Suicide risk in long-term care in Virginia: 2003 - 2011

Briana Mezuk, PhD
Assistant Professor
Division of Epidemiology
Department of Family Medicine & Population Health
Virginia Commonwealth University
School of Medicine

Acknowledgements

• Co-authors: Matthew Lohman PhD, Levent Dumenci PhD, Virginia Powell PhD, and Marc Leslie MS

• Group for Research on the Epidemiology of Mobility, Aging and Psychiatry: www.gremap.org

• Supported by K12-HD055881, K01-MH093642 and F31-AG044974

• I have no conflicts of interest to disclose
Background

• Suicide in later life
• Residential long-term care
• Study using the VA VDRS: Suicide in long-term care
• Suggestions for the committee

Suicide in later life

• Older adults have a high rate of suicide
  • All ages: 11.9 per 100,000
  • 65+ years: 14.2 per 100,000
• Older adults make up 13% of the population but account for 19% of completed suicides
• Fastest growing segment of the population – approximately 20% (72.1 million) by 2030

Total number of adults aged 65+ and their percentage share of the total VA population: 1950-2030

Suicide rate per 100,000 ages 65+: Virginia vs. all NVDRS states
Suicide rate per 100,000 ages 50-64: Virginia vs. all NVDRS states

CDC, National Violent Death Reporting System (NVDRS)

Long-term care in the US

- Approximately 16,000 Medicare/Medicaid nursing homes in the US
  - ~1.5 million individuals reside in nursing homes
  - Average length of stay: 2.3 years (835 days)
  - 85% aged 65+ and 80% non-Hispanic white

- Approximately 31,000 residential care facilities (including assisted living facilities, excluding NH)
  - ~ 971,000 beds
  - 1.5 million adults aged 65+
  - 89% aged 65+ and 91% non-Hispanic white
  - Average length of stay: 22 months

Nursing Home Compare 2012; 2010 National Survey of Residential Care Facilities
Points of engagement for suicide in later life

“How do we shift our thinking from a focus solely on the individual in crisis and move more intently to efforts to examine the communities where people live and work and the systems they visit to receive care?”

Jerry Reed, co-Chair of the Action Alliance for Suicide Prevention, 2012
Suicide in senior living communities

- Risk factors for suicide are common among older adults in long-term care (LTC) and senior living facilities
- Preventive factors also common (increased monitoring, contact with health system, less access to lethal means)
- LTC may be important ‘point of engagement’ for preventing suicide
- “There are few reliable statistics on suicide in senior living communities”

Suicidal ideation (active or passive) in past month among LTC residents

- Draper, 2002
- Malfent, 2010
- Scocco, 2009
- Heisel, 2005
- Chow, 2004
- Jorm, 1995
- Haight, 1995
- US Average 65+

Mezuk et al. Int J Geriatric Psych 2014
Individual-level and organizational correlates of suicide in LTC

- Individual-level risk factors
  - Male gender
  - History of depression, substance abuse, and suicidal behavior
  - Recent loss of spouse
  - Intact cognition
  - Impaired mobility and pain
- Organizational-level risk factors
  - Greater staff turnover
  - Greater facility size
  - Lower per diem costs and
  - Ownership (Religious/other)
  - More intense security

Objectives of our study

1. Describe the epidemiology of completed suicide in residential long-term care (LTC): nursing homes and assisted living facilities
2. Examine whether LTC facility characteristics are related to suicide risk
3. Assess whether the process of transitioning into a LTC facility is associated with suicide
Databases
Virginia Violent Death Reporting System

• All deaths by suicide or undetermined cause in VA from 2003-2011 among adults aged 50+
  • N=3,453 suicide deaths
  • N=229 deaths of undetermined cause
  • Includes both quantitative data on decedent characteristics and case “narratives” that describe the most salient events surrounding the death

