Firearm Ownership and Health Care Workers

Bruce W. Goldberg, MD
Evelyn Whitlock, MD MPH
Merwyn Greenlick, PHD

All authors are with the Department of Public Health and Preventive Medicine, Department of Family Medicine, Oregon Health Sciences University School of Medicine, Portland, OR. Dr. Goldberg is an Assistant Professor of Family Medicine and Public Health and Preventive Medicine. Dr. Whitlock is an Assistant Professor of Public Health and Preventive Medicine, and Dr. Greenlick is a Professor and the Chair of Public Health and Preventive Medicine. Drs. Whitlock and Greenlick are also Researchers with the Kaiser Permanente Center for Health Research, Portland.

Tearsheet requests to Bruce W. Goldberg, MD, OHSU School of Medicine, Mail Code FP, 3181 SW Sam Jackson Park Road, Portland OR 97201; tel. 503-494-6625; fax 503-494-4496; e-mail <goldberg@ohsu.edu>.

SYNOPSIS

Objective. Health professionals have increasingly become aware of the public health hazards caused by firearms. This study was designed to determine the firearm ownership and storage practices of a group of health care workers.
Methods. All 6436 nonphysician employees of a large health maintenance organization were surveyed as part of an ongoing effort to enhance the organization's effectiveness. Two questions regarding firearm ownership and storage practices were included in the 85-question survey instrument. A total of 4999 surveys were returned, for a response rate of 78%.
Results. Forty-two percent of the health workers surveyed reported keeping a firearm in their home, and 35% of firearm owners stored that firearm loaded. Men were more likely than women to report having a firearm in the home. Firearm ownership and storage of a loaded firearm decreased with higher levels of education in both sexes. A measure of increased alcohol consumption was related to higher rates of firearm ownership and storage of loaded firearms in men.
Conclusions. A substantial number of health care workers had firearms in their homes and did not store them safely. Counseling regarding the risks associated with easy access to firearms should be considered for inclusion in employee health programs as well as in employee assistance and alcohol treatment programs.

In 1994, firearm injury resulted in 39,720 deaths in the United States, making it the nation's ninth leading cause of death.[1] For every firearm fatality, there are approximately 2.6 nonfatal firearm injuries.[2] Experts estimate that civilians own over two hundred million firearms and that firearms are present in almost one-half of all U.S. homes.[3,4]

Easy access to a loaded firearm, when combined with certain domestic circumstances, may be an important risk factor for homicide, suicide, and unintentional injuries and fatalities.[5-8] One study found that over half of all firearm deaths occurred in the home where the firearm was kept.[9] Other research indicates that over half of all homicides are committed by relatives, friends, or acquaintances of the victim.[10]

Firearm-related injury and death are increasingly viewed as public health problems.[11] Health professionals are being called upon to devise interventions to prevent their occurrence.[12,13] Yet, little is known about the attitudes and

practices regarding firearms of this group. This study explores the firearm ownership and safety practices of employees of a large health maintenance organization in the northwestern United States.

Methods

All 6436 employees of Kaiser Permanente, Northwest Region (a large health maintenance organization in Oregon and Washington) were surveyed in 1992 as part of an ongoing effort to enhance the organization's effectiveness. The employees surveyed represented the full range of nonphysician staff positions, including nurses, nurse practitioners, physician assistants, hospital administrators, pharmacists, and others. Employees were asked a total of 85 questions that addressed (*a*) their attitudes toward management, their job, and their department and (*b*) their health, health-related behaviors, and demographics. The survey and the protocol for its administration were designed by researchers with experience in survey research. All surveys were self-administered and completed anonymously to ensure confidentiality.

A total of 4999 surveys were returned, for a response rate of 78%. Respondents did not differ significantly on a number of key characteristics—age, length of employment, gender, and race—from those employees eligible for the survey who did not respond. Eighty percent of respondents were female.

Two questions regarding firearms were included in the survey. The first was: "In our community some people keep a gun in their home others do not. Do you (or does someone else) keep a gun in your home?" The follow-up question was: "If yes, is the gun kept loaded? (If there is more than one gun, answer "yes" if any one of them is kept loaded.)" Response rates to gun questions were 92% and did not vary by gender. Response rates to questions of a sensitive nature, such as those about race, marital status, self-reported mental health, and job satisfaction, were slightly higher—for example, 94% for questions about race and marital status that appeared near the end of the questionnaire, after the gun items.

Responses to the firearm questions were compared for various subgroups with continuity-adjusted Chi-square analysis and Mantel-Haenszel Chi-square test for trends using SAS.

