

Interactions with VHA care prior to suicide: Implications for providers

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Disclosure: Steven K. Dobscha MD, FAPM, Lauren M. Denneson PhD

With respect to the following presentation, there has been no relevant (direct or indirect) financial relationship between the parties listed above (and/or spouses/partners) and any for-profit company in the past 24 months which could be considered a conflict of interest.

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Today's objectives

- Brief background on suicide and primary care
- Overview of parent project
- Present/discuss quantitative analysis identifying Veteran characteristics associated with suicide
- Present/discuss qualitative content analysis of medical records of subgroups of individuals who died by suicide:
 - OEF/OIF Veterans
 - Women Veterans

Poll Question 1

- What is your primary role in VA?
 - Student, trainee, or fellow
 - Clinician
 - Researcher
 - Manager or policy-maker
 - Other

Background

- Suicide is the 10th leading cause of death in US
(Centers for Disease Control and Prevention 2012)
- 20% of suicide decedents are Veterans; up to 6,500 Veterans die each year (Sundararaman, 2008; Basu 2010)
- Rate of suicide among Veterans receiving care in the VA is 66% greater than rate of suicide in the general population (McCarthy et al, 2009; Blow 2012)
- One-fourth of Veterans who die by suicide have healthcare contacts with VA in year prior to death (Basham 2011)

Suicide and primary care

- Half of suicide victims have contact with primary care clinicians within 1 month of suicide (Luoma et al, 2002)
 - Only 1/5 have contact with mental health clinicians in the month prior to suicide (Luoma et al, 2002)
- Little information is available describing characteristics of these patients or the primary care they received.
- Primary care clinicians have an opportunity to intervene among high risk patients

Veteran Interactions with VA Primary Care prior to Suicide (VA HSR&D)

- Overall project objectives:
 - Describe characteristics of, and VA primary care received by, suicide decedents in the year prior to death
 - Describe and evaluate content of last interactions with VA primary care clinicians, nurses and assistants
 - Describe characteristics of, and care received by Veterans of Iraq and Afghanistan in the year prior to death
- Main Goal: Identify opportunities to identify and intervene with Veterans at highest risk
- Co-investigators and Collaborators: Denneson, Kovas, Teo, Forsberg, Kaplan, Bossarte, McFarland

Study Overview

- Design: Retrospective Case-Control
- Subjects
 - 269 Veterans from 11 states who died by suicide in 2009.
 - 538 controls matched on age, sex, clinician seen, when seen
- Sources of data
 - VA VISN 2 Center of Excellence database (death certificate data)
 - VA Corporate Data Warehouse
 - Manual medical record review
- Approach: Link data to identify correlates of suicide and examine care received prior to death

Focus of this presentation

- Objective: Describe *demographic, clinical*; and *psychosocial context* characteristics of male veterans who received VA primary care in the six months prior to suicide; compare these to characteristics of control patients who also received VA primary care.
- Measures—*Demographics*
 - Age
 - Sex
 - Race/Ethnicity
 - Marital status
 - Urban vs Rural
 - VA Service Connected Disability

Measures continued

- Clinical

- ICD-9 CM Diagnoses:
Psychiatric, Pain, TBI
- Comorbidity (Selim)
- Suicidal ideation and behaviors
- Anger
- Functional decline
- Sleep disturbance

- Psychosocial Context

- Housing
- Relationships
- Isolation
- Moving/moved
- Legal
- Financial
- Job problem
- Grief

Representativeness of sample

	11-state sample	Nationally
<u>Patient characteristics*</u>		
Age %		
25–39	11.79	12.49
40–49	14.89	14.56
50–59	17.88	17.30
60–69	26.19	25.31
70–79	16.41	16.50
80+	11.79	12.72
Female %	9.22	9.57
White (vs. Other) %	84.28	79.48
<u>Facility Characteristics</u>		
Unique patients per VA facility†		
Mean	43,333	44,394
Median	40,785	40,785
Range	15,498 – 92,325	11,807 – 128,857
Distribution of VA facilities by complexity		
1a	24.39	23.19
1b	7.32	12.32
1c	17.07	18.12
2	29.27	23.91
3	21.95	23.19

Cases vs. Controls—*Demographics* (bivariate analyses)

