x

³Mościcki, E. K. (1994). Gender differences in completed and attempted suicides. *Annals of Epidemiology*, 4, 152–158.

Suicide Attempt/Self-Harm Treatment in the Emergency Department (ED)

- Suicide attempts and self-harm are often first treated in a hospital's ED. Patient treatment is often referred out of the ED. However, as many as half of those referred do not attend the follow-up appointment.⁴
- The risk of death is highest within 30 days of discharge from an ED.⁴

⁴Knesper, D. J. (2010). Continuity of care for suicide prevention and research: Suicide attempts and suicide deaths subsequent to discharge from the emergency department or psychiatry inpatient unit. Newton, MA: Suicide Prevention Resource Center

National Hospital Care Survey (NHCS)

- Started in 2011, integrated three long-standing hospital surveys.
- Eligible hospitals are nonfederal, non-institutional hospitals that have 6 or more staffed inpatient beds.
 - 581 hospitals in the sample. 16.4% responded in 2014
 - All sampled hospital's inpatient, emergency department, and outpatient data for the year (Jan. – Dec.) are collected.
- In 2014, the data source was Uniform Billing 04 administrative claims data.
- Data includes information on diagnoses, procedures, discharge status, charges of services, and personally identifiable information (e.g., name, date of birth, and SSN).

NHCS Data and the National Death Index

- Can track patients within the same hospital over time and link episodes of care across hospital units as well as link to other data sources such as the National Death Index (NDI).
- The 2014 NHCS patient data was matched to the 2014 and 2015 NDI files to track mortality post-hospital visit.

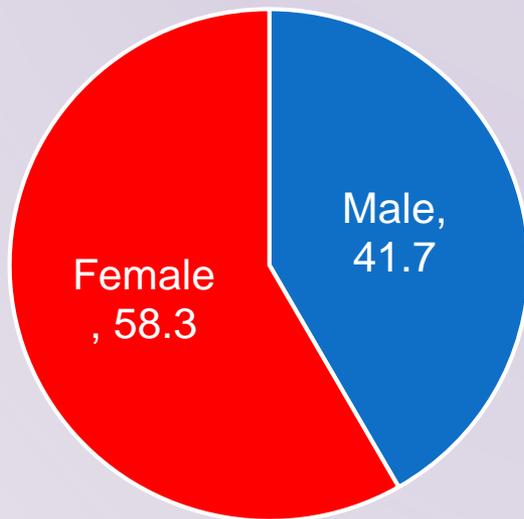
Suicide Attempt/Self-Harm Definition

- The 2014 NHCS diagnosis information is coded to ICD-9-CM. The ICD-9-CM codes used for identifying a suicide attempt or self-harm visit to the ED are E950-E959.
- The NDI cause of death is coded in ICD-10. The ICD-10 codes used for identifying death by suicide or self-harm are: X60-X84 and Y87.

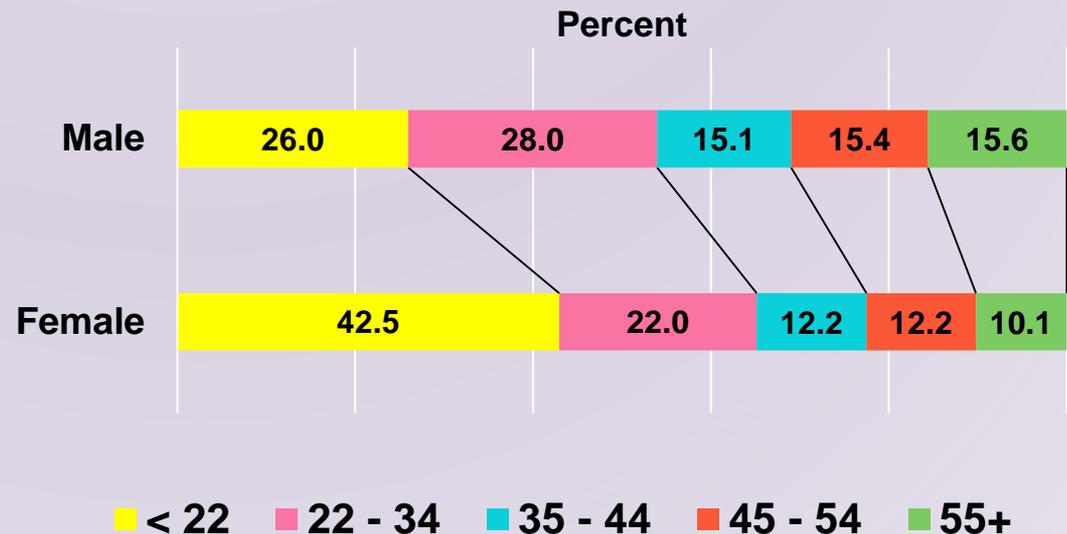
Number of People with Suicide Attempts/Self-Harm in NHCS

15,335 patients identified as suicide/self-harm (14,136 visited the ED due to a suicide attempt/self-harm and 1,199 patients had a cause of death of suicide after an ED visit).

