

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

3

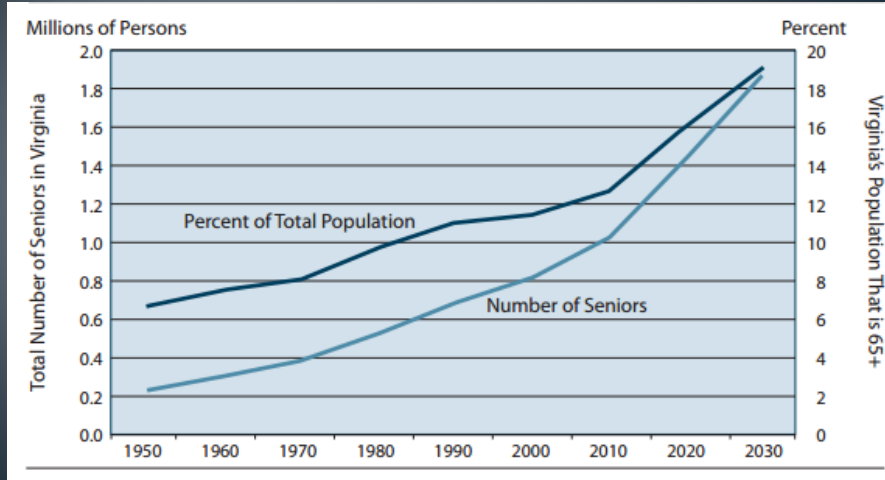
Suicide in later life

- 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

CDC, 2011; Conwell, 1995, 2001, 2004; Arias, 2003

4

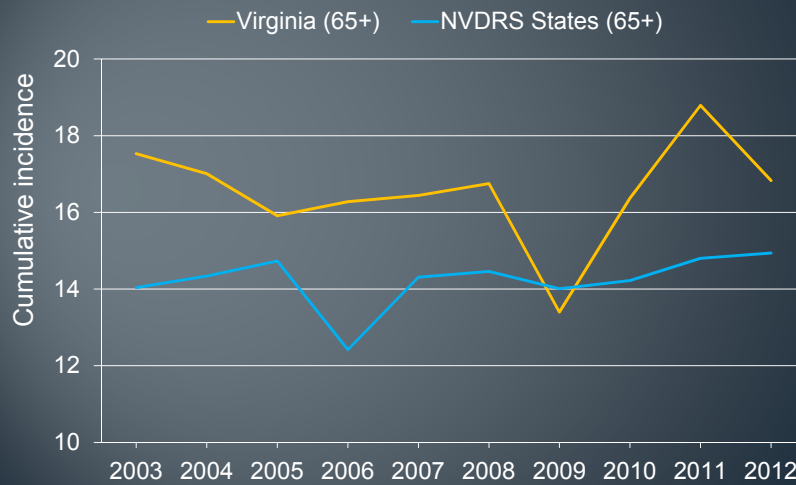
Total number of adults aged 65+ and their percentage share of the total VA population: 1950-2030



Weldon Cooper Center for Public Service, 2009

5

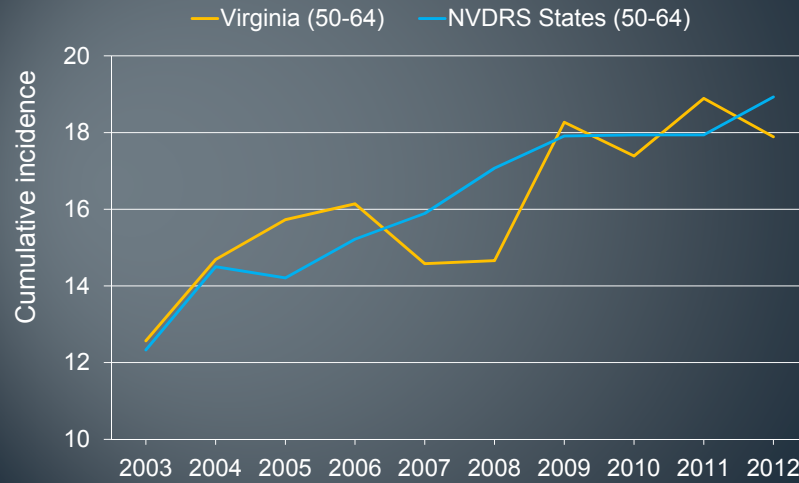
Suicide rate per 100,000 ages 65+: Virginia vs. all NVDRS states



