

Firearm Screening and Counseling in General Medicine Primary Care Clinics at an Academic Medical Center



Abbreviations

ACP	American College of Physicians
IM	Internal medicine
HME	Health maintenance exam
SUD	Substance use disorder

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INTRODUCTION

The American College of Physicians (ACP) advocates that physicians perform firearm screening and safety counseling (e.g., best storage practices),¹ for which there exists relevant guidance.^{2,3} However, it remains unclear how often internal medicine (IM) providers perform this and perceive this recommendation.⁴ At our institution, we surveyed IM outpatient providers and retrospectively reviewed charts for new patients' health maintenance exam (HME) documentation, including routine pre-visit questionnaires containing firearm screening.

METHODS

Our institution is a large, suburban academic tertiary center that serves Michigan and much of the surrounding region. In June 2022, as part of an IM resident-driven quality improvement project, we surveyed IM residents and primary care faculty through convenience sampling regarding firearm safety counseling, including prior training; frequency viewing and addressing patient responses to the firearm access pre-visit screening question, provided to all new patients; and comfort level and sense of responsibility regarding the issue. Notably, no curriculum on firearm safety for internists existed at our institution at the time of the survey.

We also retrospectively reviewed charts of all new HME visits in May 2022 at all IM primary care clinics, using a standardized abstraction form to assess the following: firearm access screening pre-visit responses provided by patients (paper or online); history of psychiatric or substance use disorder (SUD) given the ACP's position that this be

included in background checks for anyone purchasing firearms;¹ and any documentation of counseling.

The University of Michigan Medical School Institutional Review Board assessed this study as non-research and waived ethics approval requirements.

RESULTS

Representing 10 clinic sites, 109 of 226 providers (43% faculty, 57% residents) completed the survey (48% response rate). Among providers, 32% were unaware of the pre-visit screening question and 89% had no related training. Self-reported practice, comfort, and perceived importance of the issue were variable (Table 1). During HME visits, 61% sometimes or never address firearm safety; only 36% felt comfortable doing so. The issue was considered at least very important to address by 39%, while 32% felt it was slightly or not at all important. Although 45% agreed firearm safety falls within their role, 33% disagreed. Most felt more likely to address the issue in patients with mental illness and SUD. Barriers to addressing firearm safety included lack of training and time constraints.

We reviewed 501 charts. Only 44% of patients answered the screening question, with 26% of these 44% reporting firearms at home. Notably, 96% of patients who skipped the firearm question still completed the remaining questionnaire. Of those with firearms, 30% and 9% had psychiatric and SUD history, respectively. No charts had any documentation of counseling.

DISCUSSION

There is evidence firearm safety counseling can result in safer storage practices.⁵ With a reasonable survey response rate, our study at an academic center demonstrated important findings regarding screening and counseling, including lack of provider comfort doing so, low perceived responsibility, and no documentation of counseling. Despite persistent calls for action from professional organizations, our study showed no improvements in feelings of responsibility or rates of counseling compared to a 2014 provider survey that found that over half of ACP members agreed physicians should be involved in firearm injury prevention.⁴ Another recent survey of residents at another academic institution similarly showed lack of comfort with the issue due to lack of training and barriers such as time constraints, though they also demonstrated high interest in related training.⁶

Additionally, our study delves beyond prior studies' scope through chart review, revealing most strikingly that of the

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Table 1 Provider Survey Responses Regarding Firearm Screening and Related Training

