

Lethal means restriction as suicide prevention: Variation in belief and practice among providers in an urban ED



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Disclosures & Contact Information

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Background

- Suicide remains a major public health problem
 - 11th leading cause of death in the US [CDC]
- Many suicidal patients are seen in Emergency Departments
 - 2005: 372,000 ED visits for non-fatal, self-inflicted injuries
 - 0.4% of all ED visits are for suicidal ideation, and such a visit is a predictor of future suicide [Doshi 2005, Mann 2005]
 - Rates of ED visits for suicidal ideation appear to be increasing, but mental health resources are becoming more scarce [Larkin 2008]

Background: Suicide Prevention

- It's difficult:
 - How to predict an individual's risk of committing suicide in the near future?
 - How to screen patients in the ED?
- But possible: [De Moore 1983; Kost-Grant 1983; Peterson 1985; Swahn 2001; Bostwick 2000; Hawton 2003; O'Donnell 1994; Seiden 1978]
 1. Many suicide acts are impulsive
 2. Many suicide crises are temporary (especially among youth)
 3. Vast majority of attempters do *not* go on to commit suicide in the future

Background: "Means Restriction"

- Limiting access to lethal means may prevent suicide
- Prior examples: [Handbook of Injury and Violence Prevention; Miller 2006; Seiden 1978; Friend 2004]
 - Decrease in CO in cooking gas in UK, 1970s
 - Physical barriers on bridges and "suicide destinations" (Eiffel Tower, St. Peter's Basilica, Sydney Harbor Bridge, Mt Mihara volcano)
 - Removal and subsequent replacement of a bridge barrier in New Zealand, 1990s-2000s [Beautrais 2009]
 - Blister packaging of acetaminophen in UK
- Opportunity for intervention in the ED?
 - Parents of youth seen for mental health evaluations who received ED provider guidance on injury prevention were more likely to limit access to firearms and poisons [Kruesi 1991]

Study Questions

1. What are the beliefs and behaviors among ED providers toward means restriction as a suicide prevention measure?
2. Do these beliefs and behaviors vary significantly by provider characteristics?

Methods: Study Design

- Design: Anonymous web-based survey
- Study setting: Urban, tertiary care hospital (annual ED census of over 55,000 adult patients)
- Study participants: Current, full-time staff in this ED:
 - ED attending physicians
 - ED resident physicians
 - ED nurses
 - Psychiatry attending physicians
 - Psychiatry resident physicians
- Time period: Winter-spring 2009

Methods: Study Design

- Measurements: 24-item questionnaire with multiple-choice questions about:
 - Participant demographics
 - Personal views on suicide
 - Estimated accuracy of predicting the likelihood of suicide in a suicidal patient
 - Frequency of asking suicidal patients about firearm access
 - *And the following question:*

"Over 1,000 people have jumped to their deaths from the Golden Gate Bridge. Had there been a barrier that prevented jumping, how many would have found another way to commit suicide?"

Methods: Analysis

- Numerical responses to the bridge question were grouped for analysis
 - Few (0-33%), Some (34-66%), Most (67-99%), All (100%)
- Primary outcome measures:
 1. The proportion of ED staff who believed all the jumpers from the bridge would have found an alternative lethal method of suicide had there been a physical barrier
 2. The proportion of staff who reported always asking suicidal ED patients about firearm access.
- Descriptive survey data were analyzed and reported with counts, percentages and averages.
- Separate stepwise multivariate logistic regressions were used to test for associations between the primary outcome measures and the coefficients of predictor variables

Results

- Overall survey response rate: 68%

Demographic and Professional Characteristics (N=146)			
		n	%
Demographics	Age >25	144	99
	Male	67	46
	Currently married	97	66
	Current nonsmoker	137	94
	Alcohol binge within last month	21	14
Position	ED resident physician	31	21
	Psychiatry resident physician	20	14
	ED attending physician	38	26
	Psychiatry attending physician	3	2
	ED nurse	54	37
Frequency of Contact with Suicidal ED Patients	All the time	45	31
	Often	97	66
	Rarely/Never	4	3

