Circumstances Associated with Suicide Deaths Among Older Adults

Joshua Swanson, Ethan Jamison
Colorado Violent Death Reporting System (CoVDRS)
Learning Objectives

- Describe the rates of suicide among older adults in Colorado
- Explain what circumstances and risk factors are associated with suicide among older adults
- Discuss how the CoVDRS data presented can inform targeted research and prevention strategies

Equity and Social Justice
What is the CoVDRS?
Methodology behind the Colorado Violent Death Reporting System
About the CoVDRS

The CoVDRS is an enhanced public health surveillance system that gathers data on the circumstances and risk factors associated with violent deaths in Colorado.

The CoVDRS is part of the larger National Violent Death Reporting System (NVDRS), which is funded through the U.S. Centers for Disease Control and Prevention (CDC).
About the CoVDRS

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Manners of Death
- Suicide
- Homicide
- Unintentional Firearm
- Legal Intervention
- Undetermined Intent

Sources of Data
- Death Certificates
- Coroner or Medical Examiner Reports
- Law Enforcement Investigations
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Objective 1
Describe the rates of suicide among older adults in Colorado
Age-Specific Rates per 100,000 Population, Colorado residents, 2013-2017 (N=5,486)

Source: Colorado Vital Statistic Program, Colorado Department of Public Health and Environment

Rates Among Older Adults
Rates Among Older Adults

Age- and Sex-Specific Rates per 100,000 Population, Colorado residents, 2013-2017 (N=5,486)

Source: Colorado Vital Statistic Program, Colorado Department of Public Health and Environment
Rates Among Older Adults

Age- and Race-Specific Rates per 100,000 Population, Colorado residents, 2013-2017 (N=5,486)

- N.H. White
- Hispanic White
- Black or A.A.
- Asian or P.I.
- American Indian

A.A. = African American; N.H. = Non-Hispanic; P.I. = Pacific Islander

Source: Colorado Vital Statistic Program, Colorado Department of Public Health and Environment
Rates Among Older Adults

Age-Specific Rates per 100,000 Population, Colorado residents, 2013-2017 (N=5,486)

Crude Suicide Rates per 100,000

Source: Colorado Vital Statistic Program, Colorado Department of Public Health and Environment
Rates Among Older Adults

Age-Specific Rates per 100,000 Population, Colorado residents, 2013-2017 (N=5,486)

Source: Colorado Vital Statistic Program, Colorado Department of Public Health and Environment
Rates Among Older Adults

- The suicide rate for Older Adults residents of Colorado between 2013 and 2017 is 22.9 [21.3, 24.4]
  - Lower than 40-64 age group
  - Higher than 10-24 age group

- Rates are highest among:
  - Males 41.0 [37.9, 44.2]
  - Non-Hispanic Whites 25.8 [24.0, 27.7]
Objective 2

Explain what circumstances and risk factors are associated with suicide among older adults
Circumstances & Risk Factors

- Method
- Circumstances
- Toxicology
Circumstances & Risk Factors

- **Method**
  - Firearm, Hanging, Poisoning, Fall, etc.

- Circumstances

- Toxicology
Circumstances & Risk Factors

- Method

- Circumstances

  - Suicide Note, Relationship Problem, Mental Health Problem, Physical Health Problem, Substance Problem, etc.

- Toxicology
Circumstances & Risk Factors

- Method

- Circumstances

- Toxicology
  - Alcohol Present, Opiates Present, Antidepressants Present, etc.
Method of Injury Among Suicide Decedents in Colorado, 2013-2017 (N=5,410)

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment
Method of Injury Among Older Adult Suicide Decedents in Colorado, 2013-2017 (N=803)

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment
### Substances Noted as Causing Death Among Older Adults who Died by Poisoning in Colorado, 2013-2017 (N=231*)

<table>
<thead>
<tr>
<th>Substances</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opioid</td>
<td>34.2%</td>
</tr>
<tr>
<td>Antidepressant</td>
<td>16.5%</td>
</tr>
<tr>
<td>Benzodiazepine</td>
<td>10.8%</td>
</tr>
<tr>
<td>Carbon Monoxide</td>
<td>9.1%</td>
</tr>
<tr>
<td>Alcohol</td>
<td>4.3%</td>
</tr>
<tr>
<td>Other</td>
<td>25.1%</td>
</tr>
</tbody>
</table>

*Counts represent substances noted as causing death, not individuals.

