

# **THE FEDERAL FACTOID FACTORY ON FIREARMS AND VIOLENCE: A Review of CDC Research and Politics**

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*Since the late 1980s, proponents of severe gun laws have made the argument that gun control is a “public health” issue, and that medical research demonstrates the need for stringent gun controls. The chief proponent of the view that gun control is a public health necessity has been the federal Centers for Disease Control. In this article, Paul Blackman carefully examines the various “factoids” that have been produced by CDC research. This article was originally presented at the annual meeting of the Academy of Criminal Justice Sciences in Chicago, Illinois, in March 1994.*

## **INTRODUCTION**

“The CDC [Centers for Disease Control and Prevention] has proven that violence is a public health problem, and cannot escape looking at the role of firearms (noticing also ethnic variations), and is developing a multi-faceted approach toward improving data collection and reducing the amount of violence.” (Rosenberg et al., 1992) This from a CDC editorial, indicates the CDC’s view that it has proven violence to be a public health problem by constantly stating that it is, and that public health approaches can reduce that problem. By its very nature, however, the public health approach is only valid if there is a problem preventable or curable using public health approaches. While the CDC believes it has proven firearms and violence to be public health problems, it has merely repeated the statement until few consider it worth challenging.

Although a few M.D.s and M.P.H.s have considered a public-health approach to the study of violence (e.g., Browning, 1976), and others have done research without federal assistance, the real impetus toward public health studies began between 1977 and 1979 when the Centers for Disease Control—now the Centers for Disease Control and Prevention—and others worked to prepare the Surgeon General’s report Healthy People (PHS[Public Health Service], 1979a, 1979b), which included a series of recommendations for improving the health of the American people especially setting preliminary 1990 goals, and

including efforts to reduce violence. By the mid-1980s, the violence especially aimed at was suicide among the young, aged 15-24, and homicide among young black males (Smith et al., 1986:269). Since then, youth suicide has been fairly stable, and young black male homicide rates have skyrocketed, particularly firearm-related homicides. (Fingerhut, 1993)

The effort to treat violence as a public health issue was to be centered in the PHS's Centers for Disease Control, where the Center for Health Promotion and Education was established in 1981, followed by the Violence Epidemiology Branch in 1983, and finally reorganized in 1986 into the Division of Injury Epidemiology and Control in the CDC's Center for Environmental Health. In the early 1990s, the CDC demonstrated its commitment to the project, adding a new center, the National Center for Injury Prevention and Control, with Mark Rosenberg as its first director, to treat firearms and other violence epidemiologically.

The epidemiological approach merely requires massive amounts of data, allowing various "risk factors" to be determined, which may be associated with a particular "disease." The risk factors are simply factors associated with an increased incidence of a particular problem, not necessarily the cause of the problem. A risk factor is something with a higher association than is the norm. With regard to violence, the question would be whether firearms are more associated with violence, or owned more commonly by victims or perpetrators of violence, than is the norm in society—or in a particular portion of society. Although firearms are generally involved in about 30% of reported violent crime (FBI, 1992 and 1993), and about 13% of National Crime Survey crime (Rand, 1990), firearms are generally found in nearly half of U.S. households and handguns in about 20-25% of households. (Kleck, 1991:51-52) As a risk factor for violence, more data would be needed—particularly addressing particular segments in society.

Little is shown simply by finding something to be a risk factor, since a risk factor is merely a thing or condition more apt to be present where a particular ailment occurs than in society as a whole, and is not necessarily a cause of morbidity or mortality.<sup>1</sup> The risk factor need not necessarily be dealt with; indeed, attempting to deal with some risk factors may mislead and prevent proper medical treatment. Symptoms, after all, are risk factors, and, while some symptoms should be treated, treating others may mask discovery of the underlying ailment and prevent proper treatment. To use a real medical example, to

the extent hypertension is an indication of another problem, lowering blood pressure may create the false impression that the real problem has been solved and prevent seeking the true cause and attempting to cure it. (Moore, 1990) To the extent firearms may be a risk factor in some violence, gun laws may simply be attempts to mask the symptom without treating the actual cause of the violence.

Are gun-owning households more at risk for injury than other households, with other factors controlled for? Is gun ownership—or handgun ownership—only a risk factor among certain categories of persons? In medical studies, after all, not everyone is equally at risk from the same substance (salt, for example), nor are medications necessarily equally beneficial. What may be beneficial for the middle-aged white males used for most medical research may prove counterindicated for females with the same apparent condition. (Moore, 1990) Gun ownership without injury would also have to be studied before one could determine firearms were a “risk factor,” just as hypertension without strokes or heart disease, or salt without hypertension, would have to be studied before determining whether hypertension was a risk factor for strokes or salt a risk factor for hypertension. A legitimate epidemiological approach would be concerned with both trends and with factors associated both with higher and lower levels of death.

The CDC approach to firearms, however, misses all of those factors for a number of reasons. First, by often combining the types of firearm-related deaths—suicides, homicides, and accidents—explanatory factors are confused. The different death rates among ethnic groups are minimized by combining traditionally high elderly-white male suicide rates with high young-black male homicide rates. Second, all factors except firearms are simply ignored, or presumed comparable in the groups studied—either expressly (Sloan et al., 1988) or implicitly. Third, in looking at firearms, there is no examination of those not “afflicted.” CDC would have to look both at the healthy and the unhealthy to find the differences between the two. They show no interest in the former.

Instead, only misuse is addressed, with the CDC and its leading spokesmen, Mark Rosenberg and James Mercy, believing that because they can demonstrate that firearms are involved in some morbidity and mortality, the epidemiological approach proves that any and all proposals will be effective in solving the endemic problem of violence in America, which they mislabel an “epidemic.”

Others believe they have proven harm merely by showing access to a firearm, even if there is no mortality, morbidity, or other harm from such access. (Weil and Hemenway, 1992; Callahan and Rivara, 1992) Two authors believed they had demonstrated a problem requiring legislative and educational correction based not on harm from “latchkey” children’s access to firearms—as might be demonstrated by showing disproportionate amounts of accidental deaths or gun-related delinquency from such children—nor even from proof of actual access to firearms by those children, but by demonstrating that guns were often present in the homes of “latchkey” children. (Lee and Sacks, 1990)

From proving that firearms exist and are sometimes misused, the CDC regularly presumes that any and all restrictions on firearms—self- or government-imposed—would benefit individuals and society. To enhance that conclusion, the CDC produces research showing bad things associated with firearms, based on a fairly open anti-gun bias (Blackman, 1990:2-4): “The Public Health Service [parent agency of the CDC] has targeted violence as a priority concern....There is a separate objective to reduce the number of handguns in private ownership....” (Fingerhut and Kleinman, 1989:6)

Much of the research and rhetoric produced for or by the CDC has been presented to the public in such a way as to allow simplistic conclusions of the findings. Despite occasional claims that the goal is science (Mercy and Houk, 1988), the rhetoric makes it clear the goal is to emotionalize the issues of firearms and violence. Rosenberg expresses fear that the numbers will “lose their emotional impact” (Rosenberg, 1993:3).<sup>2</sup>

Although some of the more studies are replete with warnings that their results apply only to a particular place and time, tentative conclusions are accepted by authors, the CDC, and the news media as definitive. Such conclusions are generally presented in the form of an easy-to-remember factoid—a fact-like statement, based upon the data presented, but without meaning for various reasons. The CDC does not want the news media or the general public to focus on any acknowledged weaknesses or limitations in the studies, but to accept the tentative conclusions as gospel.<sup>3</sup>

#### RHETORICAL FACTOIDS

Some of the factoids are presented more as rhetoric than as science. There is some irony in this, since two CDC spokesmen most dedicated to rhetoric are also ones who began encouraging

Kellermann's research with an editorial "call for science." (Mercy and Houk, 1988) The rhetorical factoids, too, generally are based upon some actual data, distorted for rather unscientific purposes.

*Factoid: Today there is truly an epidemic of firearm-related violence in the United States.*

Violence has been endemic to the United States since its settlement by Europeans. And most of the dramatic increases in firearms misuse since World War II occurred prior to 1981. Since that time, for most age groups, trends have varied depending upon whether the cause of death is homicide, suicide, or accident. For suicide, most of the increase in recent decades occurred while the percentage of households owning firearms, or handguns, remained stable; there was no increase in homicide or suicide following the rise in household ownership of handguns. In fact, the recent increase in homicide came at a time when the firearms market was in the doldrums. More significantly, during the 1980s, for most age, ethnic, and gender groups, firearms-related deaths declined—including deaths among women and domestic homicides, even as there were widespread reports of gun manufacturers targeting women. Most of the recent increase in youth suicide has been less than that in Europe, and most of the increase in homicide has been among persons with traditionally the lowest levels of gun ownership and facing the most restrictive gun laws: young, inner-city blacks and Hispanics.

Data from the CDC's National Center for Health Statistics (NCHS) over recent years show neither an epidemic, nor, since the gun market has been in a slump, any relationship between firearm-related deaths and firearm availability. Most firearms-related deaths declined during the early years of the 1980s, with major changes between 1980 and 1990 based on increases in the later years of the decade. Non-gun homicide and suicide among white males aged 25-34 rose in the 1980s, and for black men and women aged 25-44. Firearm-related homicides and suicides for elderly white males have risen, as have gun-related homicides for older white women, presumably murder-suicides following declining health. Both gun and non-gun homicides have declined for black males over the age of 44, as have firearms-related deaths in general for black women over 44. And gun-related suicides among white women have trended down over the past two decades. Non-gun homicide and suicide rose for white women, particularly younger ones, during the 1970s, but then declined. But non-gun suicides for middle-aged blacks increased during the

1980s. While most gun-related death rates rose during the 1970s and then declined, gun-related suicide for black males has continued to rise.

Perhaps most strikingly, for younger black males, in addition to increases in gun-related homicides have been increases defying the general downward trend in firearms-related accidental deaths, and motor vehicle deaths since 1982. Indeed, black males in most age groups have increasingly been victims of motor vehicle accidents. Overall, the only consistent trend has been for relatively young blacks, particularly males, and since the mid-1980s. Increases during the 1970s were followed by declines first. And, for most age, race, and sex groupings, the peak occurred in 1979-81, not in the 1990s.

There is some irony in this. Since specific congressional authorization for the CDC to emphasize efforts to curtail violent deaths among “children,” firearm-related violence among teenagers and young adults, among blacks and Hispanics, has increased dramatically.<sup>4</sup>

*Factoid: Firearms are now the 8th leading cause of death.*

Firearms-related deaths account for slightly under 2% of American deaths, and only sound like an “epidemic” when listed as the eighth leading “cause.” The seemingly high ranking is generally achieved by combining all four types of gun-related deaths—homicides, suicides, accidents, and undetermined motivation—while keeping multiple types of other “causes” (from the International Classification of Diseases) separated. This mathematical sleight-of-hand exaggerates the significance of firearms, and invites confusion as the rhetoric switches from topic to topic. The CDC has asserted that firearms and, in the same year, that suicide are the eighth leading “cause” of death. (Cotton, 1992; Kellermann et al., 1992) Once causes of death are separated out, and merged with different categories of death, a certain amount of consistency and certainty in discussion is lost. The official causes of death separate homicide and suicide from unintentional injuries (World Health Organization, 1977). But public health professionals also like to combine various “causes” in different ways, which will alter the rank-order. When tobacco becomes a “cause” of death, it outranks cancer (since many malignant neoplasms must be switched from one category to another); if alcohol is a “cause” of death, the rank-ordering changes in other ways. The medical profession would presumably be less pleased with combining unintentional deaths

due to medical mistakes into a new cause of death (Kleck, 1991:43), although it has also been suggested that hospital-caused blood infections could justifiably be listed as a new “cause” of death, probably competing with suicide for, now, ninth place. (Wenzel, 1988)

A more consistent and honest approach would be to find various external causes of both injury- and disease-related deaths and consistently adjust other deaths. If one attempts to find the causes of death—whether from injury or disease—and adjust the remaining non-externally caused deaths accordingly, firearms cease to be eighth. Thus, deaths from cancer or heart disease credited to such “actual causes” as diet/inactivity, alcohol, or tobacco, would still rank fairly high, but removing strokes credited to tobacco, diet/inactivity, or alcohol might cause remaining strokes might fall to fifth place, or even lower. The researchers who tried that approach (McGinnis and Foege, 1993), however, were not entirely honest. Firearms would probably have ranked ninth or tenth using that approach, but the authors either double-counted some homicides and suicides as both firearm- and alcohol-related or, more likely, counted all gun-related homicides and suicides as “caused” by firearms, and most non-gun-related homicides and suicides as “caused” by alcohol. Of alcohol-related suicides and homicides involving firearms were put into the alcohol category, firearms would probably fall to tenth or 11th place, following deaths caused by “sexual behavior”—where CDC rhetoric has been silent regarding possible government-imposed bans or other restrictions.