	Cases (n=261) %	Controls (n=522) %	p-value
Age at primary care clinician visit			
25–39	6.1	5.6	1.00
40–49	10.7	11.1	
50–59	25.3	25.5	
60–69	23.8	24.1	
70–79	15.7	15.1	
80+	18.4	18.6	
Married	46.0	59.8	<0.001
Race *			0.01
White	89.7	81.9	
Black	8.3	16.9	
Other race	2.0	1.2	
Non-Hispanic ethnicity **	99.0	98.3	0.47
Urban residence	64.2	66.2	0.58
VA Service Connected Disability (y/n)	39.1	53.6	<0.001
50% service connected or greater	52.9	62.1	0.11
Seen at multiple VAs	11.5	9.6	0.40

Cases vs. Controls—*Clinical*

	Cases (n=261) %	Controls (n=522) %	p-value
Any psychiatric diagnosis (y/n)	63.2	37.2	<0.001
Major depressive disorder	33.0	14.6	<0.001
Dysthymia	2.7	2.9	0.88
Bipolar disorder	7.3	3.1	0.01
PTSD	13.0	12.1	0.70
Anxiety/panic disorder (other than PTSD)	21.8	6.5	<0.001
Schizophrenia	4.6	2.9	0.21
Substance use disorder †	10.0	4.8	0.01
Alcohol use disorder	19.5	7.7	<0.001
Traumatic Brain Injury	0.8	0.6	--
Any pain diagnosis (y/n)	48.3	48.9	0.88
Selim comorbidity score, mean (SD) ‡	2.3	2.2	0.41
Functional decline	28.0	12.1	<0.001
Sleep disturbances	45.6	31.6	<0.001
Anger	25.3	15.9	<0.01
Endorsed suicidal ideation or attempt			<0.001
Yes to ideation or attempt	30.7	6.5	
No to all asked	21.5	33.5	
Asked neither	47.9	60.0	

Cases vs. Controls—*Psychosocial context*

	Cases (n=261) %	Controls (n=522) %	p-value
Housing instability	5.0	3.6	0.37
Relationship problem	21.8	8.0	<0.001
Isolation	21.8	7.5	<0.001
Moving/recently moved	11.1	3.6	<0.001
Legal problems	8.0	2.3	<0.001
Financial problems	19.2	9.4	<0.001
Job/school problems	11.9	6.7	0.01
Grief/loss of loved one	16.1	6.3	<0.001

Multivariable analysis—Final model

Race	
White	1.0 (ref)
Non-white	0.51 (0.27 - 0.98)
Unknown	1.47 (0.99 - 2.17)
Married	0.66 (0.42 - 1.03)
Service Connected	0.54 (0.36 - 0.80)
Major Depressive Disorder	1.82 (1.07 - 3.10)
Bipolar Disorder	1.42 (0.44 - 4.61)
Anxiety Disorder	3.52 (1.79 - 6.92)
Alc/Substance Use Disorder	1.46 (0.80 - 2.67)
Functional Decline	2.52 (1.55 - 4.10)
Sleep	1.10 (0.68 - 1.81)
Anger	0.66 (0.29 - 1.49)
Suicidal Ideation	
Not Asked	1.0 (ref)
Did not endorse	0.56 (0.32 - 0.97)
Endorsed thoughts/attempt	2.27 (1.07 - 4.83)
Relationship Problems	1.96 (0.96 - 3.98)
Isolation	1.28 (0.55 - 2.98)
Moving	1.31 (0.52 - 3.29)
Legal	2.72 (0.75 - 9.90)
Financial	0.71 (0.33 - 1.52)
Grief	1.48 (0.78 - 2.78)
Job or School	0.73 (0.33 - 1.60)

Numbers of stressors

- In post hoc models, we added numbers of psychosocial stressors to the model:

Number of Psychosocial Factors

0	1.0 (ref)
1-2	1.48 (0.90 - 2.44)
3+	2.65 (0.98 - 7.14)

Summary

- Mental health conditions including SUD, and functional decline, sleep disturbance, anger, suicidal ideation, and psychosocial stressors were all significantly more prevalent in cases compared to controls.
- In multivariable models, anxiety disorder other than PTSD, depression, functional decline, and endorsement of suicidal ideation were key predictors for suicide in this primary care patient population.