• Facility characteristics
  • Nursing Home Compare online database
  • Virginia Department of Social Services state license records
    • N=285 Nursing Homes
    • N=548 Assisted Living Facilities

http://www.vdh.virginia.gov/medexam/NVDRS.htm

Database linkage

<table>
<thead>
<tr>
<th>VA VDRS data</th>
<th>Facility data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location of injury</td>
<td>LTC facility address</td>
</tr>
<tr>
<td>Address at time of injury</td>
<td></td>
</tr>
<tr>
<td>Alternate address at time of injury</td>
<td></td>
</tr>
</tbody>
</table>

Fine-Grained Records Integration and Linkage software (Jurczyk et al., 2008)
### Obj. 1: Describe the epidemiology of suicide in LTC

#### Number of decedents and cause of death

<table>
<thead>
<tr>
<th></th>
<th>LTC</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of deaths</td>
<td>59</td>
<td>3,623</td>
</tr>
<tr>
<td>Cause of death</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicide</td>
<td>51 (86.4)</td>
<td>3,402 (93.9)</td>
</tr>
<tr>
<td>Undetermined</td>
<td>8 (13.6)</td>
<td>221 (6.1)</td>
</tr>
<tr>
<td>Location of death</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NH</td>
<td>25 (42.4)</td>
<td></td>
</tr>
<tr>
<td>AL</td>
<td>27 (45.8)</td>
<td></td>
</tr>
<tr>
<td>Unknown but matched</td>
<td>7 (11.9)</td>
<td></td>
</tr>
</tbody>
</table>

Mezuk et al. AJPH (2015)

### Obj. 1: Describe the epidemiology of suicide in LTC

#### Demographic characteristics of decedents

<table>
<thead>
<tr>
<th></th>
<th>LTC Facility</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average age</td>
<td>78.6</td>
<td>63.3</td>
</tr>
<tr>
<td>Female</td>
<td>27.5%</td>
<td>21.6%</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>94.1%</td>
<td>91.7%</td>
</tr>
</tbody>
</table>
Obj. 1: Describe the epidemiology of suicide in LTC
Rate of suicide in NH: aged 65+

Average rate for age 65+ in VA

Obj. 2: Examine whether LTC facility characteristics are related to suicide risk
Organizational-level correlates of suicide in NHs

Odds ratio (95% CI)
Obj. 2: Examine whether LTC facility characteristics are related to suicide risk

Organizational-level correlates of suicide in ALFs

- Bed size
- Ambulatory care
- Provisional License
- 2-3 year License
- # Inspection violations

Decedent had multiple health problems (diabetes, heart disease, skin cancer, diabetic retinopathy) suggested to be a factor in the suicide. The previous evening, victim had an argument with his brother about putting the victim in a nursing home. Victim had made statements that he would never leave his home due to being ill or allow a nurse to live with him. He told a friend he felt his brother was threatening to put him into a nursing home.

Obj. 3: Assess whether the process of transitioning into a LTC facility is associated with suicide

Examples of suicides related to LTC
Decedent had been experiencing progressive difficulties with ambulation and had been falling down frequently. She lived alone in an apartment. Because of her falls, her children were encouraging her to move in with one of them or into a nursing facility. Decedent was depressed over this. She told one of her daughters that she would rather die alone in her apartment than move out of her home.

Decedent had a history of quadriplegia and numerous recent hospitalizations. He was attempting to move into a nursing facility but had been rejected from each one they had visited, causing him to feel like a burden. Decedent was extremely depressed over his medical problems and having to go to a nursing home. On several occasions, decedent expressed to his primary care physician that he wished he were dead.
Obj. 3: Assess whether the process of transitioning into a LTC facility is associated with suicide