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment
Known Circumstances Among Older Adult Decedents in Colorado, 2013-2017 (N=750*)

Contributing Physical Health Problem: 77.7%
Current Depressed Mood: 53.1%
Left a Suicide Note: 42.4%
Diagnosed Mental Health Problem: 40.8%
History of Suicidal Ideation: 36.7%

Percent of suicides with known circumstance

*Decedents with at least one known circumstance
Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment
Known Circumstances Among Older Adult Decedents in Colorado, 2013-2017 (N=750*)

- Ever Received M.H. or S.A. Treatment: 32.0%
- Recent Disclosure of Suicidal Intent: 24.4%
- Prior Suicide Attempts: 14.8%
- Alcohol Problem: 12.3%
- Other Drug Problem: 4.9%

*M.H. = Mental Health; S.A. = Substance Abuse

*Decedents with at least one known circumstance

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment
### Known Circumstances Among Older Adult Decedents in Colorado, 2013-2017 (N=750*)

<table>
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<th>Circumstance</th>
<th>Percent</th>
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<tr>
<td>Intimate Partner Problem</td>
<td>15.7%</td>
</tr>
<tr>
<td>Family Relationship Problem</td>
<td>12.8%</td>
</tr>
<tr>
<td>Death Preceded by Argument</td>
<td>8.1%</td>
</tr>
</tbody>
</table>

*Decedents with at least one known circumstance

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment
Known Circumstances Among Older Adult Decedents in Colorado, 2013-2017 (N=750*)

- Intimate Partner Problem: 15.7%
- Family Relationship Problem: 12.8%
- Death Preceded by Argument: 8.1%
- Death of a Friend or Family Member: 14.0%
- Divorced or Widowed**: 46.5%

*Decedents with at least one known circumstance
**Not a CoVDRS “circumstance”; comes from D.C. data (N=803; 2,393; 1390; 824)

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment
Number of Known Circumstances Among Suicide Decedents in Colorado, 2013-2017
(N=4,607)

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment
Circumstances

Number of Known Circumstances Among Suicide Decedents in Colorado, 2013-2017
(N=5,410)

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment
Toxicology Among Suicide Decedents in Colorado, 2013-2017 (N=5,410)

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment
Circumstances & Risk Factors

- Higher proportion of firearm use among older adults
  - Lower proportion of hanging, strangulation, or suffocation
- Contributing P.H. Problem & Depressed Mood were most prevalent
- Higher proportion Divorced or Widowed
- Opioids most common substance found at time of death
Objective 3
Discuss how the CoVDRS data presented can inform research & prevention
Youth & Y.A. Older Adult

Suicide AND
- Young Adult
- Youth
- Teen
- Adolescent

Suicide AND
- Older Adult
- Elderly
- Late-life
- Aging

Y.A. = Young Adult
Research & Prevention

PubMed Search Results

Targeted NIH Funding*

*Based on FY 2017 NIH Project Titles (Suicide)
Y.A. = Young Adult
77.8% of Older Adult Suicide Decedents were known to have been suffering from a contributing physical health problem.

Triggers for Suicidal Ideation¹:
- Physical Discomfort
- Loss of Respect / Support from Family
- Sense of Helplessness
- Lack of Self-Worth

53.1% of Older Adult Suicide Decedents were known to have been depressed prior to their death.

ED-SAFE Treatment Disparities\(^1\):

- 42% of older adults who visited the ED and screened positive for suicidal ideation received a mental health evaluation during their visit, compared to 66% of younger adults.
- 34% of older adults, compared to 60% of younger adults, received referral resources.

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Research & Prevention

- Primary Care
- Pain Management
- Screening
- Referral
- Means Access
57 Older Adults in 2017, and 72 Older Adults in 2018, died following prescription of aid-in-dying medication\(^1\).

- How does medical aid in dying influence prevention efforts?
- How will medical aid in dying alter trends over time?
- Is medical aid in dying equally accessible?
  - 94% of patients who died following prescription of aid-in-dying medication (all ages) in 2018 were non-Hispanic White, and 64% lived in the Denver Metro Area

\(^1\)https://www.colorado.gov/pacific/cdphe/medical-aid-dying
Community & Connection

- Affordable Housing
- Transportation
- Engagement
Questions?

Contact Information
Email: joshua.swanson@state.co.us
Phone: 303-692-2246

To find our Health Watch and Suicide Data Dashboard visit:
https://www.colorado.gov/pacific/cdphe/colorado-violent-death-reporting-system