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# Prevention of Elderly Suicide

## Physicians' Assessment of Firearm Availability

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**Introduction:** Physicians have a unique role to play in the prevention of elder suicide, yet they may not be sufficiently attentive to the prominence of firearms in the rising trend in suicide by elderly persons. This study sought to examine the extent to which physicians inquired about firearms with their depressed and suicidal elderly patients and further identified factors associated with physicians' likelihood of asking about firearms.

**Methods:** A probability sample of 300 primary care physicians in Illinois was drawn from the American Medical Association Physician Masterfile. Physicians were chosen from the specialties most likely to be involved with elderly persons: internal medicine and family practice. A mailed questionnaire yielded a 63% response rate.

**Results:** Although they were treating depressed and suicidal older patients, a sizable proportion of the respondents (42%) reported that they did not ask such patients or their family members whether they had access to a firearm. Several factors distinguished physicians who assessed for firearms from those who did not. The most salient predictors were: continuing medical education training in suicide risk assessment, expertise in geriatric mental health, confidence in diagnosing depression, having a patient mention suicide in the past year, and indicating patient reluctance as a barrier to mental health treatment.

**Discussion:** Physicians working with depressed and suicidal elderly persons need to be informed about the prevalence of elder suicide and about the likelihood of elderly persons using firearms as a method of suicide. Effective suicide prevention will require physician training that directly addresses geriatric mental health and firearm suicide, in particular, at the student, residency, and continuing education levels.

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The current epidemiology of elder suicide poses a growing challenge in the fields of public health and preventive medicine. In 1994, elderly persons (65+ years) had the highest rate of suicide of any age group—18.1 per 100,000—compared with 15.4 per 100,000 among young adults (25-34 years), the next highest group.<sup>1</sup> In that year, more than 6,000 elderly persons committed suicide, accounting for about 20% of the total number of suicides.<sup>1</sup> From 1980 to 1992, the rate of suicide among elderly persons increased 9% (from 17.6 to 19.1 per 100,000), reversing a 40-year declining trend in the suicide rate for this age group.<sup>2,3</sup> A substantial proportion of this rising trend was associated with an increase in the use of firearms. Between 1980 and 1992, the proportion of suicides completed

with firearms increased 12% (from 69% to 77%) for elderly men and 46% (from 24% to 35%) for elderly women.<sup>2,3</sup> Indeed, firearms have become the most common suicide method for elderly men as well as for elderly women, surpassing the second most common method for women, poisoning, as of 1982.<sup>4</sup> Given their greater use of highly lethal methods, elderly persons are much more likely to be successful with any given suicide attempt.<sup>2,5</sup> Yet, questions persist regarding whether health professionals recognize elderly suicide as a preventable health problem and act accordingly.<sup>2</sup>

Although physicians have a unique role to play in the prevention of elder suicide,<sup>6-8</sup> many are not assertive in the management of suicidal behavior.<sup>9</sup> A number of researchers have found that of the elderly persons who committed suicide, at least half consulted a physician within a month or less of their death.<sup>5,6,10</sup> It follows from the epidemiologic issues just described that physicians who work with at-risk patients (especially those already at risk for affective disorders) may not be sufficiently attentive to the critical role that firearms play in the rising trend in elder suicide.<sup>11</sup> Effective

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suicide prevention requires not only knowledge of patients' emotional and behavioral functioning, but awareness of patients' access to highly lethal suicide methods (particularly firearms). Because firearms in the home pose a substantial risk factor for suicide,<sup>12-14</sup> clinical preventive interventions must be targeted at identifying and evaluating patients' possession of firearms.<sup>7</sup> Although primary care physicians routinely counsel their elderly patients about a variety of health-related issues,<sup>13</sup> little is known about physicians' practices concerning suicide detection and assessment.

The purpose of our study was twofold. First, we examined a probability sample of primary care physicians in Illinois to determine the extent to which they conducted firearm-availability histories with their depressed or suicidal elderly patients. Second, we sought to identify the factors associated with physicians' likelihood of inquiring about the availability of firearms. The results of the study may have implications for those who design the training of primary care physicians at the student, residency, and continuing education levels. This study was part of a larger project dealing with general practitioners' management of depression and suicidality among elderly patients.

## Methods

### Sample

We obtained a probability sample of 300 Illinois primary care physicians from the American Medical Association Physician Masterfile. Potential participants were chosen from the specialties that are most likely to be involved with elderly persons: internal medicine and family practice.<sup>15</sup> In May 1996, physicians were mailed a packet including a cover letter, letter of endorsement from the Illinois State Medical Society, postage-paid return envelope, and the survey instrument. Every effort was made to reach nonrespondents, including follow-up mailings and contacts by telephone and facsimile.