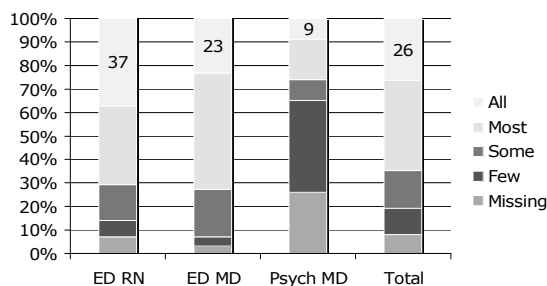
Demographic and Professional Characteristics (N=146)

		n	%
Political Views	Conservative	16	11
	Moderate	52	36
	Liberal	69	47
Frequency of Attendance at Religious Services	Never	46	32
	≥ 1 time per year	54	37
	≥ 1 time per month	24	16
	≥ 1 time per week	22	15
Firearm Access	Personally own	10	7
	Firearm in home but don't own	7	5

Beliefs About Suicide and Assessment of Suicidal Patients' Access to Firearms, by Staff Position (N=146)

	ED nurse (n=54)	ED MD (n=69)	Psych MD (n=23)	Total
	n (%)	n (%)	n (%)	n (%)
Number of GGB jumpers who would have found a lethal suicide alternative				
All	20 (37%)	16 (23%)	2 (9%)	38 (26%)
Most	18 (33%)	34 (49%)	4 (17%)	56 (38%)
Some	8 (15%)	14 (20%)	2 (9%)	24 (16%)
Few	4 (7%)	3 (4%)	9 (39%)	16 (11%)
Missing	4 (7%)	2 (3%)	6 (26%)	12 (8%)
Frequency I assess suicidal patients' access to firearms				
Always	9 (17%)	6 (9%)	13 (57%)	28 (19%)
Often	8 (15%)	24 (35%)	6 (26%)	38 (26%)
Rarely/Never	36 (67%)	37 (54%)	3 (13%)	76 (52%)

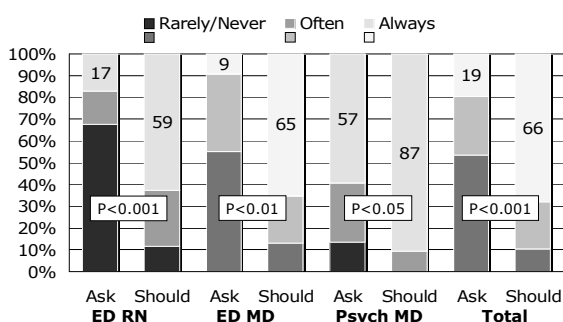
Number of jumpers who would have found a lethal suicide alternative, by provider type (N=146)



Results

- In multivariate logistic regression analysis, the only factor significantly associated with believing that all jumpers would have died was:
 - Being a nurse (versus physician, OR 2.42, 95% CI 1.14-5.15)

Frequency of asking suicidal patients about firearm access, by provider type (N=146)



Results

- In multivariate analysis of physicians, factors associated with always asking suicidal patients about firearm access were:
 - Being a psychiatrist (versus ED physician, OR 11.2, 95% CI 3.3-37.8)
 - Being female (versus male, OR 3.7, 95% CI 1.0-12.9)

Limitations

- Site was a single, urban ED with only adult patients
 - But physicians and other staff in the study ED trained at institutions across the nation
- Some psychiatry residents may have attended an educational lecture on means restriction given by one of the authors months before the study
 - May have made them more likely to believe in the effectiveness of means restriction
- Small sample sizes within some subgroups were small
 - E.g., only a small number of psychiatrists work in the ED and no nurses from the psychiatry department work in the ED
 - Limited the study's power to examine more nuanced relationships
 - Increases the risk of spurious findings from multiple comparisons

Summary & Conclusions

- 26% of care providers in an urban ED believed that every single jumper from the Golden Gate Bridge would have found a lethal suicide alternative had a barrier been present
 - Although slightly lower than the results from the general public (34%) in a previous national survey, this suggests that many providers are still skeptical or uninformed about means restriction as a form of suicide prevention
- All types of providers reported asking about firearm access less frequently than they thought they should
 - Providers may not be coordinated in their safety assessments

Summary & Conclusions

- Further understanding provider beliefs about and behaviors surrounding suicide prevention in the ED could help:
 - Target provider education
 - Reinforce evidence-based suicide prevention activities
 - Support the creation of more coordinated plans across departments

Resources

- "Means Matter" Website from the Harvard School of Public Health
 - For providers: information about lethal means counseling
 - For families: safety tips, what to do with guns
 - Plus additional information about the research underpinning a means restriction approach to suicide prevention

<http://www.hsph.harvard.edu/means-matter/>

- National Hotline
1-800-273-TALK
(1-800-273-8255)



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