Characteristics of decedents related to transitions

<table>
<thead>
<tr>
<th></th>
<th>Anticipating LTC</th>
<th>Loved one in LTC</th>
<th>Recently discharged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number</td>
<td>38</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>Demographics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average age</td>
<td>78.7</td>
<td>75.5</td>
<td>75.6</td>
</tr>
<tr>
<td>Male</td>
<td>84.2%</td>
<td>87.5%</td>
<td>100%</td>
</tr>
<tr>
<td>White race</td>
<td>94.7%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Means of injury</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firearm</td>
<td>78.9%</td>
<td>87.5%</td>
<td>&lt;5</td>
</tr>
<tr>
<td>Heath status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hx of psych</td>
<td>52.6%</td>
<td>43.8%</td>
<td>&lt;5</td>
</tr>
<tr>
<td>Physical health problem</td>
<td>78.9%</td>
<td>31.3%</td>
<td>100%</td>
</tr>
<tr>
<td>Verbal threat/ previous attempt</td>
<td>60.5%</td>
<td>37.5%</td>
<td>&lt;5</td>
</tr>
</tbody>
</table>

Strengths and limitations

- Largest study to date of suicide risk in LTC in US
- Novel linkage of databases
- Examined factors related to transitioning into LTC

- Only completed suicides
  - 1 suicide death: 4 suicide attempts
- Not able to examine many factors related to suicide in ALF because of a lack of publicly-available data on facility characteristics
- Lacked information about clinical characteristics of decedents (i.e., duration of stay, reason for admission)

Mezuk et al. AJPH (2015)
Summary of findings

- ~3% of suicides among adults aged 50+ were related to LTC in some manner, including 51 deaths in a facility
  - Suicide rate in NH is ≈ Suicide rate in general population
  - Most common means of self-harm in LTC: firearms & suffocation
- Association between NH quality and suicide is complex, needs to be replicated, likely reflects selection factors
- LTC transitions are a precipitating factor in some suicides
- LTC and housing transitions in later life may represent “points of engagement” for suicide prevention
  - Preadmission Screening and Resident Review

Mezuk et al. AJPH (2015)

Pre-admission Screening and Resident Review (PASRR)

<table>
<thead>
<tr>
<th>What is PASRR?</th>
<th>PASRR is a federal requirement to help ensure that individuals are not inappropriately placed in nursing homes for long-term care.</th>
</tr>
</thead>
</table>
| What does PASRR require? | 1) All applicants to a Medicaid-certified nursing facility be evaluated for mental illness and/or intellectual disability  
2) Applicants are offered the most appropriate setting for their needs  
3) Applicants receive the services they need in those settings |
| Who is given a Level 1 screen? | Everyone |
| Who is given a Level 2 screen? | Applicants who have tested positive for a Level 1 screen. A Level 2 screen will:  
  1) Confirm or disconfirm results of the Level 1 screen  
  2) Result in a determination of need, determination of appropriate setting, and a set of recommendations for services to inform the individual's plan of care |

Medicaid.gov, 2014; PASRR Technical Assistance Center, 2015
Pre-admission Screening and Resident Review (PASRR)

<table>
<thead>
<tr>
<th>What is used in a Level 1 screen?</th>
<th>States can create their own screening tools or adapt tools in use by other states.</th>
</tr>
</thead>
</table>
| What is used in a Level 2 screen? | 1) A history and physical, performed by a physician  
2) A functional assessment, including activities of daily living (ADLs) and instrumental activities of living (IADLs)  
3) A history of medication and drug use  
4) An assessment of IQ, performed by a PhD psychologist, or an assessment of psychiatric history performed by a qualified assessor |
| Who administers the Level 1 screen? | Level 1 screens can be conducted by hospital discharge planners, social workers, or even nursing facility staff. There are no specific federal requirements. |
| Who administers the Level 2 screen? | Aside from the requirements listed above, there are no specific federal requirements as to who can conduct a Level 2 screen, except that Level 2 evaluators cannot be employed by a nursing facility. |