By Sex

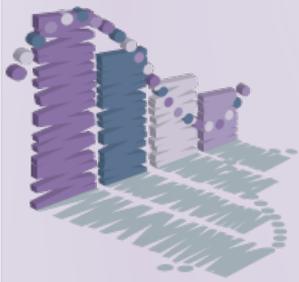


By Sex and Age



Note: Based on 15,335 total patients, 6,390 male, and 8,945 female patients. Not nationally representative.

Source: NCHS, National Hospital Care Survey, 2014



Mental Disorders Diagnosis

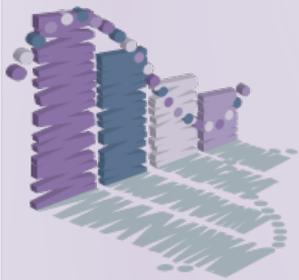
Mental Disorder Diagnosis

Risk Factor	Percent
Alcohol related (use, induced mental disorders, dependence	38.1
Episodic mood disorders (i.e., bipolar, manic, depressive)	33.7
Anxiety, dissociative and somatoform disorders	25.5
Adjustment reaction (grief reaction, posttraumatic stress disorder	9.0
Drugs (use, induced mental disorders)	7.0
Personality disorder	6.0
Schizophrenic	4.9

Note: Based on 15,335 patients. Not nationally representative.
Source: NCHS, National Hospital Care Survey, 2014

Mental Disorder Diagnosis by Sex

Risk Factor	Male Percent	Female Percent
Alcohol related (use, induced mental disorders, dependence)	44.6	33.4
Episodic mood disorders (i.e., bipolar, manic, depressive)	31.3	35.4
Anxiety, dissociative and somatoform disorders	21.5	28.4
Adjustment reaction (grief reaction, posttraumatic stress disorder)	7.1	10.3
Drugs (use, induced mental disorders)	8.5	5.8
Personality disorder	4.6	7.0
Schizophrenic	7.3	3.2



Mortality

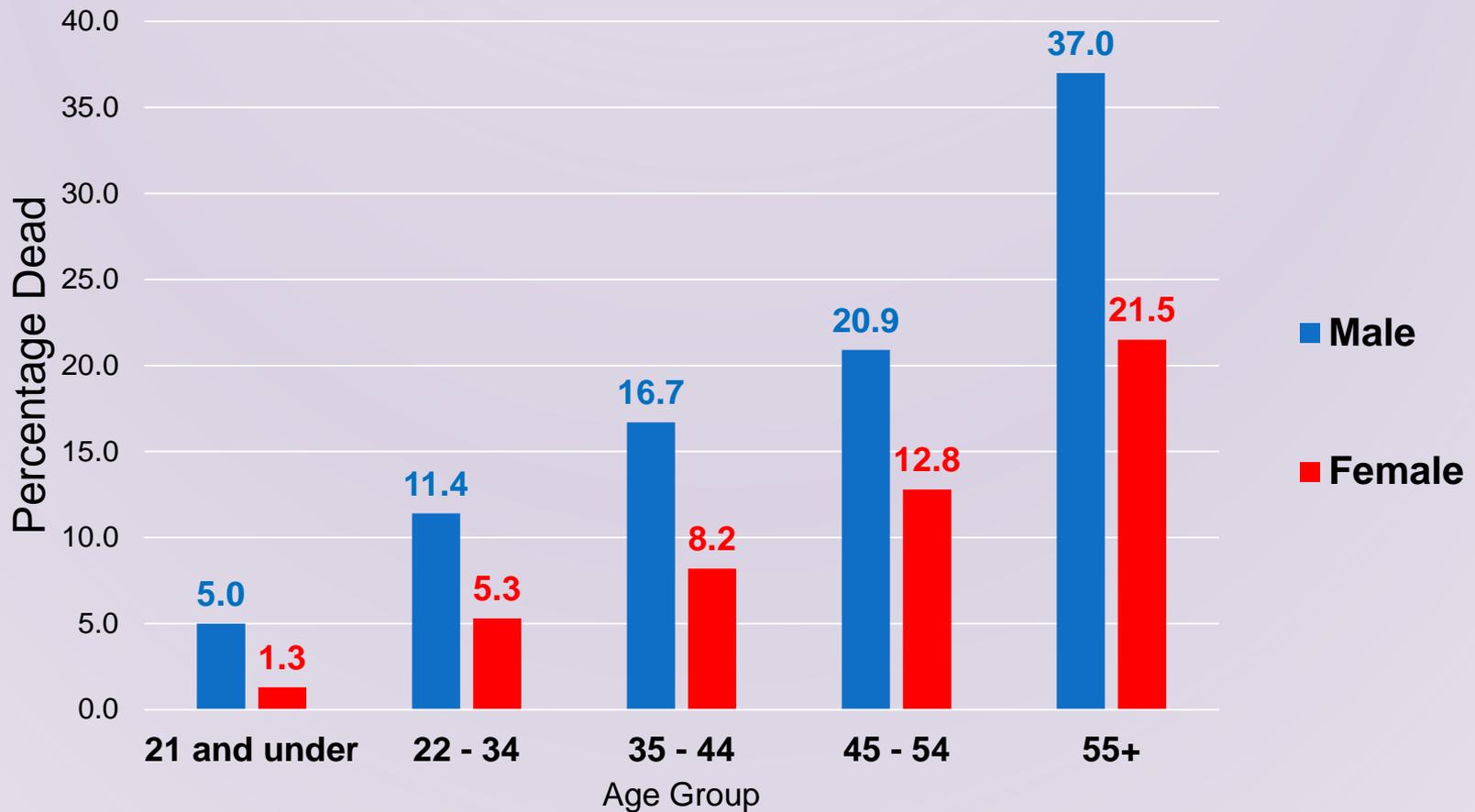
ED Suicide Visit Mortality Rate at the Hospital and Post-Hospital Discharge