In other cases, firearms have been named as the third, fourth, fifth, or sixth leading cause of accidental death among a particular age group, or firearms-related deaths or homicides as higher on the “cause of death” chart for particular age groups. For accidents, as Kleck has repeatedly pointed out, while the statement may be true, the actual numbers—particularly estimates for handguns as a portion of the firearm-related accidental deaths—are fairly small, and declining. And the actual accidents may be still fewer, with child-abuse homicides disguised as firearm-related accidents. The three leading causes of accidental deaths among children—motor vehicles, drowning, and fires—are far ahead of firearms. (Kleck, 1991; U.S. House of Representatives, 1989:50-69; NSC, 1992:22) Occasionally, some distortion is made by ignoring that a rank has been stable for years and nevertheless saying that firearms have “become” the *n*th leading cause.

Once causes of death are revised by advocates and researchers, different groupings and divisions can be made, some of which may be useful in evaluating trends and treatments, and some of which are largely rhetorical. Most scholars will separate out causes of accidental death into motor vehicle and other; but motor vehicle deaths are further capable of being broken down into categories by victim—passenger, bicyclist, pedestrian, and the like. At that point, bicycle accidents tend to supersede firearm accidents as a cause of death among children, thus possibly changing some rank-ordering for some age groups. (Baker and Waller, 1989) Alternatively, cancers and heart diseases could be broken down into sub-categories (lungs, digestive system), some of which would be ahead of “firearms,” suicides, and homicides. (NCHS, 1991; CDC, 1992b)

The key flaw in combining different types of firearm-related deaths into one “cause” is that the public health approach presumes the “disease” to be preventable or curable. Finding a way to curb homicide, whether involving firearms or other weapons, is more likely to be productive than finding a way to curb firearm-related deaths, whether other-directed (homicide), inner-directed (suicide), or accidental. The combination is thus misleading to researchers seriously attempting a public health approach to violence.

*Factoid: Gun-related accidental deaths disproportionately affect youth.* (CDC, 1992a)

Firearms-related accidents, like accidents in general, disproportionately affect geriatric Americans followed by teenagers and young adults. The overall rate for children 0-14, the rate, 0.5 per 100,000 population, is not much different from the overall rate of 0.6. (NSC, 1992; U.S. Bureau of the Census, 1992:18) For young children, aged 0-9, the rate is half the national rate.

Firearm-related accidents are declining more rapidly than other types of accidents—motor vehicle, other public accidents, home accidents. The assumption that gun accidents involving children occur with loaded firearms in the home more than with unloaded guns or elsewhere is true, but not a contribution to scientific debate.

Overall, bicycle accidents kill more children under the age of 15 than do firearms-related accidents. But, whereas arguments against firearms focus on what occurs in the privacy of the

home, where regulation might be difficult or impossible to enforce, efforts to curb bicycle accidents would be aimed at public activities in public places. Unlike firearms, which are generally used by adults, children's bicycles are rarely used by anyone but children; and regulation of them would be aimed at public activity. Yet efforts to curb bicycle accidents among children by banning children's bicycles are rarely, if ever, heard, even among CDC researchers.

*Factoid: Firearm death rates in the 1980s were the highest ever for females. (Cotton, 1992)*

In order to associate an increase in handgun availability to women with an increase in gun-related deaths by women, the CDC's Mercy and Rosenberg, and the CDC-funded Garen Wintemute simply relied on facts which did not exist. Accompanying a box saying: "The rate of firearm-related deaths among women is increasing," Dr. Wintemute notes that "Gun sales plummeted in the 1980s, and the gun companies went looking for new markets. They found the same markets that the tobacco industry did in the 1950s—overseas markets and women." (Wintemute, 1991) And Mercy noted that "Firearm death rates in the 1980s were ...the highest ever for females and teenage and young adult males." (Cotton, 1992) And "Firearm mortality rates for women...have been higher during the 1980s than at any time previously." (Rosenberg and Mercy, 1991:5) The problem is that the source for the statement regarding a peak in women's gun-related death rates was an article which stopped collecting data in 1982, and which demonstrated that firearm-related deaths among women peaked in the early-mid 1970s, and that gun-related death rates for women declined irregularly after that. (Wintemute, 1987) During the 1980s, the firearm-related death rate for women fell. (NCHS, 1991) Trends are more convincingly associated with other factors trending in the same direction at some reasonably associated time.

*Factoid: Two years of gun deaths here surpass the losses in Vietnam.*

This is one of the CDC's James Mercy's favorite factoids as he eschews science for rhetoric. It neglects the fact that America's mission was ancillary, and the vast majority of casualties were Vietnamese, so that their missing-in-action totals about five or six times our battlefield death total. For scientists,

it ignores the key element of rates per 100,000. America's presence in Vietnam rarely exceeded 600,000, with an annual death rate in excess of 500. America's population hovers around 250,000,000.<sup>5</sup>

A similar recent comparison is of the number of gun-related deaths, or homicides, in a particular city or state with the number of American dead in the Gulf War—neglecting the fact that over 99.8% of the war dead were not Americans. Another way of looking at the comparison of crime with war would note that the firearm-related homicide rate of inner-city black teenagers—among the highest rates recorded for subgroups in America at 144 per 100,000 (Fingerhut et al., 1992)—is only about one-twentieth the battlefield death rate of French men of fighting age during World War I. (Johnson, 1985:140-141)

*Factoid: Gun-related deaths are not limited to the inner city; the epidemic of childhood violence knows no boundaries of race, geography, or class.* (Cotton, 1992; Henkoff, 1992)

Violence is endemic in America, but it is epidemic only among young blacks and Hispanics. For most other age- and ethnic-groups, gunshot wounds are stable or declining. For example, a recent study of the change in gun-related homicide in Philadelphia between 1985 and 1990 found 100% of the increase due to deaths among minority groups; among non-Hispanic whites, the number killed actually declined. (McGonigal, et al., 1993)

The gun-related homicide rate among males 15-19 years of age varies dramatically based upon race and location. Among big-city blacks, the rate was about 144 per 100,000; among rural blacks, the rate was 89% lower, at 15. In central cities, the white rate was about 21 (Fingerhut et al., 1992), and an analysis of some of the FBI's Supplementary Homicide Reports, supported by limited data on 15-34 year olds from the CDC (Fingerhut, et al., 1994) would suggest this means the non-Hispanic white rate was probably in the 10-14 range. For the most part, gun-related violence is a growing problem among young urban black and Hispanic males. For girls, women, and men over the age of 30, gun-related violence was stable or decreasing in the 1980s. (Fingerhut and Kleinman, 1989; Fingerhut et al., 1991; Hammett et al., 1992) Even one of the articles describing the problem as "epidemic" noted that the 50% increase in mortality of late in the "urban pediatric population" occurred with no change or a

slight decline in the suburban and national pediatric populations. (Ropp et al., 1992)

To support the idea that everyone should be concerned about homicide, the CDC pretends that homicide threatens everyone. The statements are true only in the sense that dramatically lower levels of violence are not the equivalent of no violence at all in small towns, suburban, and rural areas. One might as well suggest that private airplane crashes can threaten anyone—but available evidence suggests that the rate for persons on board private airplanes is vastly higher than for those on the ground or in commercial airliners. Homicide, and particularly escalating homicide rates, largely, are limited to the inner city, and, indeed, to low-income minorities within inner cities. (Fingerhut et al., 1992)

A recent study of the victims of gun-related homicides in Philadelphia found that “84% of victims in 1990 had antemortem drug use or criminal history.” (McGonigal et al., 1993) Even accident victims are apt to involve persons unusually aggressive, and from the underclass, persons with criminal records, rather than ordinary citizens. (Kleck, 1991:285-287)

*Factoid: There is a threat to trauma centers, which are being overcome with the large numbers of victims of violence.* (Organ, 1992)

The threat to trauma centers is that surgeons are reluctant to work in them. Surgery residents complain that blunt trauma (motor vehicle accidents) requires too much non-operative care, and of “the unsavory type of patients encountered with most penetrating trauma injuries” (knife and gunshot wounds). Other surgeons believe treating trauma victims “would have a negative impact on their practice,” presumably because those unsavory characters may come to their offices for post-emergency-room care. (Organ, 1992) Not noted is that there is increasing reluctance of surgeons to treat trauma victims since the combination of drug use with lots of blood is an invitation to contamination and exposure to HIV. The significance of these facts is that they belie the notion that the average victim of gunshot wounds is just an ordinary person, that we are all victims. The victims are largely unsavory persons; some are just poor; many are just unsavory. Again, this lends support to the proposition that victims of violence are frequently not innocent bystanders but are involved in lives of violence. One recent study, for example, found that 71% of children and adolescents injured in drive-by shootings “were

documented members of violent street gangs.” (Hutson et al. 1994:325)

*Factoid: There were more firearms- than AIDS-related deaths in the 1980s.* (Cotton, 1991)

This, another of the CDC’s James Mercy’s favorite statistics, includes years before which AIDS existed and began its epidemic growth. AIDS now exceeds suicide and homicide as a cause of death in the U.S. The CDC rhetorically notes that firearms, or homicides and suicides, exceed natural causes as a cause of death for adolescents and youth adults—something to be expected since, once children escape the killers of infancy and childhood, external causes remain the leading expected cause of death until ailments of middle age come on. In fact, the real change over the past decade has not been that young adults are not killed by natural causes, but that persons aged 25-44 increasingly are, by AIDS.

*Factoid: Semi-automatic firearms are possessed only with the intent to harm people; no person needs a semi-automatic firearm for hunting or target shooting.*<sup>6</sup> (Houk, 1991)

It would be interesting to learn how effectively the CDC’s Vernon Houk thinks America’s international athletes could prepare for competition with revolvers or single-shot pistols, since semi-automatic firearms are required for some international target shooting competitions. It is also unclear why Houk believes international competitive shooters own their firearms only to harm people.

With rifles of any description involved in 3% of homicides (down from 5% in 1980), it is hard to explain the view that while handguns “account for three-fourths of all gun-related homicides,...recent increases in gang warfare and the adoption of assault weapons by drug traffickers may create different patterns of firearms deaths.” (Rice, et al., 1989:23) There is simply no basis for the CDC’s assertion. (Morgan, 1990: 151-54)

And, while the ammunition feeding-device capacity may be larger for many semi-automatics than for revolvers, that is irrelevant for almost all crimes. Studies of shoot-outs involving criminals and law enforcement in New York City indicate that criminals average fewer than three shots. A study of shootings in Washington, D.C., while indicating more gunshot wounds per victim later in the 1980s than earlier, nonetheless report that 92% were shot fewer than five times, a number less than ordinary

revolver capacity. (Webster et al., 1992a) More recently, a study of firearm-related homicides in Philadelphia indicated that despite a sharp rise in the number of shots fired, whether revolvers or semi-automatics were used, between 1985 and 1990, there were an average of 2.1 shots fired per revolver and 2.7 per semi-automatic. None of the guns used were so-called “assault weapons.” (McGonigal et al., 1993) And a study, limited to children through the age of 17, of drive-by shootings incidents in Los Angeles—where the alleged use of so-called “assault weapons” in drive-by shootings first achieved media attention, and where military-style semi-automatics make up a higher percentage of alleged crime guns (3%) than in most cities which have reported hard data—found that in only one of 583 drive-by shootings was use of an assault weapon documented, with 79% of injuries involving a single gunshot wound.<sup>7</sup> (Hutson et al., 1994:325-326)

Military-looking semi-automatics are rarely involved in crime. Kleck (1992), Morgan and Kopel (1991), and others indicate involvement in perhaps half of one percent to one percent of violent crime or homicide. The recent study of 469 firearm-related homicides in Philadelphia in 1985 and 1990 (McGonigal et al., 1993) noted: “Assault or military-style rifles were not used in either year.”