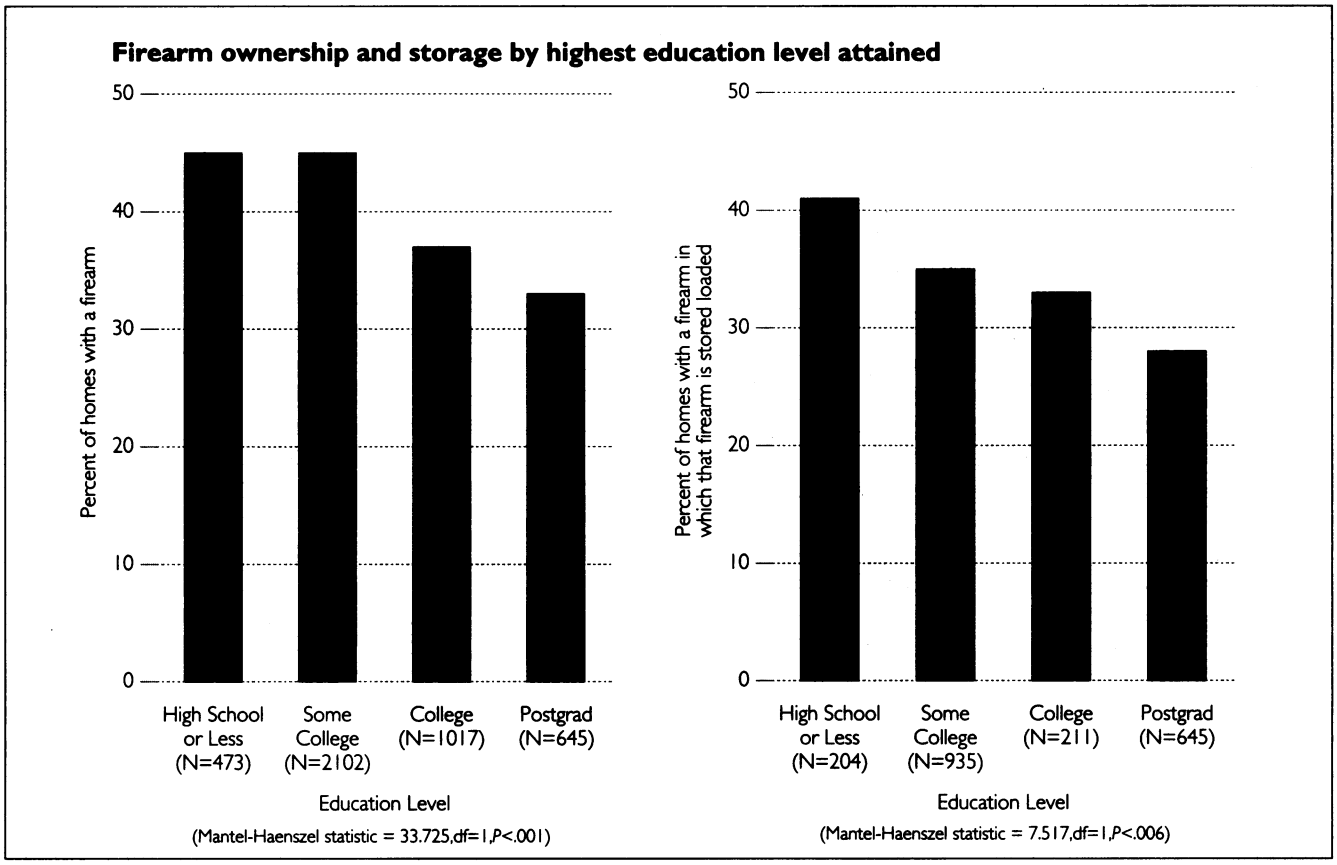
Forty-two percent of respondents reported having a firearm in their home; 35% of those (13% of all employees surveyed) reported having a loaded firearm in their home.

Results

Forty-two percent of respondents reported having a firearm in their home; 35% of those (13% of all employees surveyed) reported having a loaded firearm in their home. Firearm ownership differed by gender; of those surveyed, 46% of males and 41% of females reported having a firearm in the home (X^2=7.97,P<0.01). Firearm ownership and whether the firearm was stored loaded did not significantly differ by age category (<29, 30–39, 40–49, 50–59, 60+ years) or job type (manager, supervisor, nonsupervisory, unit/team leader). However, the likelihood of having a firearm in the home declined with increasing education, as did the proportion of firearm owners who kept their firearms loaded (figure). The association between education levels and firearm ownership remained when results were analyzed separately for males (MH statistic=7.36, P<0.01) and females (MH statistic=30.77, P<0.001). Although both men and women with less education were more likely to store weapons loaded, the findings were statistically significant only for males (males: MH statistic=5.49, P=0.02).

Seventy-three percent of the respondents reported they were married and/or lived with a partner. The respondents living in a couple were significantly more likely than those not living in a couple to report keeping a gun at home (48% versus 25%, P<0.001), but significantly less likely to report storing that firearm loaded (33% versus 42%, P=0.006). We did not address the issue of whether the decision to bring a firearm into the home could be attributed to one individual or was a joint decision.