CDC, National Violent Death Reporting System (NVDRS)

6

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

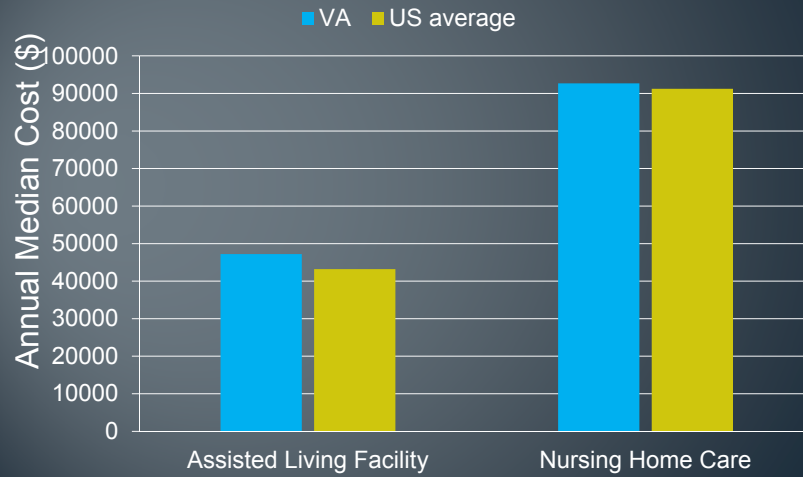


Long-term care in the US

- 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

Annual median costs of long-term care: Virginia vs. US average



Genworth Financial, 2015 Cost of Care Survey 9

Points of engagement for suicide in later life

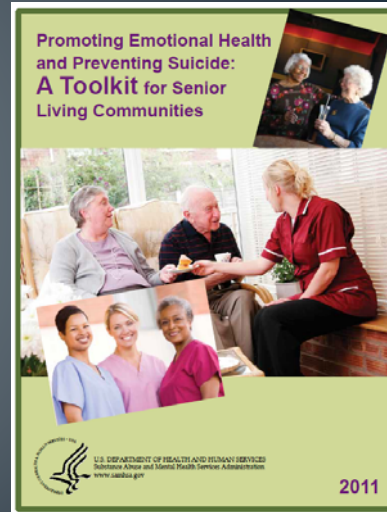
“How do we shift our thinking from a focus solely on the individual in crisis and move more intently to efforts to examine the **communities where people live** and work and the **systems they visit to receive care?**”