The only “study” showing significant involvement was the Cox Newspapers report which falsely asserted there were only about one million “assault weapons” privately owned (Cox Newspapers, 1989:1)—while contradictorily noting that there were 1.5 million privately owned M1s, which they identified as “assault weapons” (Cox Newspapers, 1989:10). At the time, the Smithsonian Institution’s firearms expert, Edward Ezell, was testifying to Congress that there were 3-3.5 million military-style semi-automatic rifles, plus an unspecified number of handguns. The Cox claims were based on BATF tracing data disingenuous effort, since the Congressional Research Service (CRS) noted that the tracing system was designed “to identify the ownership path of individual firearms. It was not designed to collect statistics....the firearms selected for tracing do not constitute a random sample and cannot be considered representative of the larger universe of all firearms used by criminals, or of any subset of that universe.” (Bea, 1992:65) For example, at a time when Los Angeles Police Officer Jimmy Trahin was testifying before a congressional subcommittee (May 5, 1989) that military-style semi-automatics accounted for 3% of the crime guns in custody, the Cox study was reporting that 19% of crime guns traced by BATF from Los Angeles were “assault weapons.” (Cox Newspapers, 1989:4)

## RESEARCH-RELATED FACTOIDS

*Factoid: Firearms are rapidly overcoming motor vehicles as a public health issue. And we should apply the same efforts to overcome gun-related deaths as we did with motor vehicles. (CDC, 1994; Koop and Lundberg, 1992)*

According to Koop and Lundberg, citing earlier CDC studies (CDC, 1992c), firearms should be treated like motor vehicles, with age limits, registration, and licensing, because there was a decline in motor vehicle deaths reported between 1970 and 1990. But the CDC study regarding motor vehicle deaths cited seven factors influencing that decline, including redesign of cars, of roads, seat-belt laws, focus on drunk driving, and child restraints, but, understandably, it did not mention registration or licensing, since most registration and licensing was enacted between the world wars.

The self-laudatory CDC also imagines that the motor vehicle accidental death decline is their doing: “Just as we were able to save countless lives from motor vehicles without banning cars, we can save many lives from firearm injuries without a total ban on firearms.” Thus, the CDC’s Vernon Houk (1991) uses motor vehicle regulation as an example for firearms, noting they aren’t banned, but that there are regulations and licensing, cars and highways are made safer, driver behavior is strictly regulated and enforced. As a result, according to Houk, we now save 25,000 lives relative to 1980 and even greater “when compared with three decades ago when we had about 380,000 deaths per year.”<sup>8</sup>

Similarly, the more recent study claims in its title to be examining “Effectiveness in Disease and Injury Prevention,” pretending that the decline in motor-vehicle-related accidental deaths during the period covered (1968-91) is due to “the multifaceted, science-based approach to reduce mortality from motor-vehicle crashes [which] have included public information programs, promotion of behavioral change, changes in legislation and regulations, and advances in engineering and technology.” Their claim is that this resulted in safer driving practices, safer vehicles, safer roads, and improved medical services. They credit the drop in motor-vehicle accidents to these changes which developed “[s]ince 1966, when the federal government identified highway safety as a major goal.” Unfortunately, while the motor-vehicle accidental death rate did decline 37% between 1968 and 1991, that decline trailed all other major types of accidental deaths: non-motor vehicle public deaths declined 38%, home

accidents 41%, work accidents 49%, and firearm-related accidents 50%. Only improved medical services cover all types of accidents. Further, the comparison is dishonest in that it compares accidental deaths involving motor vehicles to firearm related deaths, over 95% of which are intentional. There is no reason to believe that approaches geared toward reducing accidents are applicable to intentional actions.

Another problem with the misleading comparison, in view of the suggestion that firearms will soon exceed motor vehicles as a public health problem, is that, although reported in something called the “morbidity and mortality weekly report,” the only concern is with mortality (death) rather than morbidity (injury). There is a misleading implication that the harm to society associated with the misuse of firearms is closing in on the harm associated with motor vehicle misuse. In fact, there are over two-million disabling injuries associated with motor vehicles annually—with medical costs exceeding \$20-billion (National Safety Council, 1993:1-2)—and only 65-135,000 serious or disabling injuries involving firearms (Martin et al., 1988; Kleck, 1991:62), with medical costs approximating \$1.4-billion (Max and Rice, 1993)(about one-fifth of one percent of the nation’s annual expenditures on medical care—U.S. Bureau of the Census, 1992:97).

At least the focus of federal attention on motor-vehicle deaths after 1966 was associated with declines in motor-vehicle deaths from the period beginning two years later. The same cannot be said for CDC’s activities on the issue of firearms. On the other hand, Congress encouraged the CDC to be concerned with firearms-related deaths, particularly among the young, in 1986, and precisely two years later is when the dramatic rise in firearm-related deaths—particularly among the young—began. (CDC, 1994:38)

Ironically, the opening date used for the CDC comparison of motor-vehicle and firearms-related deaths is 1968, the year the federal government first imposed major federal restrictions on firearms, largely aimed at legally isolating the states so that they could enforce their own gun laws despite more lenient laws in other states. Whatever legislative effects might be on motor vehicle accidents, the CDC’s selection of an opening year fails to inspire confidence in regulation of firearms as a way to curb firearm-related violence.

Curiously, the CDC recommends legislative efforts as one way to curb gun-related deaths even though their state-by-state look at relative firearm- and motor-vehicle-related death rates

(CDC, 1994:39-40) show that the states where firearm-related deaths equal or exceed motor-vehicle-related deaths are split between highly restrictive and generally non-restrictive jurisdictions, the states where motor-vehicle-related deaths exceed firearm-related deaths by 10% or less are similarly split, but the states where motor-vehicle-related deaths exceed firearm-related deaths by over 10% are overwhelmingly non-restrictive with regard to the acquisition and possession of firearms. Indeed, 14 of the 17 states with lenient carry laws (82%) are among the 34 states (67%) where motor-vehicle deaths still well exceed firearm-related deaths.<sup>9</sup>

Having compared intentional firearm-related deaths to unintentional motor-vehicle deaths, the legislative and technological changes recommended are largely aimed at the accidental firearms fatalities which constitute under 5% of gun-related deaths, including “regulating the storage, transport, and use of firearms” and modifying “firearms and ammunition to render them less lethal (e.g., a requirement for childproof safety devices [i.e., trigger locks] and loading indicators”—a recommendation followed by a citation to a GAO (1991) study expressly dealing with accidental deaths among young children.

*Factoid: A gun in the home is 43 times more likely to be used to kill oneself, a family member, or a friend than a criminal.* (Kellermann and Reay, 1986a)

This study looked at firearm-related deaths in the home in King County (Seattle), Washington. It was limited to fatalities in the home involving a firearm which belonged in the home, and added together the total number of suicides, accidents, and criminal homicides. It compared that misleading total to the number of fatal justifiable and self-defense shootings, coming up with a 43-to-1 ratio. Sometimes, the ratio given is 18-to-1, in which case it is residents killed in gun-related non-suicides compared to strangers shot. Although this study was not funded by the CDC, it served as the basis for Kellermann’s establishing his anti-gun bona fides with the CDC, leading to numerous research grants thereafter. In the popular media, it is often forgotten that suicides accounted for 37 of every 43 shooting deaths in the home. For example, “A firearm in the home is 43 times more likely to cause the death of a family member or a friend than a criminal.” (USA Today, February 16, 1994, p. 12A)

The most egregious flaw in the study is that it ignores non-fatal protective uses of guns, which number over two million per year and thus exceed criminal misuses (plus suicides and accidents) by a 2.5- or 3-to-one margin. (Kleck, 1994) Although the authors originally warned that the study was of a single non-representative county, and noted that non-fatal protective uses were ignored, they have freely used the 43 as if it were definitive and national. As has been noted by others, their key approach was that, since the data which would test the hypothesis about the net risk-benefit of firearms for protection were not available, they would use data which was available. Of course, that meant ignoring the fact that some protective-use data were available, but were dismissed as irrelevant or imprecise.

Kellermann and Reay (1986a:1557) concluded that “The advisability of keeping firearms in the home for protection must be questioned,” even though “our files rarely identified why the firearm involved had been kept in the home. We cannot determine, therefore, whether guns kept for protection were more or less hazardous than guns kept for other reasons” (1986a:1559). They assumed protection based on surveys showing that three-fourths cite protection as one reason for having a gun, although the same surveys cite protection as the primary reason only one-quarter of the time, although protection is more commonly the reason for gun ownership in a metropolitan area like the one studied. The actual reason for initial acquisition or continued ownership of firearms involved in injuries remains open to research.

And Kellermann and Reay (1986b), responding to criticism that their data counted only deaths to conclude that firearms were less often used for protection than misused, and attempting to show that surveys supported their conclusion, wrote: “In 1978, both the National Rifle Association and the National [sic] Center for the Study and Prevention of Handgun Violence sponsored door-to-door surveys. Both included questions regarding firearms and violence in the home....Taken together, these two polls suggest that guns kept in homes are involved in unintentional deaths or injuries at least as often as they are fired in self-defense.” In fact, the NRA-sponsored survey, while it asked about protective uses of firearms, and whether the firearm was fired, did not ask about the location of the incident, and did not ask any questions about accidents. The survey commissioned by the Center did not ask whether protective uses of guns involved their being fired, nor where accidents occurred, although it did ask where protective incidents occurred (the

majority occurred outside the home). The Center's protective-use questions were asked only of persons who, at the time of the survey, owned handguns *for protection*.<sup>10</sup> The Kellermann and Reay conclusion is refuted by Kleck (1988). The controversial study was followed by grants to Kellermann and his associates, with each of the following studies deliberately distorted to produce anti-gun factoids.

*Factoid: The difference in Seattle and Vancouver homicide rates is totally explained by there being five times more gun-related homicides in the less restrictive American city, so the Canadian gun law is saving lives.* (Sloan, et al., 1988)

This study, one of a number where the lead or one of the leading authors was Arthur Kellermann, compared homicide in Vancouver, British Columbia, with homicide in Seattle. The authors claimed the difference in handgun-related homicide totally explained Seattle's higher homicide rate. In fact, for the non-Hispanic Caucasians who account for over three-fourths of each city's population, the homicide rates were virtually identical (6.2 for Seattle and 6.4—insignificantly *higher*—for Vancouver). The difference was very high homicide rates for Seattle Hispanics and blacks, who are few in Vancouver, and a high homicide rate among Seattle's volatile Asian population, while Vancouver's Asian population has a lower homicide rate than for non-Hispanic Caucasians. Unscientifically, the authors "are disinclined to calculate a summary odds ratio stratified by race," which would allow a determination of whether ethnicity, rather than firearms, explained the homicide rate differences. (Centerwall, 1991:1246) Generally speaking, non-Hispanic Caucasians in the U.S. have significantly higher rates of gun ownership than prevails among Hispanics, blacks, and Asians.

The study assumed that, aside from handgun laws and handgun availability, the two cities were quite similar, based on such simplistic measures as the rough estimate by police of the clearance rate for homicides, the sentence established by law for unlawful carrying of firearms, and some aggregate economic data. Again, the popular media have taken the assertion of similarities and expressly declared the cities comparable in terms of ethnicity.<sup>11</sup>

The Vancouver/Seattle comparison simply assumed the gun laws were the primary differences between the two cities, an assumption which is unjustified. A more thorough effort did find both lower levels of handgun ownership and handgun involvement

in homicides in Canadian provinces than in bordering American states, but no significant differences in homicide rates, except where two cities demographically unlike anything in Canada—New York and Detroit—were in the state bordering a Canadian province. (Centerwall, 1991) But that was not a test of law but availability.

One of the criticisms of the Seattle/Vancouver comparison—with its conclusion that “Canadian-style gun control...is associated with lower rates of homicide” (Sloan et al., 1988:1261)—was that no effort was made to determine how Canadian homicide had changed since adopting the law as described in their article. In fact, the homicide rate had risen slightly with handgun use unchanged at about one-eighth of homicides. (Blackman, 1989) The authors responded that the “intent of our article was not to evaluate the effect of the 1978 Canadian gun law” (Sloan et al., 1989).