Discussion and implications

- Odds of suicide associated with anxiety twice those of odds associated with depression
 - Other recent study of national VA sample found anxiety associated with suicide ([Conner 2013](#))
 - Increased motivation to act on ideation, indicator of additional comorbidity?
- Functional decline
 - Also consistent with prior studies
- Greater attention needed in primary care to improve recognition of anxiety and distress associated with functional decline and develop interventions

- Suicidal ideation
 - Consistent with recent study showing increased risk with positive PHQ-9 9th item ([Simon 2013](#))
 - Limitations of SI screening by itself include:
 - Low predictive ability
 - Veterans frequently don't disclose
- Psychosocial context variables dropped out of final models
 - Doesn't mean not important—interaction effects?
 - Overall burden may be important
 - Likely reflects limitations of what is documented

Study limitations

- No patient level measures. Relied on chart review which relies on clinician documentation
- Potential for misclassification of Veteran status
- Did not use truly national sample
- Few women; Few Veterans of Iraq and Afghanistan; Few with TBI
- Did not explore for interaction effects
- Limited impact of what we can take away from a purely quantitative approach

Qualitative content analysis of VA medical records of Veterans who died by suicide

Qualitative Team:

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Poll Question 2

- Which best describes your qualitative research experience?
 - Have limited exposure/knowledge of qualitative research
 - Have some to substantial knowledge of qualitative research
 - Have collaborated on qualitative research
 - Have led a qualitative research study

Focus of this presentation

Conduct a rigorous, in-depth qualitative study of medical records of OEF/OIF Veterans and women Veterans who died by suicide to:

- Describe psychosocial context/life experiences (supports and stressors)
- Describe primary health concerns
- Better understand the VA care they received prior to death
- Highlight treatment needs for these subpopulations of Veterans at risk for suicide

Methods

- Qualitative content analysis of VA medical records
 - 11 states, 41 VA facilities
 - Suicide decedents from 2007 to 2009
 - Review timeframe: 6 months prior to suicide
- Rapid-turn-around approach (Beebe, 2001; Hamilton, 2013)
 - 3 non-clinician reviewers: demographic, psychosocial, and health
 - 2 clinician reviewers: targeted clinical review
 - Each case reviewed by two non-clinicians and both clinicians
- Demographic and military service data from VA administrative databases and OEF/OIF Roster

Case Narratives

- Social
 - Family, friends, dependents, intimate relationships
- Education/Occupational
 - Education, military service, employment
- Supports
 - Social support, positive experiences, strengths
- Stressors
 - Financial strain, loss of independence, difficulty reaching goals
- Health context
 - Health concerns, healthy behaviors, health-related goals
- Healthcare received
 - Types of care, care discussed but not utilized, unmet needs

Clinical Review

- Mental health conditions
- Types of psychotherapy and medications
- Suicide risk assessment
- Under-treatment or care needs unaddressed
- Overall impressions of diagnosis
- Overall impressions of adequacy and appropriateness of treatment
- Other things of note

OEF/OIF Veterans – Sample

- 38 OEF/OIF Veterans (10% female)
- Average age: 34 (range 23 to 56)
- 31 (82%) white, non-Hispanic
- 25 (66%) not married (single, divorced, or widowed)
 - 5 in a relationship
- Method of suicide
 - 21 (55%) Firearms
 - 9 (24%) Hanging/Strangulation/Suffocation
 - 4 (12%) Poisoning
 - 4 (12%) Other/unknown

OEF/OIF Veterans - Findings

- Marital/intimate relationship concerns
 - Violence/trauma, recent break-ups/tenuous relationships
 - Anger/aggression
 - Legal problems, perpetration of violence against family
 - Financial Strain
 - Inability to work due to physical injury/pain
 - Combat/service-related issues
 - Nightmares, PTSD, guilt, physical injury
 - Medical issues less of a source of stress for males in the group than for females
- Address combat/service related issues and anger/aggression, which were often tied to both financial and relationship issues