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

10

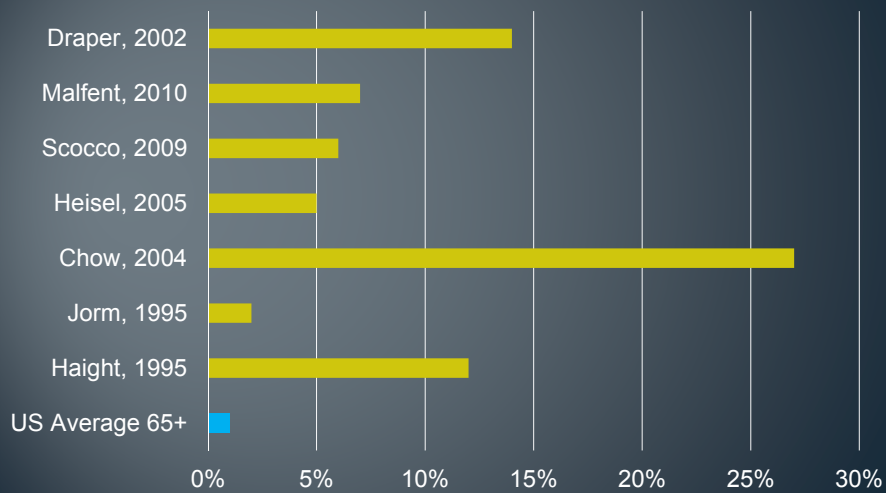
Suicide in senior living communities

- 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”***



11

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



Mezuk et al. Int J Geriatric Psych 2014 12

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

Mezuk et al. Int J Geriatric Psych 2014 13

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

14

Databases

Virginia Violent Death Reporting System

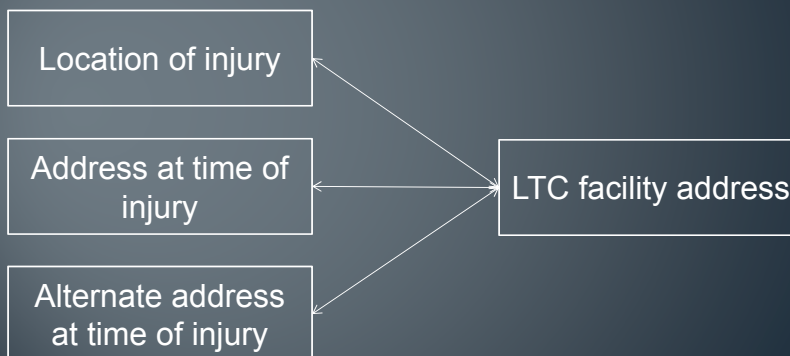
- All deaths by suicide or undetermined cause in VA from 2003-2011 among adults aged 50+
 - N=3,453 suicide deaths
 - N=229 deaths of undetermined cause
 - Includes both quantitative data on decedent characteristics and case “narratives” that describe the most salient events surrounding the death
- Facility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

VA VDRS data

Facility data



Fine-Grained Records Integration and Linkage software (Jurczyk et al., 2008)₆

Obj. 1: Describe the epidemiology of suicide in LTC
Number of decedents and cause of death

	LTC	Community
Number of deaths	59	3,623
Cause of death		
Suicide	51 (86.4)	3,402 (93.9)
Undetermined	8 (13.6)	221 (6.1)
Location of death		
NH	25 (42.4)	
AL	27 (45.8)	
Unknown but matched	7 (11.9)	