The Vancouver/Seattle homicide comparison noted that the gun ownership data might not be reliable—significant for something suggesting a relationship between ownership or availability and homicide rates. It also acknowledged that Seattle and Vancouver might be different and thus not comparable, and noted that the Seattle area might not be projectable to the rest of the United States (Sloan et al., 1988). The difference in gun ownership may not be that great, even if handgun ownership rates are. They assert that handguns explain the difference in firearm-related homicide in the two cities and emphasize the differences in handgun regulations, asserting relatively few Canadian restrictions on long guns. It is unclear that it is solely the difference in handgun misuse in homicide which distinguishes Seattle from Vancouver. In the figure produced in the article, their chart makes the relative difference between the cities’ rifle/shotgun homicides look similarly different from the handgun differences. Requests for specific data breaking down homicides by type of firearm have been ignored by the authors of the study. The significance is that, while handguns are sharply restricted in Canada, rifles and shotguns were relatively unrestricted in both jurisdictions during the study period. Interestingly, the authors assumed there were dramatically higher levels of gun ownership in Seattle than in Vancouver—largely based on comparing protective handgun ownership in Seattle to sporting handgun ownership in Vancouver, and using a peculiar test which presumes that firearm availability among the general public can be determined by measuring the percentage of suicides and homicides involving firearms. However, a survey by Gary A. Mauser in British

Columbia, and Gary Kleck's analysis of two decades of national general social survey data suggests that gun ownership levels in the two cities might be similar. (Private communication)

The CDC said "The paper by Sloan et al....applies scientific methods to examine a focus of contention between advocates and opponents of stricter regulation of firearms, particularly handguns" (Mercy and Houk, 1988). Criminologist Gary Kleck told National Public Radio's "All Things Considered" (Dec. 16, 1989): "The research was worthless. There isn't a legitimate gun control expert in the country who regarded it as legitimate research. There were only two cities studied, one Canadian, one U.S. There are literally thousands of differences across cities that could account for violence rates, and these authors just arbitrarily seized on gun levels and gun control levels as being what caused the difference. It's the sort of research that never should have seen the light of day."

*Factoid: Restrictive gun laws explain why Vancouver has a lower youth suicide rate than Seattle.* (Sloan et al., 1990a)

After studying homicide in Seattle and Vancouver, Kellermann and his colleagues (Sloan, et al.) went on to compare suicide in the two locales, but switched, inexplicably, from the cities to the metropolitan areas. The overall suicide rate in Vancouver was found to be higher. They also found that among most ethnic groups and overall, the suicide rate was higher in Vancouver, where guns were presumably fewer.

Eventually, they figured out that they could claim that the Canadian gun law helped explain the fact that the suicide rate among 15-24 year olds was lower in the Canadian city than in the American. They have not been able to explain how a gun law could lower the suicide rate among a particular group while failing to lower the rate overall—how a restrictive law can shrink a subset without affecting the size of the set, unless it caused a higher rate of suicide among some other age group.

Crediting Canadian gun laws with this peculiarity would at least have required looking at trends in suicide—which rose in Canada after adopting the law in effect at the time of the study. Another study (Rich et al., 1990) looked at Toronto suicide before and after adoption of the Canadian gun law in effect in Vancouver at the time of the Sloan et al. study, and found that there was a change in the means of committing suicide but not in the suicide rate, and thus concluded that, absent guns, other means would be substituted with no net effect on the suicide rate. This is similarly

the finding of Gary Kleck (Point Blank, 1991), that gun laws might affect the method but not the outcome.

And a recent, as-yet-unpublished study by Brandon Centerwall looked at suicide in Canadian provinces and neighboring American states, and found that suicide rates were generally slightly higher overall, and among persons 15-24 years of age, in Canada, even though gun ownership, and handgun ownership in particular, was significantly higher in the American states than in their neighboring Canadian provinces and territories. Those details were presented to a world conference on violence held in Atlanta, under the leadership of the Centers for Disease Control and Prevention (CDC) in May 1993.

Like the earlier study (Sloan et al., 1988a), the study misstated somewhat the laws affecting Seattle/King County (Washington State and U.S. federal law) and Vancouver and its metropolitan area (Canadian national law). The most seriously ignored aspect was in the second study, of suicide, where age groups were studied and most of the emphasis was on the age groups below the age of 25. Although, in general, the laws of the U.S. are less restrictive than those of Canada, acquisitions of firearms during the period studied were lawful at a younger age in Canada than in the U.S.—18 vs. 21 for handguns; 16 vs. 18 for rifles and shotguns.

Their study warned that they were ignoring such suicide-related factors as alcoholism, mental illness, and unemployment; it noted that the area might not be comparable to the rest of the United States—especially since gun use in suicide was lower; noted that the suicide data might have been flawed; and again noted that the gun ownership rates between the Seattle and Vancouver metropolitan areas might not have been measured comparably (Sloan et al., 1990a).

Kellermann and his colleagues often respond to criticism of their research not with factual material but with the claim that the critic is biased. One example: “Coming from an official spokesman for the National Rifle Association [NRA], Blackman’s invective is no surprise. Kleck’s and Wright’s long-held views on the issue of gun control are also well known, and their criticism was predictable.” (Sloan et al., 1990b) As it happens, Wright’s long-held views were as an advocate of restrictive gun laws whose mind was changed by his research (Wright, 1988); and Kleck remains a supporter of restrictive gun laws (Kleck, 1991) and has been criticized for that by the NRA. (Blackman, 1993) Neither gibe is a scientific response.<sup>12</sup> They went on to respond to the NRA’s criticism by irrelevantly saying the NRA should “return to

the Defense Department the \$4.5 million in annual funding provided to firing ranges operated by the National Rifle Association”—an apparent misunderstanding of Defense appropriations, since none of it goes to NRA-operated ranges. (Sloan et al., 1990b)

*Factoid: Suicide is five times more likely to occur in a home with a gun.* (Kellermann et al., 1992)

This study used King County (Seattle) and Shelby County (Memphis), Tennessee (then home base for Kellermann). The authors combined the suicides in the two counties, and then used a “case control” methodology to compare the suicides to persons otherwise somewhat similar (same neighborhood, age range, sex, ethnicity) who did not commit suicide. They found that suicides were more likely to be gun owners than non-suicides. There were a number of problems with the study, of course, but it provides two “ratios” which are now popular in public health anti-gun literature. One is the crude odds ratio, asserting that persons with guns in the home were three times more likely to commit suicide than those without guns in the home. Even if the ratio were accurate, the “three” pales compared to the crude odds ratio of over 70 for persons who had been treated for depression or mental illness, and various other so-called risk factors, including illicit drug use, living alone, and domestic violence.

The more popular odds ratio is the so-called adjusted odds ratio which controls for a few other factors, and found suicide is five times more likely if a gun is in the home than otherwise. One problem with this is that five is still half the adjusted risk of illegal drug use, which was about 10.

With one-third of the suicide study above the age of 60, no question of physical health was asked. And, while the question of treatment for depression or mental illness was asked, it was not included in the factors for which crude or adjusted odds ratios for suicide were calculated: In fact, the odds ratio, if calculated, would have been about 25 times higher for depression than for firearms ownership.

Incredibly, mental illness and depression have been ignored or denied in suicide studies sponsored by the CDC. Kellermann et al. asked about history of mental illness or depression, but the odds ratio was not calculated. And the CDC’s leading spokesmen have denied its relevance to recent increases in suicide, without citation (Rosenberg and Mercy, 1991:4) or, it would seem, justification. (O’Carroll et al., 1991:185) To the CDC, Kellermann et al.’s

failing to control for mental illness and depression was consistent with calling it a “well-designed study that controlled for other known risk factors....” (Mercy et al., 1993:17)

The study’s exclusion of many of the suicides which occurred in the two counties was a deliberate twisting of the data. For various statistical reasons, about 25% of the suicides could not be used. More importantly, they started out by excluding all suicides outside the home, which amounted to roughly 30% of the suicides in the two cities, on the grounds that “most suicides committed with guns occur there [in the home].” (Kellermann et al., 1992:470) Although excluding outside suicides may have changed the Shelby County data minimally, the percentage of suicides involving firearms fell from 51% in the home to 36% outside the home in King County. So they started out by deliberately skewing the sample by excluding suicides less apt to fit their pattern. They imagine they have proven that other methods will not be substituted, but they have not really measured any such thing, of course. (One study, by Rich et al., looked at Toronto before and after the 1977 Canadian gun law took effect and found that suicide rates did not change, but there was a switch from guns to jumping.) One epidemiologist, attempting to unravel the data, calculates that the crude odds ratio would fall from 3.2 to 1.9. (David N. Cowan, private communication)

Even if the odds ratios were accurate—and the 5-to-1 is based on less than half of the two counties’ suicides—factors with greater risks than firearms were illicit drug use (suggesting that legislative remedies with regard to guns might not be effective), a history of domestic violence, living alone, alcohol abuse, and taking prescription psychotropic medication. And, of course, the study failed to note that there was no relationship between gun availability and levels of suicide anywhere in the world.

*Factoid: A gun in the home increases the chance of homicide by three to one, and does not offer protection from homicide.* (Kellermann et al., 1993)

The fatal flaw in the effort by Kellermann et al. (1993) to evaluate the protective value of firearms is that it uses only homicide data. As Kellermann has acknowledged elsewhere, no study of homicide, however sophisticated or simplistic, can evaluate the protective value of firearms. (Kellermann and Reay, 1986a) The reason is that, as Gary Kleck’s analysis (Point

Blank, 1991) and recently completed survey show, only 0.1% of the 2.5-million protective uses of firearms involves mortality. (Kleck, 1994) Survey research data are essential for that evaluation.

It is the authors' belief, however, that if guns offered protection, the level of gun ownership among homicide victims should have been lower than the level among the "controls" who were similar except for not having been homicide victims. Interestingly, the study also found that security devices such as deadbolt locks, window bars, and dogs offered no security, and that "controlled security access to residence" was a greater risk for homicide than gun ownership. Unlike guns, they noted "these data offer no insight into the effectiveness of home-security measures against...burglary, robbery, or sexual assault." (1993:1090) Since the study merely found an association between gun ownership, some home security precautions, and homicide, there was no way to determine causation. Presumably, some security precautions are taken because one is at greater risk for attack. As Kleck has noted, a similarly distorted case-control study would have found a connection between diabetes and insulin, and concluded that insulin increases ones risk of diabetes rather than offering protection against it. (Polsby, 1994) Alternatively, one could begin with the fact that Kellermann has indicated, in an 1993 op-ed piece he entitled "Gunsmoke," that the association he is showing between guns and homicide is similar to early studies relating smoking and cancer, noting that the tobacco industry called the studies inconclusive and misleading. What Kellermann does not note is that there were also similar preliminary studies falsely concluding there might be a causal relationship between coffee and pancreatic cancer and between inhalers and AIDS. (David N. Cowan, personal communication)

The entire "case control" approach, justified on the grounds it is useful for studying events which rarely happen,<sup>13</sup> confuses rather than contributes to learning about homicide or suicide. By selecting controls similar to persons who die from homicide or suicide means selecting persons largely unrepresentative of society at large or even of the unrepresentative counties chosen. The homicide study, for example, involved persons less affluent and less educated than the counties in general, and the population studied was 62% black while the counties studied were 25% black. It was a study of very high risk individuals compared to high risk individuals, not a study comparing homicide victims to ordinary citizens or gun owners.

A substantial minority of the high-risk population studied may already be proscribed from firearms possession, since, of the victim households, 53% reported an arrest record and 32% illicit drug use. At any rate, the case control can tell nothing about whether use of alcohol—found to be riskier than gun possession with no concomitant teetotaling recommendation—or possession of firearms is risky behavior for ordinary citizens. Had a serious study been envisioned, Kellermann et al. could have compared characteristics of homicide victims to those of the communities as a whole, based upon survey research.

The basis for finding gun ownership levels higher in homes where homicides occurred than in the controls may also be flawed. Some household homicides—less likely to have involved firearms and thus quite possibly less likely to have involved households with guns—were excluded. For example, they excluded homicides of persons under the age of 13. In general, children are more apt to be killed at home and less apt to be killed with firearms (one-quarter of killings of children vs. two-thirds of homicides overall). (FBI, 1993:18) It is theoretically possible that using all persons killed in the home would have reduced the crude odds ratio of gun possession below the level of significance.

In addition, it is quite possible that the gun ownership data are flawed, with missing guns in the households of the controls, and it would not take many mistakes for significance to be lost. The proxies for the homicide victims, after all, would just have gone through the effects of the deceased, following a police investigation of the scene of the homicide—the home—which may have alerted proxies to firearms of which they were previously ignorant. For the controls, however, household ownership was based on ordinary survey research. And those data consistently show that females report dramatically less household ownership than males—too much to be explained by the number of female-headed households without guns. Women simply do not always know there is a firearm in their home or are less willing to acknowledge it in a survey. It would only have taken 11 controls, of 388, erroneously denying household firearms ownership for the crude odds ratio to fall below the level of statistical significance. With women reporting 10-15 percentage points lower gun ownership than men, the Kellermann et al. survey could easily have interviewed 20-40 control households which incorrectly reported that there was no firearm in the home.<sup>14</sup> The statistical difference in gun

ownership levels—the basis for all of their conclusions—may simply not be there.