Survey questions	Provider responses*				
	No	Yes			
Are you aware of the question that screens for firearm access in new patient visits? This question asks, "Do you have a gun at home?" (N=109)	31.5 ± 6.1	68.5 ± 6.1			
Have you received any training in addressing firearm access and safety at home for patients in clinic? (N=107)	89.2 ± 4.2	10.8 ± 4.2			
	Never	Sometimes	About half the time	Most of the time	Always
How often do you view the response to the questions screening for firearm access at home? (N=108)	27.0 ± 5.9	26.1 ± 5.8	7.2 ± 3.4	28.8 ± 6.0	9.9 ± 4.0
How often do you address the issue of firearm access with your patients if they screen positively? (N=107)	30.6 ± 6.2	31.5 ± 6.2	8.1 ± 3.6	16.2 ± 4.9	11.7 ± 4.3
How often do you document any counseling provider on firearm access? (N=109)	46.8 ± 6.5	39.6 ± 6.4	0.9 ± 1.2	7.2 ± 3.4	5.4 ± 3.0
Survey questions	Provider responses*				
	Extremely uncomfortable	Somewhat uncomfortable	Neither comfortable nor uncomfortable	Somewhat comfortable	Extremely comfortable
How comfortable do you feel providing anticipatory guidance/counseling to a patient who screens positive for firearm access at home? (N=109)	9.0 ± 3.8	26.1 ± 5.8	29.7 ± 6.0	28.8 ± 5.9	6.3 ± 3.2
	Not at all important	Slightly important	Moderately important	Very important	Extremely important
How important do you think screening for firearm access at home is in an initial new patient visit? (N=109)	3.6 ± 2.4	28.8 ± 5.9	27.9 ± 5.9	24.3 ± 5.6	15.3 ± 4.7
	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
How much do you agree with the following statement? "A primary care provider is responsible for addressing firearm access and safety in a new patient appointment." (N=109)	8.1 ± 3.6	25.2 ± 5.7	21.6 ± 5.4	36.0 ± 6.3	9.0 ± 3.8
	Extremely unlikely	Unlikely	Neutral	Likely	Extremely likely
How much more likely are you to address the issue of firearm access at home in a patient with history of mental illness? (N=109)	0.0 ± 0.0	1.8 ± 1.7	20.7 ± 5.3	51.4 ± 6.6	26.1 ± 5.8
How much more likely are you to address the issue of firearm access at home in a patient with history of substance abuse? (N=109)	0.9 ± 1.2	4.5 ± 2.7	45.0 ± 6.5	37.8 ± 6.4	11.7 ± 4.2

Provider survey responses regarding firearm screening and related training, including frequency with which providers address firearm access in clinic if patients screen positively; comfort level with providing anticipatory guidance/counseling to patients who screen positively; perceived importance of screening for firearm access in a new patient visit; and feeling of agreement or disagreement with the statement that "A primary care provider is responsible for addressing firearm access and safety in a new patient appointment"

*Responses are reported as percentages of the reported sample size $N \pm 95\%$ confidence interval. Percentages may not add up to 100% due to rounding

56% of patients who did not answer the firearm access screening question, the vast majority (96% of the 56%) did answer all other pre-visit screening questions, suggesting the decision to not answer was deliberate. This, coupled with survey responses, suggests generalized resistance from patients and providers alike to discuss firearm safety, though it is worth noting again that IM providers at our institution at the time of our study had no formal training available, a key barrier cited in our survey. There is also evidence that patients are not completely resistant to conversations around firearm ownership, though the discordance of our

own findings underscores the issue's complexity.⁷ Qualitative methods may be warranted to better understand apparent resistance to engagement and inform appropriate strategies for firearm screening and counseling.

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Data Availability Data for this study is available upon request.

Declarations:

Conflict of Interest: The authors declare that they do not have a conflict of interest.

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REFERENCES

1. **Butkus R, Doherty R, Bornstein SS.** Reducing Firearm Injuries and Deaths in the United States: a Position Paper from the American College of Physicians. *Ann Intern Med.* 2018;169(10):704-707. <https://doi.org/10.7326/M18-1530>
2. **Wintemute GJ, Betz ME, Ranney ML.** Yes, You Can: Physicians, Patients, and Firearms. *Ann Intern Med.* 2016;165(3):205-213. <https://doi.org/10.7326/M15-2905>
3. **Rosko PJD, Ameli J, Carter PM, Cunningham RM, Ranney ML.** Clinician Attitudes, Screening Practices, and Interventions to Reduce Firearm-Related Injury. *Epidemiol Rev.* 2016;38(1):87-110. <https://doi.org/10.1093/EPIREV/MXV005>
4. **Butkus R, Weissman A.** Internists' Attitudes Toward Prevention of Firearm Injury. *Ann Intern Med.* 2014;160(12):821-827. <https://doi.org/10.7326/M13-1960>
5. **Pallin R, Spitzer SA, Ranney ML, Betz ME, Wintemute GJ.** Preventing Firearm-Related Death and Injury. *Ann Intern Med.* 2019;170(11):ITC81-ITC96. <https://doi.org/10.7326/AITC201906040>
6. **Pallin R, Teasdale S, Agnoli A, et al.** Talking About Firearm Injury Prevention with Patients: a Survey of Medical Residents. *BMC Med Educ.* 2022;22(1):1-7. <https://doi.org/10.1186/S12909-021-03024-9>
7. **Betz ME, Azrael D, Barber C, Miller M.** Public Opinion Regarding Whether Speaking with Patients About Firearms Is Appropriate: Results of a National Survey. *Ann Intern Med.* 2016;165(8):543-550. <https://doi.org/10.7326/M16-0739>

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