Mortality	Percent
Died at the hospital	2.1
Died after leaving the hospital	10.5
Died within 30 days of discharge	1.6
Died between 31 and 90 days of discharge	1.5
Died more than 90 days after discharge	7.4

ED Suicide Visit Mortality Rate at the Hospital and Post-Hospital Discharge by Sex

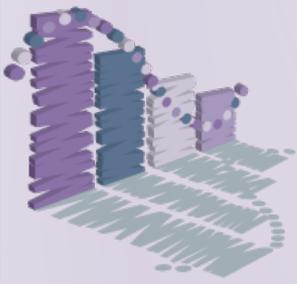
Mortality	Male Percent	Female Percent
Died at the hospital	3.4	1.3
Died after leaving the hospital	16.0	6.5
Died within 30 days of discharge	2.5	0.9
Died between 31 and 90 days of discharge	2.3	0.8
Died more than 90 days after discharge	11.1	4.8

ED Suicide Visit Mortality Post-Hospital Discharge by Sex and Age



Note: Based on 6,390 male and 8,945 female patients.
Not nationally representative.

Source: NCHS, National Hospital Care Survey, 2014



Mental Disorder Diagnosis and Post-Hospital Mortality

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Post-hospital Mortality for Mental Disorder Diagnosis

Risk Factor	Percent Dead Post-hospital
Alcohol related (use, induced mental disorders, dependence (n=5,836))	9.3
Episodic mood disorders (i.e., bipolar, manic, depressive) (n=5,166)	6.3
Anxiety, dissociative and somatoform disorders (n=3,913)	7.3
Adjustment reaction (grief reaction, posttraumatic stress disorder (n=1,376))	5.1
Drugs (use, induced mental disorders) (n=1,067)	9.8
Personality disorder (n=917)	6.1
Schizophrenic (n=754)	11.1

Note: Not nationally representative.

Source: NCHS, National Hospital Care Survey, 2014

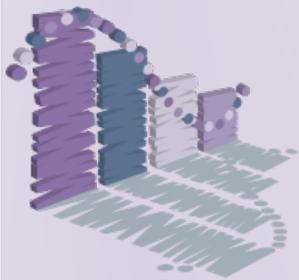
Post-hospital Mortality for Mental Disorder Diagnosis by Sex

Risk Factor	Male Percent	Female Percent
Alcohol related (use, induced mental disorders, dependence) (n=2,850 males, 2,986 females)	13.2	5.6
Episodic mood disorders (i.e., bipolar, manic, depressive) (n=2,000 males, 3,166 females)	9.4	4.4
Anxiety, dissociative and somatoform disorders (n=1,371 males, 2,542 females)	11.6	5.0
Adjustment reaction (grief reaction, posttraumatic stress disorder) (n=455 males, 921 females)	8.6	3.4
Drugs (use, induced mental disorders) (n=545 males, 522 females)	11.7	7.7
Personality disorder (n=294 males, 623 females)	*	*
Schizophrenic (n=469 males, 285 females)	12.8	*

*Figure does not meet standards of reliability or precision.

Note: Not nationally representative.

Source: NCHS, National Hospital Care Survey, 2014



Conclusions

Conclusions – Suicide/Self-harm

- 15,335 people identified in the 2014 NHCS ED data or the matched NDI data as attempted suicide or committed self-harm.
- 42.5% of women are 21 years or younger compared to 26.0% of men
- 30.0% of men are 45 years or older compared to 22.3% of women
- Mental Disorder Diagnosis:
 - Men had a higher prevalence of diagnosis of alcohol, drugs, and schizophrenia
 - Women had a high prevalence of diagnosis of episodic mood disorders, anxiety, adjustment reaction, and personality disorders

Conclusions – Suicide Mortality

- Of the 15,335 people that visited the ED for suicide/self-harm or died from suicide/self-harm after an ED visit:
 - 2.1% died at the hospital
 - 10.5% died after leaving the hospital. 1.6% died within 30 days.
 - 16.0% of men died after leaving the hospital
 - 6.5% of women died after leaving the hospital.
- The outside the hospital death rate increases as age increases.

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