Kellermann et al. reveal nothing new or valid about homicide, since they studied only homicides in their three metropolitan counties which occurred in the home of the victim, and then arbitrarily excluded those involving persons under age 13. The result was an unrepresentative sample of homicide—over 40% were family members killing family members, although nationally that figure would be just over 10%, according to the FBI's Crime in the United States, 1992 (1993:19). Their finding that most killings in and around homes involve people who know each other is as newsworthy as finding alcohol involvement in barroom slayings. So limited was their study that the "crude odds ratios"—a statistical way to approximate the relative risk of various possible risk factors—were based on 21% of the areas' homicides. The "adjusted odds ratios"—another way, attempting to hold for the effects of a five other factors, four of which were found riskier than guns—was based on just 17% of the counties' homicides.

Another problem deals with ignorance or indifference of criminological and other findings as to what constitutes a risk factor. (Nettler, 1982) Part of this is owing to the inappropriate methodologies. Case control, for example, requires assuming certain factors to be risk factors—ethnicity, age, gender, perhaps income or education—which prevents further measurement. Other factors recognized by criminologists have been ignored in most public health studies, including family structure and values, influences of peer groups and the mass media, unemployment, and the like. Sometimes the ignorance leads to pretending a major discovery has been made when the criminologically-obvious was happened upon. Kellermann et al. thus discovered that homicides in the home generally involve persons who know one another, rather than strangers, and that intruders are rarely involved. To criminologists, it would be mindboggling that anyone might think otherwise, with burglary-related homicides always a small percentage of homicide and, otherwise, it being obvious that people in one's home are persons one knows. Factors ignored included family upbringing at a time when even the media are noticing, as criminologists long have, the importance of one-parent families as a risk factor, and whether socialization is by peers or family.

Despite the distortions, with the adjusted odds ratio, firearms came in fifth of six factors tested for the adjusted odds ratio, behind illicit drug use and domestic violence. Other

factors were either not checked at all or were ignored in the calculations. Firearms may actually have been even further behind various other risk factors, due to dishonest reporting by the case subjects, or refusals to answer. When the proxies for the homicide victims were interviewed, if they did not answer certain questions, they were excluded from the comparison on that particular factor, not counting either the non-response of the case subject or the response of the control. It may be reasonably presumed that more socially undesirable characteristics were sometimes not acknowledged, as the missing data are greater for such factors as being involved in fights, household use of illicit drugs, serious problems caused by drinking, and the like.

In addition, while most (87%) controls were interviewed in person, only 60% of case proxies were so interviewed, with the rest done by telephone. It has generally been found that in-person interviews get more accurate data than telephone interviews on such socially undesirable activities as tax cheating and illegal drug use. (Westat, 1980; Gfroerer and Hughes, 1992) If the responses, if given or given honestly, would have indicated affirmation of the undesirable behavior, the odds ratios might have been still greater for such factors, with firearms ownership further behind.

The dramatically higher odds ratios for domestic violence than for firearms ownership—which could have been still higher had more of the 30 respondents who did not answer that question answer in the affirmative—led Kellermann et al. to conclude something should be done about that problem. However, the policy of the CDC, which funded their research, as announced at the November 1992 meetings of the American Society of Criminology, by the CDC's James Mercy, is that funding firearms research is a high priority but funding domestic violence research is not. If the CDC finds the research by Kellermann et al. credible, its funding priorities should be changed immediately.

Without endorsing teetotaling, the study found that if any member of the household drank at all, the risk of homicide was greater than was the case with gun ownership. And, as with most CDC studies, credibility is undermined by inaccurate citations. Wright et al. (1983) do not validate their gun availability measures, and two of the four studies cited did not demonstrate a link between gun availability and community homicide rates. Credibility should also be undermined by the public presentations. In the press conference presenting the study, co-author Frederick Rivara asserted that the three metropolitan

counties—including Seattle, Memphis, and Cleveland—were representative of not merely urban, but suburban and rural America. King, Shelby, and Cuyahoga county are major metropolitan areas, and the study of homicides would have emphasized the inner-city of each, with little representation of the suburbs. The counties were not chosen to be representative of America, but for the convenience of the researchers who lived or had connections in those three counties.

There is no indication that the guns actually used in the homicides are those which were in the home. Since the victims all must reside in the home for the homicide to have counted (thus excluding any self-defense killings of intruders), and only 43% of killings involved persons who probably lived in the house, odds are that a majority of the killings with guns involved guns not owned by the victim. For that matter, handguns belonged in the home of only 35% of victims, but 43% died by handgun, so in some 8% of cases it would have been impossible for the household handgun to be involved. Very few attempted to use a gun for protection. The issue then becomes whether a gun is supposed to offer protection against homicide of ordinary mortals the way being dipped in the River Styx was supposed to protect Achilles, or a roof protects the house against rain, with no need for further action by the gun owner. Kellermann et al. may have demonstrated that when the NRA says the mere presence of a gun can offer protection, it means that the mere presence accessible in some way to its owner—or with widespread ownership providing general deterrence.

Self-defense killings were (properly) excluded from the study, as non-criminal homicide, but there was no effort to determine any relationship between gun ownership and protective killings. Despite their insistence that their “methodology was capable of demonstrating significant protective effects of gun ownership as readily as any evidence of increased risk,” their study was not capable of finding a relationship between gun ownership and protective homicide, since those were excluded. In addition, any homicide of someone who did not belong in the house was excluded, thus excluding slayings of burglars and other criminal offenders in the home. What they seem to mean is that if guns were useful for protection, then gun ownership levels should have been higher among control than among case households. And, of course, the study would still say nothing about non-fatal protective (or criminal) gun use. If nothing else, they should have been alerted to the possibility that gun ownership is associated with self-

defense killings by their earlier study comparing Vancouver and Seattle (Sloan et al., 1988:1259) where 81% of the justifiable or self-defense killings occurred in Seattle, where they presumed there to be higher levels of handgun ownership.

*Factoid: Family and intimate assaults are 12 times more likely to result in death if a firearm is involved than domestic assaults where a firearm is not involved.* (Saltzman et al., 1992)

This study has some of the same failings as the article introducing the 43-to-1 factoid. Written by four of the most active of the CDC-employed anti-gunners, however, caveats about the limitations of the study are left out.

The key problem is the same as when similar claims were made for homicide/assault overall by Newton and Zimring (1969:44) in the 1960s: It begs the question of whether guns are used because killing is intended or killing results because guns are used. Intent is ignored; all assaults are presumed equally likely to be intended to kill, or not intended to kill—including pistol whipping. The researchers merely assume it makes no difference what intention was; good would come from restricting firearms access anyway—and, again, there is no consideration of whether firearms use was defensive or aggressive. Interestingly, the article appeared the same month as another article suggesting that one reason there were more gunshot wounds per patient than earlier was an increasing motivation to kill. (Webster, et al., 1992a)

The 12-to-1 study was of one atypical jurisdiction (Atlanta/Fulton County) for a period of one year, with a grand total of 23 deaths, or approximately one-tenth of one percent (0.1%) of those which occurred in the U.S. during 1984. It was published at a time when, with the massively reported increase in female firearms ownership, the domestic homicide rate is at, at least, a quarter-century low. (FBI, 1993) There were no data presented involving either the sex of the victim or the determination of the police, prosecutors, or others, as to whether any of the 23 deaths (or any of the 14 involving firearms) were justifiable or self-defense killings.

The only domestic violence included in the study was that reported to the police. If their Atlanta figures are projected, then there were approximately 50,000 gun-related domestic violence incidents reported to police nationally, and 440,000 total domestic violence incidents reported to police, although the Bureau of Justice Statistics (1984) projects about a quarter-

million gun-related domestic violence incidents reported to police out of a total of 1.3 million domestic violence incidents reported to police; and the BJS reports a total of 2.3 million domestic violence incidents (including those respondents said were not reported to police). Both the BJS and JAMA (June 17, 1992) assume that many domestic violence incidents are not reported to either police or the victimization surveys, putting the overall estimate of annual domestic violence incidents at roughly two to four million domestic assaults on wives, plus others on children, husbands, and other family members. With such a small sample reported to the Atlanta police, absolutely nothing is known about the effects of gun use on domestic violence. Too much is left out—perhaps deliberately, in order to come up with a catchy ratio.

The data base is not only unrepresentative of the nation as a whole—based on comparisons to National Crime Survey (NCS/victimization surveys)—but the authors knew their sample was unrepresentative, noting that the NCS often shows weapons often used in other than ordinary ways or not used to injure without firing. “For example, an offender with a firearm may push, hit, or kick the victim. However, in all but two incidents in this study, the injuries sustained were those expected from the types of weapons involved...”

*Factoid: When a woman kills someone with a gun, it is five times more likely to be loved one than stranger. (Kellermann and Mercy, 1992)*

In terms of women and guns, Kellermann and Mercy (1992) reported that, when women killed men with a gun, the man was five times more likely to be an intimate than a stranger. They ignored the fact that the same ratio was found when women killed men with knives, and that it only fell to four when the killing involved some other weapon. There was no suggestion that the killings were other than self-defensive, a view supported by criminological literature: “Moreover, it seems clear that a large proportion of spousal killings perpetrated by wives, but almost none of those perpetrated by husbands, are acts of self-defense....women kill male partners after years of suffering physical violence, after they have exhausted all available sources of assistance, when they feel trapped, and because they fear for their own lives.” (Wilson and Daly, 1992) Comparable to the five-to-one ratio, a study of rape found it 3.5 times more likely to be by a non-stranger. (National Victim Center and the Crime

Victims Research and Treatment Center, 1992) Thus, domestic self-defense is bemoaned as something women should try to avoid by avoiding firearms ownership.

*Factoid: The actual medical costs of treating gunshot wounds is \$4 billion, 86% of which is paid for by tax dollars, with lifetime costs of \$14-20(-40) billion. (Chafee, 1992; Mercy, 1993:9; Mercy et al., 1993:11)*

Although popular with anti-gun advocacy groups and politicians (Chafee, 1992), there is no apparent basis for the \$4-billion figure for actual costs for medical treatment of gunshot wounds, and it is not a figure commonly used by the CDC. There is similarly no basis for the \$40 billion figure. The \$14.4 and the updated \$20.4 billion figures are based on two studies by Dorothy P. Rice (Rice et al., 1989:217; Max and Rice, 1993)

Of the \$20.4 billion, however, only \$1.4 billion goes for actual medical care of gunshot wound victims, even estimating there to be some 171,000 non-serious gunshot injuries in addition to the 65,000 estimated elsewhere (Martin, et al., 1988). The 171,000 figure would mean that the vast majority of gunshot wound victims do not need hospitalization, or even emergency-room care. One study suggested that releasing 60% of emergency-room gunshot wound victims was unusually large, and due in part to the minor injuries likely to be inflicted in drive-by shootings. (Ordog et al., 1994) The figure of \$1.4 billion, if accurate, would mean that gunshot wounds account for approximately one-fifth of one percent of the nation's annual medical costs. (U.S. Bureau of the Census, 1992:97)

While the \$1.4 billion figure may have been carefully calculated, the estimate of \$17.4 billion—most of the remainder of the \$20 billion—is for lost productivity of those killed. It is the figure which leads Mercy to assert that gunshot fatalities are the costliest of premature deaths to society. The reason Mercy finds them costliest is that the victims of gunshot fatalities are, on the average, younger than victims of most other injury fatalities, and thus in theory have more years of productive life lost. The flaw in the assumption regarding the costs to society is that the presumption is that persons killed with guns would, absent the gunshot wound, have led productive working lives. In fact, studies of homicide victims—especially the increasing number of younger ones—suggest they are frequently criminals themselves and/or drug abusers. It is quite possible that their deaths, in terms of economic consequences to society, are net

gains. Society is freed from costs of \$20,000 per year for imprisonment, and of the costs criminals impose on society, which, among the most active of criminals, has been estimated at upwards of \$400,000 per year. (Zedlewski, 1987) A failure to understand who is dying of gunshot wounds, and what they would have done had they not died, makes the “lost productivity” costs nonsensical.