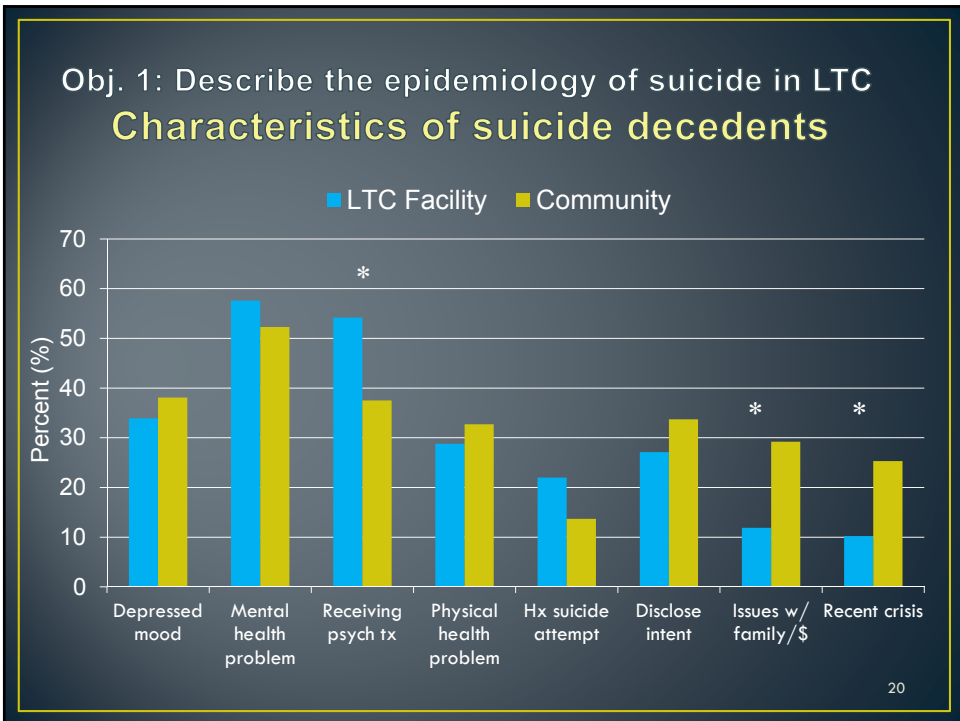
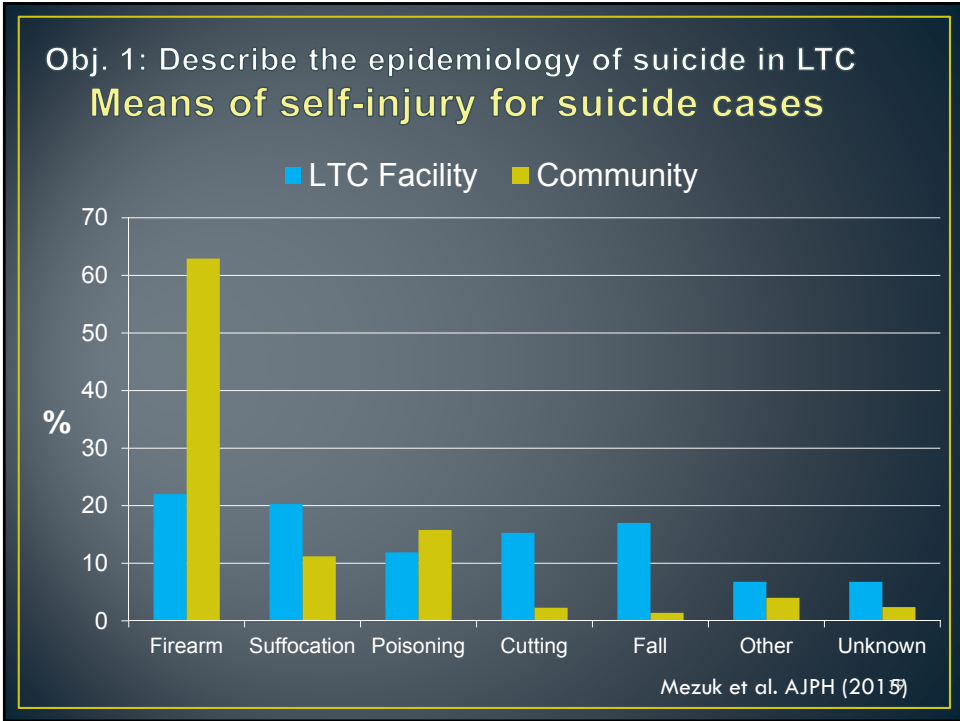
Mezuk et al. AJPH (2015)

17

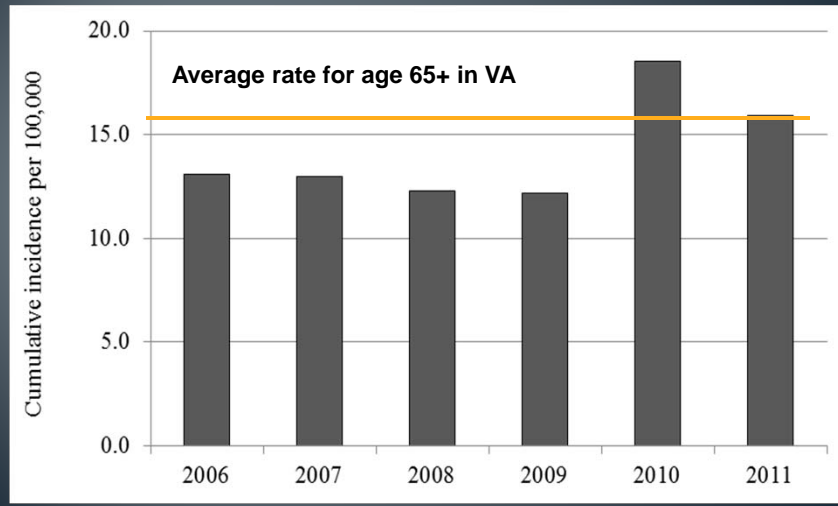
Obj. 1: Describe the epidemiology of suicide in LTC
Demographic characteristics of decedents

