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## Firearm Deaths in the United States and Gun Availability

The Injury Mortality Atlas of the United States, 1979-1987 (undated) recently published by the Centers for Disease Control and Prevention provides ageadjusted firearm-related deaths (from suicides, homicides, and accidents combined) per 100 000 population from 1979 through 1987 for each contiguous state of the United States. Surveys of firearm ownership per capita are not available for each state. Yet two proxy measures of firearm availability that have been used in the past are the strictness of gun control laws<sup>1</sup> and the per capita subscription rates to three firearm-related magazines-Shooting Times, Guns & Ammo, and American Handgunner.<sup>2</sup> Using Pearson correlation coefficients, I correlated these measures of firearm availability with the age-adjusted firearm death rates of the states.

The correlation of firearm death rates with the strictness of gun control laws was -0.41 (P = .004); with subscriptions to *Shooting Times*, 0.28 (P = .06); with subscriptions to *Guns & Ammo*, 0.25 (P = .08); and with subscriptions to *American Handgunner*, 0.10 (P = .52).

Thus, one of the four measures of gun availability was significantly associated with the incidence of firearm-related deaths, and the fourth, though not important statistically, was in the same direction as the other three. The more guns are available, the greater the firearm-related death rate. This study points to the need for accurate surveys of the variation in the extent of gun ownership by state and by county in the United States so that these kinds of analyses can be conducted with more valid measures.  $\Box$ 

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## Stroke Mortality Trends and Antihypertensive Drug Use

In "Antihypertensive Treatment and US Trends in Stroke Mortality, 1962 to 1980," Casper et al.<sup>1</sup> reported little asso-

ciation between antihypertensive drug usage and stroke mortality trends between 1962 and 1980. Accompanying commentary and editorial articles by Jacobs et al.<sup>2</sup> and Kannel and Wolf<sup>3</sup> suggested there were shortcomings in the Casper et al. analysis and concluded that drugs did have some impact. Overlooked by all were two important factors. First, the death rate trend within a revision period of the International Classification of Diseases (ICD) often has a unique slope compared with adjacent periods. Figure 1 shows that the age-adjusted stroke mortality trend during the 7th ICD revision was almost perfectly linear.4 The rate increased slightly at the start of the 8th revision and then demonstrated a steeper linear decline that was temporarily disturbed by a perturbation occurring from 1971 to 1973. The 9th revision trend is described by a shallower slope inherent in a