The 85.6% figure for tax dollars is a slight misreading of a study (Martin et al., 1988), indicating that in a single study in a single city, only 14.4% of the medical costs were paid for by the patient or covered by his medical insurance. Some of the remaining costs were borne by the hospital, cutting in to profits, but not requiring actual expenditures of public funds. And other studies have found much larger percentages of gunshot wound victims covered by medical insurance. A Washington, D.C., study, for example, for 37% of patients insured. (Webster et al., 1992a) However, the fact that a majority—whether five-eighths or six-sevenths—of medical costs of gunshot wound victims are not covered by insurance undermines still further the pretense that firearm-related violence affects ordinary folks. Nationally, about 85% of hospital costs are covered by the patient or his insurance. (U.S. Bureau of the Census, 1992:99)

*Factoid: The restrictive licensing law in the District of Columbia saved about 47 lives per year, with firearm-related deaths down in the city but not in the surrounding areas.* (Loftin et al., 1991)

One of the only efforts to test the effects of a gun law similarly deliberately distorted data to reach a conclusion—but started by distorting the law, referring to a handgun ban as a restrictive licensing law. While most scientists will compare cities to cities, these researchers compared the numbers of homicides in a city, which was rapidly losing population, to those in the surrounding suburbs, which were growing. In addition, for the methodology to be persuasive, the trends before the intervention point—the effective date of the law—should be similar for the control jurisdiction and the one being tested, which was not the case for the District and its suburbs. (Kleck et al., 1993:3-4) Perhaps worse, the model used disguised the fact any chart on the homicides would have shown, that the rate of homicide fell before the Washington, D.C., gun law went into effect, and then was stable, rose slightly, fell for a brief time, and then skyrocketed.<sup>15</sup> (Office of Criminal Justice Plans and

Analysis, 1992) Applying the model 6, 12, 18, or even 24 months before the effective date of the law (as asserted by Loftin et al.) would similarly have shown that homicide went down after those arbitrarily selected starting points, and, indeed, went down faster using the 6 or 12 or 18 months before the law took effect. (Kleck et al., 1993:19)

The model used essentially averaged pre-law with post-law homicides to take advantage of the fact that the homicide rate had been quite high in the early 1970s before falling until the year (1976) the gun law was enacted. When challenged with the assertion that homicide dropped during the two years before the law took effect, between 1974 and 1976 (Blackman, 1992b), the authors dishonestly asserted that the critic had said that the drop in homicide began in January 1974, thus suggesting that January 1974 is 24 months before October 1976. (Loftin, et al., 1992) The authors had checked no other possible factors to explain what they perceived as a drop in homicide; they assumed it must have been the gun law, even though other factors certainly existed in Washington, D.C., including increased efforts to enforce federal gun laws in the District in the mid-1970s (Kleck, 1992)—and, indeed, even though they found a dramatic drop in homicide to be an unexpected consequence of a law aimed at gradually reducing the number of lawfully-owned handguns in the city. (Loftin, et al., 1991:1619-20) Using the same model to test for a gradual decline in homicide, which should have been expected if the handgun freeze worked, shows that the law did not work. (Kleck et al.:11-12) Similarly, the law does not work if the time period is extended by two years, even though a law intended for a gradual effectiveness should be steadily working more, and extending the time frame three years beyond the date Loftin et al. ended would have shown the law to be counterproductive. (Kleck et al., 1993:8)

The methodology chosen and its use were eviscerated by Kleck et al. (1993), who noted that similar sudden drops in homicide could be found by putting the starting point for the month-by-month comparison at any number of starting points in the years around the time the law was adopted, and that one could use the same methodology to show that a state preemption law which repealed an existing city waiting period also reduced homicides sharply. The same methodology and same time period would also show a sharper decline in Baltimore homicide—a better control jurisdiction than the District's suburbs—without any such legislative initiative as a handgun “freeze.” In addition, they noted that the same result would not be achieved if FBI

homicide data were used rather than NCHS homicide data, and questioned a conclusion which depends upon which source of homicide data is used. (Kleck et al., 1993:16-18) One might also note that the primary distinction is that the NCHS data would include non-criminal homicides by law enforcement and civilians, leading to the odd conclusion that a restrictive gun law saved the lives of criminals, while the lack of similar conclusions from FBI data would indicate that the lives of the law abiding were not saved.

Like Kellermann and Reay (1986), the Loftin et al. study was apparently not funded by the CDC, but served as the first demonstration of an approach to evaluating gun laws which the CDC was asked to fund with \$368,443 (Public Health Service Grant Application Number 306268-01, September 26, 1990). The first CDC funded study (Grant #R49/CCR-306268) using the same approach found, with (thus far) little publicity, that "mandatory sentencing reduces firearm homicides, while waiting periods have no influence on either homicides or suicides with guns." (McDowall, 1993:1) While the conclusion is probably accurate, the only improvement in the methodology is using several jurisdictions with the same sort of legislative change, which may increase slightly the likelihood that the otherwise seriously flawed interrupted time series approach (Kleck, 1992; Kleck et al., 1993) may yield persuasive results.

#### FACTOIDS REGARDING "CHILDREN"

*Factoid: Firearms education may increase the risk of gun-related injuries.* (Kellermann et al., 1991:19)

Although education is not dismissed entirely as a means to reduce firearm-related injuries, it is generally dismissed as inadequate. And education is perceived as a possible threat to produce an increase in the misuse of firearms. And, while education is a generally approved, if inadequate, in other facets of life as an approach to reducing injury, when it comes to firearms, education becomes a possible threat lest "safety benefits of such courses are outweighed by their ability to promote an interest in firearms, an interest which increases the number of firearms in circulation and the potential for both intentional and unintentional injuries." (NCIPC, 1989:266) And the CDC has opined that "educational interventions...are often expensive and rarely result in lasting behavioral change. Some

educational interventions...may actually increase the probability of injury.” (Kellermann et al., 1991:19)<sup>16</sup>

One survey noted no difference in how firearms were stored (locked and loaded or not) related to whether the owner had firearms instructions; “instruction in the proper handling of firearms was not associated with whether a gun was kept loaded when not in use.” (Weil and Hemenway, 1992:3037) Unfortunately, instruction was measured by asking about training, including military training, which is not generally designed to address the issue of proper storage of firearms in the home. In addition, the dismissal came despite acknowledgment that the only study possibly relevant to actual misuse found that owners of guns involved in accidental shooting deaths of children were unlikely to have received any safety training. (Heins et al., 1974) The study did not deal with misuse of firearm, only with whether guns were stored in a potentially dangerous way.

Surveys of pediatricians and their patients’ parents found that pediatricians were uncomfortable with the idea of counseling regarding firearms, recognizing their ignorance on the topic, and that parents would be unlikely to seek advice on firearms from pediatricians, or to heed advice if offered. (Webster et al., 1992b) Considering physicians’ reluctance even to ask about domestic violence in potentially battered patients (Jecker 1993), it is unlikely the professions’ members will willingly turn to invading privacy with questions not clearly related to an ailment they are treating. In addition, non-gun owning parents indicated a likelihood to turn to the police for firearms instruction, with gun owners more likely to turn to gun organizations. (Webster et al., 1992b, 1992c) Under the circumstances, a more effective way for physicians to reduce the firearms-related injuries due to accidents would be to cooperate with the National Rifle Association’s “Eddie Eagle” program for teaching children firearms avoidance and safety, a program which won a National Safety Council community service award for NRA Vice President Marion Hammer for her work in getting the program adopted in the schools in Florida. (Tallahassee Democrat, Oct. 6, 1993, p. 12A)

*Factoid: There is an epidemic of children killing children with guns.* (Rosenberg, 1984:127; Rice et al., 1989:23)

Recent trends in homicide, particularly firearms-related homicide, in America have been discouraging, (Law

Enforcement News, 1990) although the push to tie restrictive gun laws to misuse by children began while reported trends were still moving the right direction. And, for the most part, the real sharp increase in homicide—and firearms-related homicide—occurred in the 1960s and 1970s, and went down during the early 1980s. (Baker et al., 1984:90-91) As Kleck has noted, the homicide rate, and gun involvement in homicide, for persons 0-19, improved somewhat in the late 1970s and 1980s, and did not begin its upwards drift until 1987 (U.S. House of Representatives, 1989:60), by which time the anti-gun groups had already begun to emphasize children as the reason for needing more restrictive gun laws (Treanor and Bijlefeld, 1989: Unpaginated letter from Constance A. Morella), and after Congress had passed legislation calling upon the CDC to study injury-related deaths among children. The suspected assailants were under 18 in about 6% of the homicides in 1986, rising to about 20% in 1989 and 1990, and falling back to 10% for the first half of 1991. (Johnson and Robinson, 1992)

Overall, the involvement of younger persons (under age 15, or 18) in violent crime was generally stable or declining from the mid-1970s to 1987, as has been demonstrated by Gary Kleck (U.S. House of Representatives, 1989:60-61). Since that time, there has been an increase, coincidentally beginning almost exactly the time Congress expressly authorized the CDC to begin addressing the issue of injury-deaths among youths. The rise has not been across the board, either in terms of who is apparently committing the crimes (based on arrest record), or on the types of criminal violence. (FBI, 1992:220-229,279-289). For most crimes, the 1980s saw stability in the arrest rate among white youth and other non-black races, except for slight very recent increases. Overall, and particularly for homicide, the black arrest rate rose dramatically. For all races, one of the more shocking aspect of the arrest trends is that there is a dramatically greater increase in arrests for homicide than for other violent crimes. Violent crime arrest rates were fairly stable from the late 1970s to the late 1980s, but then rose substantially, while property offenses dropped. (Snyder, 1992) Similarly, teenage victims in crime surveys indicate a decrease in theft but with a downward trend in violent victimizations during the early 1980s being replaced by a increase in violent victimizations more recently, up to levels reported around 1979-81. (Whitaker and Bastian, 1991:3)

But clear and dramatic increases in crimes involving young persons, especially blacks, as perpetrators and victims, have

occurred. The same trend is clear with CDC data. In order to show dramatic increases, the CDC has to be careful to use the mid-1980s for comparison, since the late 1970s and early 1980s will fail to show dramatic changes, or, for some age- and racial groups, any changes, whether looking at homicide overall or at gun-related homicide. Compared to 1979-81, only the homicide rate for infants under the age of one has risen dramatically—and almost none of those homicides (3-4%) involve firearms. (FBI, 1992:18 and 1993:18; Hammett et al., 1992) For other youthful age groups (1-4, 5-9, 10-14, 15-24), the homicide rate remained fairly stable, and for all other age groups, the homicide rate declined during the 1980s. (Hammett et al., 1992) The same is generally true as well for firearm-related homicides, except among young black males up to the age of 25, and for black females aged 10-14. For most five-year age groups, homicide was fairly stable, declining, or rising only modestly, between 1979 and 1988. (Fingerhut et al., 1991:7-8)

To find a clearly upward trend in homicide and gun-related homicide, it is necessary to use the mid-1980s at a starting point and to emphasize young black males (aged 10-24), for whom a decline in the early 1980s was followed by a much greater increase in more recent years. Even with recent homicide increases, the rates are generally lower for others than around 1979-81. (Hammett et al., 1992; Fingerhut et al., 1991) Furthermore, one has to emphasize young blacks from central cities, since the firearm-related homicide rates for other black teenagers are dramatically lower. (Fingerhut et al., 1992)

And to play up the threat to “children,” it is essential to use data from the 15-19 age group, or 15-24 age group, or a 10-19 age group. For young children, the homicide rate and the gun-related homicide rate have minimal trend, with the greatest overall rise among infants, where firearms are not a factor. And even the upward trends among some age/race/sex groups below the age of 15 are all with very small numbers and rates. Indeed, the homicide rates are higher for children below the age of five than for children aged 5-14, for whom the homicide rates have remained around 2 per 100,000 and the gun-related homicide rates around 1 per 100,000, although gun-related homicide has risen faster than other homicide for those 10-14 years of age. (Hammett et al., 1992; Fingerhut et al., 1991) Yet homicide rarely involves firearms for those youngest of children with a homicide rate about 8 per 100,000 (3-4% involving firearms), and almost as rarely for the next youngest age group, at about 15% for 1-4 year olds. (FBI, 1992:18 and 1993:18)

*Factoid: The availability of handguns to urban high school students is pervasive and it is not limited to high-risk groups.* (Callahan and Rivara, 1992)

One of the authors of this work (Rivara) is part of the Kellermann et al. group specializing in pretending Vancouver and Seattle are similar. The survey was exclusively in Seattle high schools, thus excluding all non-city students, who presumably have greater access to firearms (based on a North Carolina survey often cited with horror as showing widespread male high schooler access to firearms, despite the lack of any problem).

The report pretends that access is rather common—it is similar to the response one would get if one asked adults about whether there was a firearm in the home. That is, what the researchers are learning is that high school students know if there is a firearm in their home, a not terribly shocking or informative result.