### Instrument

The survey instrument was designed to take no more than 10 minutes to complete. It was pretested with small random samples of physicians to ensure accurate interpretation and ease of completion. The instrument included items regarding primary and secondary specialties, practice patterns and training, years in practice, demographic characteristics (e.g., age and gender), practice settings (office, hospital, nursing home, community-based clinic), and location of practice (rural, urban, suburban). Physicians were also asked to identify the types of assessment and treatment practices they used with their elderly patients, as well as to rate their confidence in their ability to diagnose and treat depres-

sion and suicidality. Respondents were asked to indicate which of nine potential obstacles they perceived as having an impact on their ability to address the mental health needs of their older patients. Two other questions were "Have you ever asked a patient 65 or older who was depressed or suicidal if he/she had access to a firearm?" and "Have you ever asked a family member of an older patient who was depressed and/or suicidal if the patient had access to a firearm?"

## Variables

The dependent variable was constructed from the questions concerning patients' access to firearms. This variable consisted of two categories: (1) asked patient or family about patient's access to firearms and (2) did not ask patient or family about patient's access to firearms. Predictors fell into five categories: physicians' characteristics (demographic and training), practice characteristics (location and patient load), mental health assessment techniques, treatment approaches, and obstacles to treatment (e.g., insufficient training in geriatric mental health). The majority of the variables in these five categories were categorical, except for physicians' age, years in practice, and confidence ratings, which were continuous. Response categories for the items "percent of patients 65+" and "percent of depressed patients" were 1%-25%, 26%-50%, 51%-75%, and 76%-100%. The items assessing physicians' self-reported confidence levels were rated on a five-point scale with responses ranging from 1 ("not at all confident") to 5 ("very confident").

## Data Analysis

Independent variables included were those indicated as important in previous research. Physicians were assigned to two groups, depending on whether they reported asking their patients about firearms or not. Chi-square and *t*-test analyses were conducted to test for significant differences between the two groups. In the next step, multivariate logistic analyses were used to build a model with the dependent variable "asked" vs. "not asked" patient or family about access to a firearm. Covariates were entered into the model using a forward stepwise selection method.<sup>16</sup> Variables included in the logistic regression were those that significantly discriminated between the two physician groups. For this step of the analysis, continuous-level variables were converted into categorical ones using a median split approach. For the resulting subset of significant predictors, we then calculated the 95% confidence intervals (CIs) for the odds ratios using Woolf's method.<sup>17</sup>

**Table 1.** Factors related to physicians' assessment of patients' access to firearms

	Assessed for firearm access ( <i>n</i> = 92)	Did not assess for firearm access ( <i>n</i> = 67)
Physicians' characteristics		
Age (M)	46.0	46.6
Gender (% male)	78	81
Years in practice (M)	14.8	14.2
Subspecialty in geriatrics (%)	41	16**
Medical school training in suicide risk assessment (%)	63	50
Residency training in suicide risk assessment (%)	57	49
CME training in suicide risk assessment (%)	61	30**
Confidence in diagnosing depression (M) <sup>a</sup>	4.2	3.9*
Confidence in treating depression (M) <sup>a</sup>	4.0	3.6**
Confidence in diagnosing suicidality (M) <sup>a</sup>	3.9	3.3**
Confidence in treating suicidality (M) <sup>a</sup>	2.7	2.1**
Practice characteristics (%)		
Rural location	22	6**
Percent of patients 65+ (>50%)	47	43
Percent of depressed patients (>25%)	29	14*
In the past year, did a patient aged 65+ mention suicide?	73	35**
Nursing home practice	63	48*
Mental health assessment techniques (%)		
Medical workup	74	58*
Questionnaires or scales	41	12**
Treatment approaches (%)		
Brief supportive counseling	87	78
Long-term psychotherapy	28	13*
Hospitalization	25	6**
Observed and managed without medication	39	43
Prescribed medication	94	91
Treatment obstacles (%)		
Patients unwilling to seek help	86	69*
Patients not complying with treatment	69	57
Insufficient training in geriatric mental health	12	24*
Lack of time	46	48
Lack of referral resources	20	21
Lack of expertise	11	29**
Lack of financial reimbursement	17	15
Restrictions on mental health coverage	35	21*
Concern about stigmatizing patient	9	9

<sup>a</sup>Scale from 1 = not at all confident to 5 = very confident.

\**P* < .05.

\*\**P* < .01.

## Results

Of the entire sample (*n* = 300), 12% had retired, died, or moved without leaving a forwarding address. Surveys were returned for 167 of the remaining 264 physicians, yielding a response rate of 63.3%. The majority of respondents, 95.2% (*n* = 159) answered yes or no to the questions concerning patients' access to firearms. Eight responded "not applicable" because they did not have depressed or suicidal elderly patients.

Respondents had an average age of 46.3 (SD = 10.6) and were primarily male (79%) and white (75%). Practice specialties were general internal medicine (42%), general family practice (28%), and internal medicine or family practice with a subspecialty in geriatrics (31%). The demographic composition of the

sample closely matched the study population on such characteristics as age, gender, and ethnicity.