Medicaid.gov, 2014; PASRR Technical Assistance Center, 2015

Suggestions going forward

Social services/licensing agencies
1. Provide more publicly-available, objective information about Assisted Living Facilities
   * VA Healthcare Association: VA Center for Assisted Living  
     * [http://facilitylocator.vhca.org/#gmap](http://facilitylocator.vhca.org/#gmap)  
   * VA Department of Social Services  
     * [https://www.dss.virginia.gov/facility/search/alf.cgi](https://www.dss.virginia.gov/facility/search/alf.cgi)
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Disclaimer:
This information is provided as a public service by the Virginia Department of Social Services, which neither endorses any facility nor guarantees that the information is accurate, up to date or complete. This information, which should not be used as a sole source in selecting a facility, does not replace official information sources.
Suggestions going forward

Social services/licensing agencies
1. Provide more publicly-available, objective information about Assisted Living Facilities
2. Develop a rating system for assisted living facility similar to Nursing Home Compare

Nursing home results
29 nursing homes within 25 miles from the center of 23238.

Choose up to 3 nursing homes to compare. So far you have none selected.

LAKESIDE MANOR
1000 LAUDERDALE DRIVE
RICHMOND, VA 23238
(804) 780-2500

Add to Compare
Add to My Favorites
Suggestions going forward

Social services/licensing agencies
1. Provide more publicly-available, objective information about Assisted Living Facilities for consumers
2. Develop a rating system for assisted living facility similar to Nursing Home Compare
3. Regulation to make suicide attempts and completions in LTC “reportable events” to DSS

Department of health/LTC facilities
1. Support a program to disseminate the SAMHSA toolkit for preventing suicide in senior living facilities throughout VA
**SAMHSA Toolkit**

Public health approach to suicide prevention

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**Tiered approach**

- **All residents (universal):** Programs that benefit the emotional well-being of all
- **At-risk individuals (targeted):** Strategies to help staff properly identify and effectively treat residents at risk
- **Individuals in crisis (indicated):** how to respond to suicide attempts & deaths

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**Suggestions going forward**

**Social services/licensing agencies**

1. Provide more publicly-available, objective information about Assisted Living Facilities for consumers
2. Develop a rating system for assisted living facility similar to Nursing Home Compare
3. Regulation to make suicide attempts and completions in LTC “reportable events” to DSS

**Department of health/LTC facilities**

1. Support a program to disseminate the SAMHSA toolkit for preventing suicide in senior living facilities throughout VA
2. Support a program to train PASRR screeners to identify and appropriately respond to at-risk individuals during transitions (including family members/spouses of those transitioning)
Suggestions going forward

Think broadly about prevention strategies

1. Supporting innovation in existing programs that reach older adults (e.g., Virginia Senior Corps, Senior Connections) to promote social connections and emotional well-being
2. Supporting efforts for in-home health care (e.g., home health aides, family caregivers)
3. Supporting programs in age-restricted/senior housing

Rose’s Theorem
A large number of people at small risk may give rise to more cases of disease [suicide] than a small number of people who are at high risk.

Points of engagement for suicide in later life

“How do we shift our thinking from a focus solely on the individual in crisis and move more intently to efforts to examine the **communities where people live** and work and the **systems they visit to receive care**?”

Jerry Reed, co-Chair of the Action Alliance for Suicide Prevention, 2012

Thank you
bmezuk@vcu.edu
Annual median cost of assisted living facilities: Virginia vs. select southeastern/mid-Atlantic states

Annual median cost of nursing home: Virginia vs. select southeastern/mid-Atlantic states
Database linkage

- Fine-Grained Records Integration and Linkage (FRIL) software
  - Probabilistic matching of attributes from two syntactically distinct sources (e.g. VA VDRS and NH Compare)
  - Potential matches with <90% confidence were adjudicated by two raters (ML and BM)
  - When available, narrative data was used to supplement matching decisions

Mezuk et al. AJPH (2015); Jurczyk et al. 2008