The authors note, too, that about 6% of the males say they own a handgun, and about 6.6% have carried it to school at some point. (Note: At this point, one is talking about 30 persons in a survey of nearly 1,000, in an unrepresentative urban area.) Although claiming the access is widespread and not limited to high-risk groups, there was a significant relationship between access to handguns and gang membership, drug selling, involvement in criminal violence, and trouble making at school. Perhaps most importantly, in terms of undoing credibility for the survey, it conflicts with a more extensive CDC survey which found that 4% had carried a gun (not necessarily a handgun) for protection (not necessarily or likely to school) during the preceding 30 days. The Seattle survey would appear not to be representative of the nation's high schoolers.

*Factoid: Having a gun in the home increases the risk of adolescent suicide 75 fold.*

Recently, advocates of restrictive gun laws have a new bogus figure: “teen-agers in homes with guns are 75 times more likely to kill themselves than teen-agers living in homes without guns.” (Reeves, 1992) That particular invention had an interesting development. In a small-scale study<sup>17</sup> of suicides, attempted suicides, and non-suicidal teenagers with psychiatric problems, firearms were roughly twice as likely to be in the

homes of the suicides than in the homes of those western Pennsylvanians who unsuccessfully committed suicide or those had psychiatric problems but were non-suicidal. (Brent et al., 1991) There was no suggestion, nor any study, of the possible risk factor of firearms in the home of teenagers who were not suicidal. Indeed, the ownership levels overall for the sample of mentally disturbed teenagers was lower than would have been expected in western Pennsylvania overall, based on the popularity of hunting in the area.<sup>18</sup>

The Journal of the American Medical Association (JAMA) frequently accompanies major articles with an editorial written in or out of house. In this case, three employees of the CDC authored an editorial, asserting that “the odds that potentially suicidal adolescents will kill themselves go up 75-fold when a gun is kept in the home.” (Rosenberg et al., 1991) There was nothing in either article or editorial to suggest that there was any increased risk for non-suicidal adolescents; and the suggestion that access to firearms by suicidal teenagers should be restricted was clearly not controversial (Blackman, 1992a).

But the 75-fold or 75 times figure was sheer invention, as was noted in unpublished portions of the letter published by JAMA (Blackman, 1992a). Instead, the false statement was withdrawn in a “correction” printed in JAMA. Unfortunately, corrections in JAMA are fairly well hidden compared to corrections in news media like the *Washington Post*, but the relevant portion read: “The second sentence of the Editorial should have read as follows: ‘In fact, the odds that potentially suicidal adolescents will kill themselves more than double [not “go up 75-fold”] when a gun is kept in the home.’”<sup>19</sup> (JAMA [April 8, 1992] 267:1922)

Although the CDC corrected its error, there is no indication that any steps have been taken to correct those misusing their figure. Certainly, this author has seen no letters to the editor correcting the falsehood when it appears, and in a discussion with HCI officials for *Washingtonian* magazine reporter in Washington in July 1992, HCI denied there was any correction, so the CDC apparently did not correct themselves to one of their most avid readers. And the lie lives on in congressional testimony by Senator John Chafee (1992).

*Factoid: Eleven (or 12) percent of children who die are shot to death.*

The CDC study which came up with 11% (Fingerhut and Kleinman, 1989) carefully excluded deaths of those under the age of one. If included, firearm-related deaths would have accounted for 4.5% of the deaths of “children” aged 0-19. Of deaths in the 1-14 age group, firearms are involved in about 5% (NCHS, 1991). Redefining children as 1-19 allows the 11% figure from 1989 to be updated to about 12%.

*Factoid: More teenagers now die from firearms than from all natural causes put together.* (Fingerhut, 1993)

Thanks to modern medicine, that is how it should be. Persons who survive the killers of childhood—perinatal conditions, birth defects, sudden infant death syndrome—should be generally safe from natural causes until middle age. The change is not increased violence, but decreased deaths from infectious and parasitic diseases. And the main threat to alter that statistic, particularly among the young adults occasionally included in the “children” category, comes from infectious diseases, particularly the human immunodeficiency virus. Deaths of teenagers and young adults are tied to reckless or aggressive behavior.

The study is similar to one published in 1991 (Fingerhut and Kleinman), but limited to 1985-1990, since the 1980-1985 data would have shown a dramatic decrease during the first half of the '80s. (Or, as she worded it, the earlier time frame was ignored because “it was during the second half of the decade that firearm mortality increased for the younger population.”) The dramatic recent increase is largely limited to a small segment in society—already least apt to own guns and most restricted from lawful access by federal and state law: young urban black and (for the past year or two) Hispanic males. The study makes reference to a dramatic recent increase among whites, but that figure included Hispanics, and there is no breakdown in the study for non-Hispanic whites; Fingerhut has acknowledged to the press that she expects much of the increase for whites was among Hispanics, a statement supported by a more recent study where Hispanic data were included, showing firearm-related death rate for Hispanics 15-34 years of age nearly double the firearm-related death rate for non-Hispanic whites, albeit less than half of that for blacks. (Fingerhut, et al., 1994:8)

By limiting their data to those over 1 and under 35, the CDC disguises the fact that firearm-related deaths are down for much of the population. The study data show a small decline for those

1-9. Similar declines occur across the board among those over 34, for whom gun ownership levels are higher than among those under 35. Interestingly, almost all of the dramatic increase in firearm-related deaths among young persons has occurred since 1987 when the CDC received from Congress the task of reducing firearm-related deaths among young persons.

*Factoid: A large and increasing number of high school students are taking guns to school.*

No one knows how many high-school students, male or female, carry guns, or handguns, to school, either on a daily, monthly, or annual basis. In 1990, the CDC began surveying high-school students regarding weapons carrying, and that report has served as the basis for some of the disinformation publicized. (CDC, 1991) If follow-up surveys do not improve the question wording, little is likely to be learned.<sup>20</sup>

The CDC survey of high school students asked about carrying weapons for protection or because it might be needed in a fight, and then asked about the type of weapon. The time frame was the preceding 30 days, with frequency asked. Unfortunately, the question did not ask about carrying onto school grounds, nor about carrying on the person. Other surveys regarding carrying have made it clear that carrying in a motor vehicle is included by respondents as carrying for protection. (Kleck, 1991:117-119) And most of the carrying was infrequent; nearly 60% who carried did so at most three of the 30 days.

With mathematical sleight of hand, the 4.1% of students who carried or transported firearms someplace for protection became, in the CDC editorial, "Approximately one of 20" rather than one of 25. The news media were left to put the guns in the schools. In addition, as Kleck has noted (private communication), the percentage of students carrying regularly for protection is far lower than the percentage of adults carrying regularly for protection, despite a substantially higher violent victimization rate for the teenagers. Only a minority of the violent victimization occurs on school grounds (37% for those 12-15, and 17% for those 16-19). (Whitaker and Bastian, 1991:8) A more recent survey, too, suggests that the place most threatening to students is not apt to be school. (Sheley et al., 1992 and 1994; Sheley and Wright, 1993) The survey recently conducted by James D. Wright and his colleagues at Tulane University, emphasizing inner-city schools, found that most carrying by students was not on to school grounds, that the

carrying was for protection, and that this very rarely included carrying onto school property (although it might include carrying to and from school, hiding the gun someplace before going onto school grounds). Wright and his colleagues also noted that “it is useful to point out that nearly everything that leads to gun-related violence among youths is already against the law. What is needed are not new and more stringent gun laws but rather a concerted effort to rebuild the social structure of the inner cities.” (Sheley et al., 1992:682)

How much of the carrying is on school grounds is unknown and unknowable from the CDC survey. Assuming rationality in choosing when to carry for protection—and most students who carry apparently choose to do so rarely—the fact that only a minority of offenses which might require weapons for protection occur at school, that victimization in general is more common at times when students are rarely in school, that much carrying normally is in motor vehicles rather than on the person, and the like, Kleck has estimated that the number carrying firearms might drop to one in 200 carrying part of the average day, with half of that on the person, and half of that half on school grounds. The number carrying guns on the person onto school grounds any given day would then be about one in 800, or roughly 15-20,000 nationally.

As with other practices, carrying of firearms for protection (wherever and however) was not something affecting everyone equally. Males were more than twice as likely to carry for protection as females, and blacks and Hispanics more likely to carry than other whites. And, while overall only one-fifth of those who carried a weapon identified it as a firearm, the majority of black male students who carried a weapon identified it as a firearm.

As with the number carrying, no one knows the trends in firearms carrying. CDC survey between 1990 and 1991 suggests a drop, based upon a preliminary comment on it by the CDC’s Rosenberg (1992). The 1990 survey indicated about 20% carrying a weapon of some kind during the preceding 30 days, and 4% carrying a *firearm*, with the comment that “[m]ost students who reported carrying firearms carried handguns.” (CDC, 1991) More recent testimony indicated 26% carrying a weapon, but “[a]mong students who carried a weapon, 11% most often carried a handgun.” That would project to about 2.5% handgun carrying, compared to 4% gun carrying. And, while carrying a weapon was up, for handguns, the CDC goal of a 20% reduction in weapon carrying by the year 2000 (Rosenberg and

Mercy, 1991:9) was met in 1992. On the other hand, speeches by the CDC's Rosenberg indicate that there was an increase in handgun carrying between the 1990 and 1991 surveys. Since CDC calculates carrying not by percentages alone but in combination with frequency, it is possible that what the CDC is finding is that fewer students carry handguns for protection, but those who do so are carrying more frequently.

*Factoid: Latchkey children threatened by access to guns.* (Lee and Sacks, 1990)

Another popular means of attacking firearms by public health professionals is the suggestion that "latchkey children"—those who are home alone after school because both adults in the household work—are at risk for firearms related accidents. The study asserting that firearms and latchkey children pose of risk for accidents did not study accidents to see if there was a disproportionate number of accidents involving such children, but only suggested that there were firearms in a substantial proportion of households with latchkey children. There was no proof of children's access to the guns. Incidentally, while about 450-500 children 14 and under died in firearms-related accidents in the 1960s and early '70s, the number has been in the 230-250 range in recent years, although the number of latchkey children has probably risen and the proportion of households with firearms has remained stable overall, with the proportion having handguns rising from about one-sixth of U.S. households in the early '60s to about one-quarter now.

## CONCLUSORY COMMENTS

The number of factoids could be lengthened, and the CDC will undoubtedly continue to produce others as time goes by and its budget increases—while that of the Department of Justice research arms stays stable or declines, at least in terms of discretionary grants for research on criminal justice issues. There is no consistent trend in the CDC research on the firearms and violence issue. There are, and will for the foreseeable future continue to be, three basic types of studies.

One will consist largely of gathering and disseminating data showing the misuses, or trends in the misuses, of firearms. The data collected and reported will, to the best of the CDC's ability, be complete and accurate—potentially useful to more capable researchers. Those studies will not be complex efforts to look at

myriad factors affecting trends, nor to evaluate firearm availability or gun laws in relation to misuse. The studies will, as they have done in the past (e.g., CDC, 1994; Fingerhut and Kleinman, 1989 and 1990; Fingerhut, 1993; Kellermann and Mercy, 1992), simply report the data, accompanied by some rhetoric, and conclude that various interventions—regulating the types of guns and ammunition which can be manufactured or owned, limiting availability, etc.—would work to reduce firearm-related deaths and injuries. To the extent the conclusion is based on anything, it will be based on interventions in other sorts of ailments, where illnesses or accidents, or with citation to previous CDC-endorsed research of generally low quality.

The second type of study will involve more sophisticated methodology. As in the past (Kellermann et al., 1992 and 1993; Loftin et al. 1991), however, such studies can be expected to be deliberately distorted. Relevant data will be ignored or misused; citations will be occasionally—often deceptively—inaccurate; methodologies will be inaccurately or inappropriately chosen; “controls” will be improperly chosen, and the like. And the clear goal will be to produce an easy-to-remember factoid for the news media to use to suggest that firearms ownership is harmful and counterproductive.

And the third type of study will be a literature review, often mostly rhetoric (Cotton, 1992), summarizing the results of the two other types, and promising that in the future the public health approach will actually result in finding ways to reduce the amount of firearms-related violence (Kellermann et al., 1991; Rosenberg et al., 1992; Mercy et al., 1993). Thus far, the CDC has made no actual progress in treating violence as a disease, but has achieved widespread acclaim for talking about it, much as the police in the “Pirates of Penzance” sang at length of going off to confront the pirates, finally eliciting the outburst, “Yes, but you don’t go.”