As seen in Table 1, 92 physicians (58%) reported asking their patients or family members about access to firearms. Chi-square and *t*-test analyses revealed significant differences between the two groups on 18 of the 32 variables examined. Physicians' characteristics that were significantly related to the assessment of patients' access to firearms were geriatrics subspecialty, continuing medical education (CME) training in suicide risk assessment, and self-rated confidence in diagnosing and treating both depression and suicidality. Among the practice characteristics, physicians were significantly more likely to assess for firearm access if they practiced in rural communities, reported that at least

25% of their patients were depressed, had experience with suicidal patients, or worked in a nursing home. Both of the mental health assessment techniques—conducting medical workups and using questionnaires or scales—were significantly related to the dependent variable. In addition, physicians who used long-term psychotherapy and hospitalization to treat their depressed patients were also more likely to ask about patients' access to firearms as were those who reported "patients unwilling to seek help" and "restrictions on mental health coverage" as barriers to mental health care. In contrast, physicians who reported "insufficient training in mental health" and "lack of expertise" as obstacles were less likely to ask about their patients' access to firearms.

Of the 18 variables entered into the logistic regression analysis, seven emerged as the most important predictors of physicians asking depressed or suicidal elderly patients about their access to firearms. Physicians were more than twice as likely to probe for access to firearms if they had a patient mention suicide in the past year (OR = 2.18; 95% CI = 1.42, 3.36). They were also more likely to assess for firearms if they rated themselves as more confident in their ability to diagnose depression (OR = 1.79; 95% CI = 1.02, 3.13), reported "patients unwilling to seek help" as a treatment obstacle (OR = 1.90; 95% CI = 1.13, 3.18), and had received CME training in suicide risk assessment (OR = 1.59; 95% CI = 1.04, 2.44). However, physicians were half as likely (OR = .51; 95% CI = .28, .91) to ask patients (or families) about their access to firearms if they lacked expertise in geriatric mental health. Two additional factors were marginally associated with the likelihood of asking patients about firearms: practicing in a rural community (OR = 1.97; 95% CI = .99, 3.94) and perceived restrictions on mental health care coverage (OR = 1.64; 95% CI = 1.00, 2.70).

## Discussion

Even though they treated depressed and suicidal elderly patients, a sizable proportion of the physicians in our sample (42%) reported that they did not ask such patients or their family members whether they had access to a firearm. Given the relatively high rate of suicide among elderly persons and their likelihood of using firearms as their method of choice, these results raise concerns about the extent of primary care physicians' efforts at suicide prevention.

A brief caution in interpreting our results is in order. It is not clear to what extent social desirability played a role in the responses we received. It could be that the study instrument sensitized some respondents to the need to ask elderly patients about firearm access. Also, if a physician recalled asking even one patient about access to firearms, he or she was categorized in the

"assessed for firearm access" group. Being classified in this group, therefore, does not necessarily indicate regular or frequent assessment of the availability of firearms. A second caution concerns the lack of information about nonrespondents. It is possible that the nonrespondents differed in their approach to treating depressed and suicidal patients. Perhaps the nonrespondents considered that they were doing a good job at aggressively treating such patients, and therefore saw no need to respond to the survey. More likely it seems, nonrespondents may have been reluctant to report that they were not adequately addressing their geriatric patients' mental health concerns or did not think it was important to do so. Although we cannot be certain this is the case, this possibility only bolsters the arguments made here.

Several factors distinguished physicians who assessed for firearm availability from those who did not. The most salient predictors were CME training in suicide risk assessment, expertise in geriatric mental health, confidence in diagnosing depression, having a patient mention suicide in the past year, and indicating patient reluctance as a barrier to mental health treatment. These factors suggest the need for physician training that directly addresses geriatric mental health issues, especially the risk of suicide in late life and older adults' reluctance to seek mental health care. Although physicians are indeed in a unique position to help prevent elder suicide,<sup>6</sup> it is those who recognize the "risks, predisposition, clues, and signs of imminent suicide"<sup>5</sup> who will be the most effective. As the results of this study suggest, CME training appears to be an effective vehicle for educating physicians about the risk of suicide among elderly persons and their use of firearms.

Some studies make it clear that primary care settings must be the focal point for the prevention of suicide by elderly persons.<sup>8</sup> Yet, as Price and colleagues<sup>18</sup> noted, family practice residency programs provide virtually no training in firearm risks. Clearly, all physicians who work with elderly persons need to be informed about the prevalence and likelihood of elderly persons using firearms to commit suicide. Patients are receptive to physicians playing a more active role in counseling about the risks of firearms in the home.<sup>19</sup>

This study was based on physicians' self-report measures; future studies using clinical samples or medical records are needed to investigate the extent to which firearms are addressed in patient-physician encounters. Studies are also needed to determine what measures physicians take when they identify that a depressed patient does have access to a firearm. Are physicians following recommended protocols including making a no-suicide contract with patients, agreeing to a plan for removing the gun from the home, conferring with significant others, and/or following up with the patient

either directly or through a referral to a community mental health professional? Although directly asking elderly patients who are depressed or suicidal whether they have firearms at home is an essential beginning component of suicide prevention, additional aggressive measures such as these can help ensure that this preventable form of death is indeed prevented.

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