	LTC Facility	Community
Demographic characteristics		
Average age	78.6	63.3
Female	27.5%	21.6%
Non-Hispanic White race	94.1%	91.7%

18



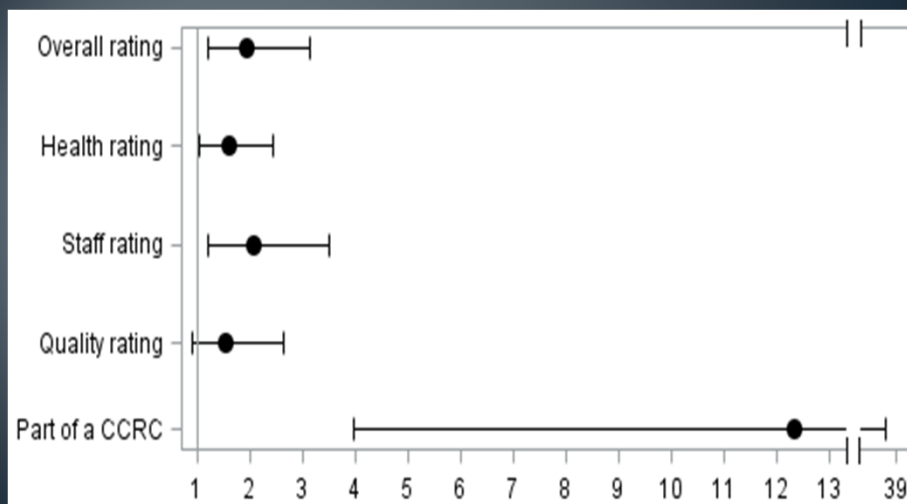
Obj. 1: Describe the epidemiology of suicide in LTC
Rate of suicide in NH: aged 65+



Mezuk et al. AJPH (in press) 21

Obj. 2: Examine whether LTC facility characteristics are related to suicide risk

Organizational-level correlates of suicide in NHs

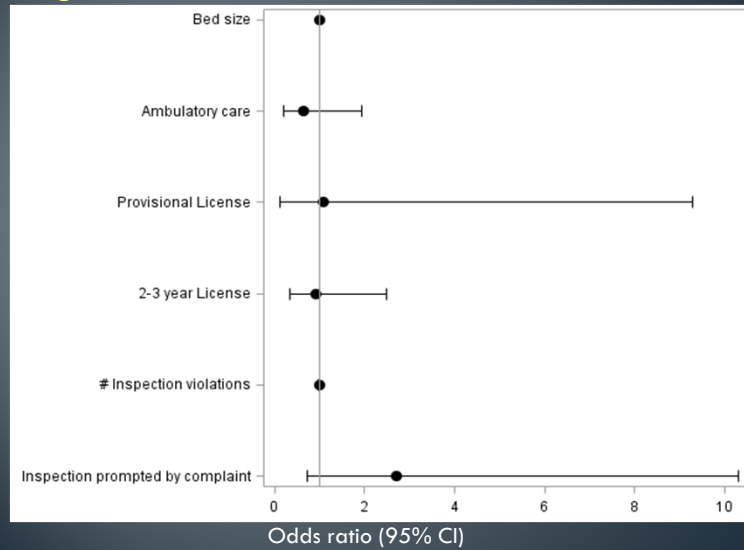


Odds ratio (95% CI)

22

Obj. 2: Examine whether LTC facility characteristics are related to suicide risk

Organizational-level correlates of suicide in ALFs



23

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

Examples of suicides related to LTC

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.

24

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.

25

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

Examples of suicides related to LTC

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.