Firearm ownership and whether guns were stored loaded also varied with self-reported alcohol consumption. Seventy-seven percent of employees reported some alcohol use, which did not vary significantly by gender. Those who reported consuming greater quantities of alcohol on days that they drank were more likely to own firearms and to store them loaded. Among males, firearm ownership (MH statistic=13.43, P<0.001) and storage of a loaded firearm (MH statistic=8.40, P<O.01) were associated with increased alcohol consumption. However, women who reported higher levels of alcohol consumption showed no increase in firearm ownership or storage of loaded firearms. For the subgroup of employees of either sex who consumed six or



more drinks on one occasion at least once a month (*N*=153), 56% reported having a firearm in the home and 43% of these kept the firearm loaded.

We defined clinical staff as employees with patient care responsibilities that were likely to include patient counseling. Of the respondents, 874 (17.5%) were included in this group because (*a*) they fell into one of five specific job categories—registered nurse, physician assistant, nurse practitioner, mental health worker, or chemical dependency worker—and (*b*) they reported spending "most" or "a great deal of" their time in contact with patients. Clinical staff were more likely than the rest of the respondents to be female and to have higher educational attainment and less likely to be heavy drinkers (all of which were associated in the overall group of respondents with being less likely to own a firearm or less likely to store a firearm loaded). Nevertheless, we found no significant differences in gun ownership or the likelihood of keeping a loaded gun in the house between clinical staff and others using a continuity-adjusted chi-squared analysis.

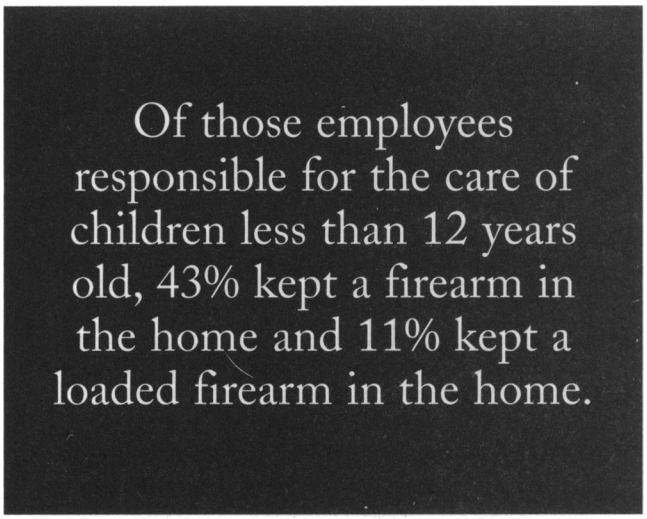
Those who reported consuming greater quantities of alcohol on days that they drank were more likely to own firearms and to store them loaded.

Of those employees responsible for the care of children less than 12 years old (*N*= 1775), 43% kept a firearm in the home and 11% kept a loaded firearm in the home.

Discussion

Our study indicates that the firearm ownership and safety practices of workers in a health care delivery system are similar to those seen in the general population. Forty-two percent of this group of workers reported keeping a firearm in their home. This is consistent with published reports showing 38% to 53% of homes nationally and 42% of homes in Oregon contain a firearm.[14–16]

A clear consensus exists among firearm experts, including such advocacy groups as the National Rifle Association, that firearms should be stored unloaded and in a locked area separate from ammunition. Yet, a large number (35%) of the firearm owners surveyed in this study reported storing their firearm loaded. This is consistent with a 1989 random national telephone survey of gun owners that showed 37% stored firearms loaded at least some of the time.[17]



Unsafe firearm storage appears to be a major contributing factor in unintentional shooting deaths in children.[6,18,19] Guns were twice as likely to be found in the homes of adolescent suicide victims as in the homes of adolescent suicide attempters or psychiatric controls.[8] Given this, it is disturbing to note that in our survey, those responsible for young children were only slightly less likely than the entire group to keep a loaded firearm in the home (11% of those with children under 12 years old and 14% of all others). Since it has been suggested that alcohol is a risk factor for firearm-related domestic homicides,[9,20] it is equally disturbing to see that males who reported consuming greater quantities of alcohol when they drank were more likely to have firearms in the home and to keep them loaded.

These data show that a large number of workers in a health care delivery system have firearms in their homes and a substantial number store them unsafely. Health care workers appear no different from the general public in this regard. Our survey included both employees with regular patient contact and those with little or none. Those employees whose jobs primarily involved clinical patient care were just as likely to have a firearm in the home and to store it loaded as other employees. We do not know the firearm ownership and safety practices of those who routinely counsel patients about safety issues, nor do we know this group's attitudes and beliefs regarding these issues.

Firearms are now second only to motor vehicles as a cause of fatal injury and could become the leading cause of injury-related deaths by the year 2003 if present trends continue.[21] If health professionals are to play a role in reducing firearm-related injury and death, they must take the initiative to discuss firearm safety and the risks of firearms with their patients and may themselves be legitimate targets of programs to address firearm safety practices. In addition, given the relationship we found between increasing alcohol use and both firearm ownership and unsafe storage practices, counseling regarding the risks associated with easy access to firearms should be considered for routine inclusion in employee assistance and alcohol treatment programs.

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