OEF/OIF Veterans – Findings

- Most received MH treatment – many initiating MH care
- Multiple clinical diagnoses
- Transitioning between care settings
- Care problems
 - Under-recognized or under-treated substance use disorders
 - Receipt of sedative-hypnotics very common, appropriateness questionable at times
 - Treatment intensity and outreach sometimes lacking
- Assessment for suicidal thoughts very common
- Increase outreach, treatment intensity, and veteran engagement

Women Veterans – Sample

- 27 women Veterans
- Average age: 44 (range 26 to 67)
- 20 (74%) white, non-Hispanic
- 26 (96%) not married (single, divorced, or widowed)
 - 6 living with significant other

- Method of suicide
 - 12 (44%) Poisoning
 - 11 (41%) Firearms
 - 2 (7.4%) Hanging/strangulation/suffocation
 - 2 (7.4%) Other/unknown

Women Veterans - Findings

- Trauma & lack of supportive relationships
 - Childhood/adult sexual abuse
 - Intimate partner violence
 - Some lacking PTSD diagnoses
 - More often diagnosed with borderline personality disorder
- Substance abuse & relationship conflict
 - Drug-seeking
 - Alcohol abuse
 - Patient concerns over how substance abuse impacting family, work
 - Substance use happening in context of family stress and/or abuse
- Poor physical health & limited functioning
 - Multiple chronic health issues
 - Ambiguous, concerning, worsening health concerns

Women Veterans – Findings

- Majority were complex cases with several interactions and multiple health concerns
 - “Risk Factors” common
 - Approximately half consistently denied thoughts of suicide
- Unmet needs in days before suicide?
 - “Desperate” for detox
 - Unavailable inpatient beds
 - Transitioning veteran unable to receive medication
 - Survivor of prolonged sexual abuse experiencing “frightening, mildly romantic feelings” towards someone in a position of power
- Better system response needed in these cases to identify the patient’s needs/goals and address them adequately

Implications

- Additional attention to non-military-related trauma, especially sexual abuse, is warranted
 - With consideration of PTSD diagnosis and treatment
- Additional attention to the quality of social relationships and the capacity to develop meaningful, supportive relationships
- Benefits of benzodiazepines and sedative hypnotics should be weighed against risk
- Additional attention to detection and perhaps increase treatment intensity for substance use disorders
- Improve outreach, engagement, and continuity in care generally

Limitations

- Medical record documentation varies by site and author
 - Standards vary over time
 - Influenced by author discipline
 - Does not necessarily capture entire interaction
- Little information on supports and positive aspects of the veterans' lives

Questions?

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Citations

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SUPPLEMENTAL SLIDE: Coding definitions for manual record review

Clinical actions and conditions	
Discussed suicidal ideation	Notes document discussion of whether patient is experiencing suicidal ideation. Includes response to templated suicide risk assessments routinely administered in VA following positive depression and post-traumatic stress disorder screens(51)
Endorsed suicidal ideation	Endorsement of thoughts about engaging in suicide-related behavior, including passive ideation.
Discussion of attempt	Notes document discussion of whether patient had any previous suicide attempts.
Attempt endorsed	Endorsement of suicide attempt(s)
Anger	Notes indicate angered emotional state ranging from irritation to intense fury or rage.
Functional decline	New or worsening health problem that limits normal activities or requires dependence on others.
Sleep disturbances	Any difficulty with sleep, nightmares, or sleep apnea, excluding oversleeping or sleepiness.
Psychosocial context	
Housing instability	Evidence of homelessness, evictions, or temporary housing occurring within 6 months prior to index date.
Relationship problem	Evidence of divorce, break-up, arguments or estrangement with either intimate or non-intimate relationships
Isolation	Evidence of loneliness, social withdrawal, living alone without supports, non-intact or estranged families.
Moving/recently moved	A recent move of residence or plans to move in near future (unrelated to housing instability or loss of independence).
Legal problems	Evidence of involvement in legal process, such as impending court appearance, custody dispute, or probation/parole.
Financial problems	Evidence of concern about finances, bankruptcy, debts, and/or foreclosure.
Job or school problems (other than financial)	Difficulty stemming from work/school or lack of work such as job layoff/firing, pressure/stress, or active search for employment.
Grief/loss of loved one	Recent death of loved one or a pet, or current grief for a death of loved one that occurred at any time.