26

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

Characteristics of decedents related to transitions

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

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)

28

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 \approx 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) 29

Pre-admission Screening and Resident Review (PASRR)

What is PASRR?	PASRR is a federal requirement to help ensure that individuals are not inappropriately placed in nursing homes for long-term care.
What does PASRR require?	<ol style="list-style-type: none"> 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?	<p>Applicants who have tested positive for a Level 1 screen. A Level 2 screen will:</p> <ol style="list-style-type: none"> 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, 2015³⁰

Pre-admission Screening and Resident Review (PASRR)

What is used in a Level 1 screen?	States can create their own screening tools or adapt tools in use by other states.
What is used in a Level 2 screen?	<ol style="list-style-type: none"> 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 31

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>
 - VA Department of Social Services
 - <https://www.dss.virginia.gov/facility/search/alf.cgi>

32

Virginia.gov Agencies | Governor Search Virginia.Gov

VIRGINIA DEPARTMENT OF SOCIAL SERVICES

HOME ABOUT US ABUSE & NEGLECT ADOPTION & FOSTER CARE ADULT & CHILD CARE ASSISTANCE COMMUNITY SUPPORT CHILD SUPPORT CAREERS

Search for an Assisted Living Facility

[Help](#) [Opening Files](#) [Print Version](#) [E-mail Page](#)

Facility Name:
 Location:
 Zip Code:
 Special Services: Non-Ambulatory
 Assisted Living Care
 Special Care Unit

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.

33

[Return to Search Results](#) | [New Search](#) |

Brookdale West End Richmond
 1800 Gaskins Road
 RICHMOND, VA 23238
 (804) 741-8880

Facility Type: [Assisted Living Facility](#)
 License Type: [One Year](#)
 Expiration Date: April 15, 2016
 Qualification: [Residential and Assisted Living Care](#)
 Administrator: Jill Sproul
 Capacity: 136
 Inspector: Yvonne Randolph
 (804) 662-7454

Inspection Date	Complaint Related?	Violations?
June 18, 2014	No	No
March 17, 2015 and March 26, 2015	No	Yes
Jan. 20, 2015	Yes	Yes
Nov. 13, 2014	No	No

Disclaimer:
 A compliance history is in no way a rating for a facility.

34

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

35

The screenshot shows the Medicare.gov Nursing Home Compare interface. At the top, it says "Medicare.gov | Nursing Home Compare" and "The Official U.S. Government Site for Medicare". There are navigation tabs for "Nursing Home Compare Home", "About Nursing Home Compare", "About the data", and "Resources". Below this, it says "Home -> Nursing Home Results".

The main heading is "Nursing home results". Below that, it states "29 nursing homes within 25 miles from the center of 23238." and "Choose up to 3 nursing homes to compare. So far you have none selected." with a "Compare Now" button.

The results section shows "Viewing 1 - 20 of 29 results". The first result is for "LAKEWOOD MANOR" located at "1900 LAUDERDALE DRIVE RICHMOND, VA 23238 (804) 740-2900". It has a distance of "1.4 Miles".

Nursing home information	Overall rating	Health inspections	Staffing	Quality measures	Distance
LAKEWOOD MANOR 1900 LAUDERDALE DRIVE RICHMOND, VA 23238 (804) 740-2900	★★★★★ Much Above Average	★★★★● Above Average	★★★★● Above Average	★★★★★ Much Above Average	1.4 Miles

Below the table, there is an "Add to Compare" button and a link to "Add to My Favorites".

36

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

37

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

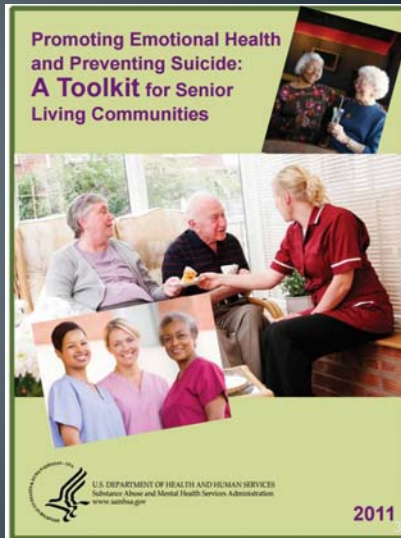
38

SAMHSA Toolkit

Public health approach to suicide prevention

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



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)

The screenshot displays the SPRC (Suicide Prevention Resource Center) website. At the top left is the SPRC logo and the text "SPRC • Suicide Prevention Resource Center" with the tagline "Promoting a public health approach to suicide prevention". To the right is the "SUICIDE PREVENTION LIFELINE" logo with the phone number "1-800-273-TALK (8255)" and the website "suicidepreventionlifeline.org". A navigation bar includes links for "Suicide Prevention Basics", "News & Events", "Training Institute", "Best Practices Registry", "Library & Resources", and "Who We Serve".

The main content area features a large banner for "ZERO Suicide IN HEALTH AND BEHAVIORAL HEALTH CARE". To the right of the banner is the headline "Redesigned Zero Suicide Website and Toolkit Launch" and a paragraph: "Zero Suicide is a commitment to suicide prevention in health and behavioral health care systems. The new website provides an expanded set of implementation strategies and tools, including videos, learning activities, and webinars." Below this is a "Find out more »" button.

A secondary navigation bar below the banner includes "Zero Suicide", "ED Webinar", "Evaluation", and "NCBH Webinar". Below this are three featured sections: "Professionals Providing Social Services" (resources for schools, communities, and organizations), "Health Care & Behavioral Health Providers" (learning how providers can play a role in identifying and helping individuals at risk of suicide), and "Director's Corner" (a postvention by Ken Norton, LICSW, Executive Director, NAMI New Hampshire).

The page number "41" is visible in the bottom right corner of the screenshot.

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.

-G. Rose. The Strategy of Prevention (1992)

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?**”

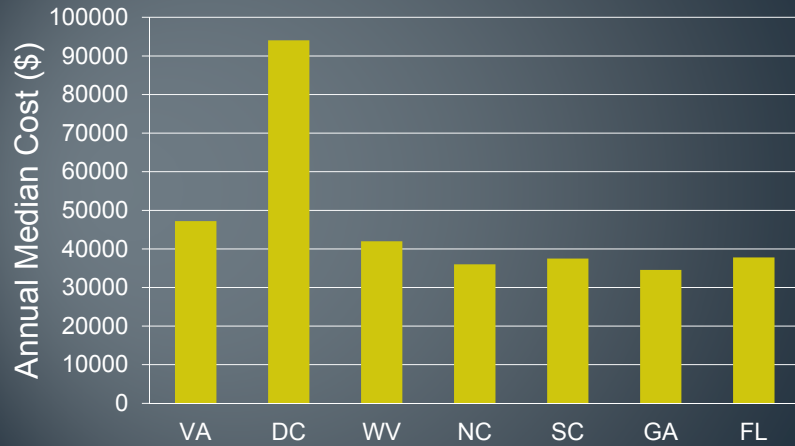
Jerry Reed, co-Chair of the Action Alliance
for Suicide Prevention, 2012

43

Thank you
bmezuk@vcu.edu

44

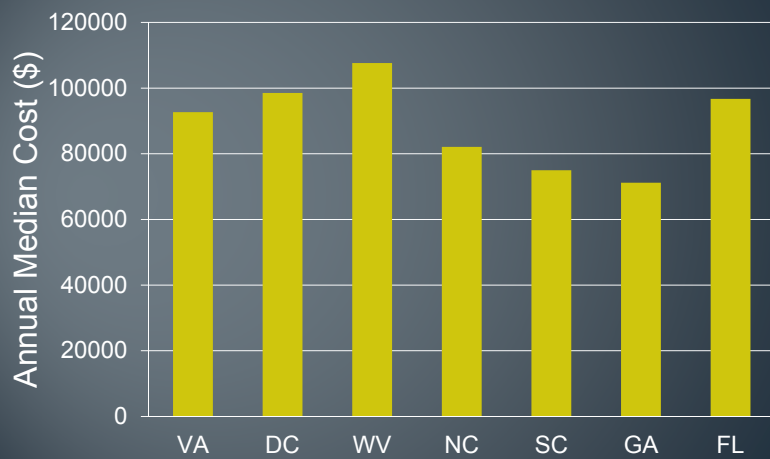
Annual median cost of assisted living facilities: Virginia vs. select southeastern/mid-Atlantic states



Genworth Financial, 2015 Cost of Care Survey

45

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



Genworth Financial, 2015 Cost of Care Survey

46

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

47