And those three types of studies will continue to be produced and widely reported so long as social scientists and public health professionals prefer to praise studies which reach conclusions they like regardless of the methods used, and Congress does not actively oversee how supposedly limited federal moneys are spent.

## References

Baker, Susan P., Brian O’Neill, and Ronald S. Karpf. 1984. *The Injury Fact Book*. Lexington, Mass.: Lexington Books.

Baker, Susan P. and Anna E. Waller. 1989. Childhood Injury State-by-State Mortality Facts. Johns Hopkins University School of Public Health.

Bea, Keith. 1992. "Assault Weapons": Military-Style Semiautomatic Firearms, Facts and Issues; CRS Report for Congress. Washington, D.C.: Library of Congress.

BJS [Bureau of Justice Statistics]. 1984. Family Violence: Special Report. April. U.S. Department of Justice.

1989. Criminal Victimization in the United States, 1987. Washington, D.C.: U.S. Department of Justice.

Blackman, Paul H. 1989. Correspondence: The Cost of Hospitalization for Firearm Injuries. *JAMA* 261: 2637-2638.

1990. Criminology's Astrology: The CDC Approach to Public Health Research on Firearms and Violence. Paper delivered at annual meeting of the American Society of Criminology, Baltimore.

1992a. Firearm Access and Suicide. *JAMA* 267:3026.

1992b. Correspondence: Effects of Restrictive Handgun Laws. *New England Journal of Medicine* 326:1157-1158.

Brent, David A. and Joshua A. Perper. 1992. Firearm Access and Suicide. *JAMA* 267:3026-3027.

Brent, David A. et al. 1992. The Presence and Accessibility of Firearms in the Homes of Adolescent Suicides: A Case-Controlled Study. *JAMA* 266:2989-2995.

Breslin, Patricia. 1992. Toward the Solution: Regulations Can Facilitate Positive Change. Talk delivered at the annual meeting of the American Trauma Society, McLean, Virginia, May 8.

Browning, Charles H. 1976. Handguns and Homicide: A Public Health Problem. *JAMA* 236:2198-2200.

Callahan, Charles M. and Frederick P. Rivara. 1992. Urban High School Youth and Handguns: A School-Based Survey. *JAMA* 267:3038-3042.

Centerwall, Brandon S. 1991. Homicide and the Prevalence of Handguns: Canada and the United States, 1976 to 1980. *American Journal of Epidemiology* 134:1245-1260.

CDC [Centers for Disease Control]. 1991. Weapon-Carrying Among High School Students—United States, 1990. *Morbidity and Mortality Weekly Report (MMWR)* 40:681-684 (October 11).

1992a. Unintentional Firearm-Related Fatalities Among Children, Teenagers—United States, 1982-1988. *JAMA* 268:451-52.

1992b. Trends in Ischemic Heart Disease Mortality—United States, 1980-1988. *JAMA* 268:1837.

1992c. Firearm-Related Deaths—Louisiana and Texas, 1970-1990. *Morbidity and Mortality Weekly Report* 41(April 3):213-221.

1994. Effectiveness in Disease and Injury Prevention: Deaths Resulting from Firearm- and Motor-Vehicle-Related Injuries—United States, 1968-1991. *Morbidity and Mortality Weekly Report* 43(3):37-42 (Jan. 28).

Chafee, John. 1992. Testimony before the Senate Committee on the Judiciary on Children Carrying Weapons: Why the Recent Increase. October 1.

Cotton, Paul. 1992. Gun-Associated Violence Increasingly Viewed as Public Health Challenge. *JAMA* 267:1171-1174.

Cox Newspapers. 1989. Assault Weapons in America. Atlanta: Cox Newspapers.

FBI [Federal Bureau of Investigation]. 1992. Crime in the United States, 1991. Washington, D.C.: U.S. Department of Justice.

1993. Crime in the United States, 1992. Washington, D.C.: U.S. Department of Justice.

Fingerhut, Lois A. 1993. Firearm Mortality Among Children, Youth, and Youth Adults 1-34 Years of Age, Trends and Current Status: United States, 1985-1990. CDC Advance Data No. 231 (March 23).

Fingerhut, Lois A. and Joel C. Kleinman. 1989. Firearm Mortality Among Children and Youth. NCHS Advance Data No. 178 (November 3). CDC National Center for Health Statistics.

1990. International and Interstate Comparisons of Homicide Among Young Males. *JAMA* 263:3292-3295.

Fingerhut, Lois A., Joel C. Kleinman, Elizabeth Godfrey, and Harry Rosenberg. 1991. Firearm Mortality Among Children, Youth, and Young Adults 1-34 Years of Age, Trends and Current Status: United States 1979-1988. Monthly Vital Statistics Report 39(11 Supplement)(March 14). CDC National Center for Health Statistics.

Fingerhut, Lois A., Deborah D. Ingram, and Jacob J. Feldman. 1992. Firearm and Nonfirearm Homicide Among Persons 15 Through 19 Years of Age: Differences by Level of Urbanization, United States, 1979 through 1989. *JAMA* 267:3048-3053.

Fingerhut, Lois A., Cheryl Jones, and Diane M. Makuc. 1994. Firearm and Motor Vehicle Injury Mortality--Variations by States, Race, and Ethnicity: United States, 1990-91. NCHS Advance Data No. 242 (January 27). CDC National Center for Health Statistics.

GAO [General Accounting Office]. 1991. Accidental Shootings: Many Deaths and Injuries Caused by Firearms Could Be Prevented. Report to the Chairman, Subcommittee on Antitrust, Monopolies, and Business Rights, Committee on the Judiciary, U.S. Senate.

Gfroerer, Joseph and Arthur Hughe. 1992. Collecting Data on Illicit Drug Use by Phone. In Charles Turner, Judith Lessler, and Joseph Gfroerer (eds.), Survey Measurement of Drug Use: Methodological Studies. Washington: U.S. Government Printing Office.

Hammett, Marcella, Kenneth E. Powell, Patrick W. O'Carroll, and Sharon T. Clanton. 1992. Homicide Surveillance—United States, 1979-1988. Morbidity and Mortality Weekly Report 41(SS-3):1-33.

Heins, M., R. Kahn, and J. Bjordnal. 1974. Gunshot Wounds in Children. *American Journal of Public Health* 64:326-330.

Henkoff, Ronald. 1992. Children in Crisis: Kids are Killing, Dying, Bleeding. *Fortune* (August 10): 62-29.

Houk, Vernon N. 1991. Welcome. Keynote Speeches for the Third National Injury Control Conference: "Setting the National Agenda for Injury Control in the 1990s." U.S. Department of Health & Human Services.

- Hutson, H. Range, Deirdre Anglin, and Michael J. Pratts. 1994. Adolescents and Children Injured or Killed in Drive-By Shootings in Los Angeles. *New England Journal of Medicine* 330:324-327.
- INTERPOL. N.d. *International Crime Statistics, 1985-1986*. St. Cloud, France.
- Jackson, Cheryl. 1992. Gun-safety backers shun NRA material. *Cleveland Plain Dealer*, March 27.
- Jecker, Nancy S. 1993. Privacy Beliefs and the Violent Family: Extending the Ethical Argument for Physician Intervention. *JAMA* 269:776-780.
- Johnson, Claire M. and Marla T. Robinson. 1992. *Homicide Report*. Washington, D.C.: (D.C.) Office of Criminal Justice Plans and Analysis.
- Johnson, Paul. 1985. *Modern Times: The World from the Twenties to the Eighties*. New York: Harper & Row, 1983, 1985.
- Kellermann, Arthur L. and Donald T. Reay. 1986a. Protection or Peril?: An Analysis of Firearm-Related Deaths in the Home. *New England Journal of Medicine* 314:1557-1560.
- 1986b. Correspondence: Firearm-Related Deaths. *New England Journal of Medicine* 315:1484.
- Kellermann, Arthur L. and James A. Mercy. 1992. Men, Women, and Murder: Gender-Specific Differences in Rates of Fatal Firearms Violence and Victimization. *Journal of Trauma* 33:1-5.
- Kellermann, Arthur L. et al. 1991. The Epidemiologic Basis for the Prevention of Firearm Injuries. *Annual Review of Public Health* 12:17-40.
1992. Suicide in the Home in Relation to Gun Ownership. *New England Journal of Medicine* 327:467-472.
1993. Gun Ownership as a Risk Factor for Homicide in the Home. *New England Journal of Medicine* 329:1084-1091.
- Kleck, Gary. 1991. *Point Blank: Guns and Violence in America*. New York: Aldine de Gruyter.
- 1992a. Assault Weapons Aren't the Problem. *New York Times*, September 1.
- 1992b. Interrupted Time Series Designs: Time for a Reevaluation. Paper delivered at the annual meeting of the American Society of Criminology, New Orleans.
1994. Guns and Self Protection. *Journal of the Medical Assn. of Georgia*. 83:42.
- Kleck, Gary, Chester L. Britt, and David J. Bordua. 1993. The Emperor Has No Clothes: Using Interrupted Time Series Design to Evaluate Social Policy Impact. Paper delivered at the annual meeting of the American Society of Criminology, Phoenix.
- Koop, C. Everett and George D. Lundberg. 1992. Violence in America: A Public Health Emergency: Time to Bite the Bullet Back. *JAMA* 267:3075-3076.
- Lee, Robert[a] K. and Jeffrey J. Sacks. 1990. Latchkey Children and Guns at Home. *JAMA* 264:2210.
- Loftin, Colin, et al. 1991. Effects of Restrictive Licensing of Handguns on Homicide and Suicide in the District of Columbia. *New England Journal of Medicine* 325:1615-1620.

1992. Correspondence: Effects of Restrictive Handgun Laws. *New England Journal of Medicine* 326:1160.
- McDowall, David. 1993. Preventive Effects of Firearm Regulations on Injury Mortality. Paper presented at the annual meeting of the American Society of Criminology, Phoenix, Arizona.
- McGinnis, J. Michael and William H. Foege. 1993. Actual Causes of Death in the United States. *JAMA* 270:2207-2212.
- McGonigal Michael D., et al. 1993. Urban Firearm Deaths: A Five-Year Perspective. *Journal of Trauma* 35:532-536.
- Martin, Michael J., Thomas K. Hunt, and Stephen B. Hulley. 1988. The Cost of Hospitalization for Firearm Injuries. *JAMA* 260:3048-3050.
- Max, Wendy and Dorothy P. Rice. 1993. Shooting in the Dark: Estimating the Cost of Firearm Injuries. *Health Affairs* 12(4):171-185.
- Mercy, James A. 1993. The Public Health Impact of Firearm Injuries. *American Journal of Preventive Medicine* 9(Suppl.1):8-11.
- Mercy, James A. and Vernon N Houk. 1988. Firearm Injuries: A Call for Science. *New England Journal of Medicine* 319:1283-1284.
- Mercy, James A., et al. 1993. Public Health Policy for Preventing Violence. *Health Affairs* 12(4):29.
- Moore, T.J. 1990. Overkill. *Washingtonian* 25 (August): 64-67, 194-204.
- Morgan, Eric C. 1990. Assault Rifle Legislation: Unwise and Unconstitutional. *American Journal of Criminal Law* 17 (Winter): 143-174.
- Morgan, Eric and David Kopel. 1991. The Assault Weapon Panic: "Political Correctness" Takes Aim at the Constitution. Golden, Colo.: Independence Institute.
- NCHS [National Center for Health Statistics]. 1987. *Vital Statistics of the United States, 1983, Volume II, Mortality, Part B*. Washington, D.C.: U.S. Public Health Service. 1991. *Vital Statistics of the United States, 1988, Volume II, Mortality, Part A*. Washington, D.C.: U.S. Public Health Service.
- NCIPC [National Committee for Injury Prevention and Control]. 1989. *Injury Prevention: Meeting the Challenge*. New York: Oxford University Press.
- NSC [National Safety Council] . 1993. *Accident Facts: 1993 Edition*. Chicago: National Safety Council.
- National Victim Center and the Crime Victims Research and Treatment Center. 1992. *ape in America: A Report to the Nation*. Washington, D.C., April 23.
- Nettler, Gwynne. 1982. *Killing one another. Criminal careers, vol. 2*. Cincinnati: Anderson Publishing Company.
- Newton, George D., Jr., and Franklin E. Zimring. 1969. *Firearms and Violence in American Life*. Washington, D.C.: U.S. Government Printing Office.
- Novello, Antonia C. 1991. Keynote Speeches for the Third National Injury Control Conference: "Setting the National Agenda for Injury Control in the 1990s." U.S. Department of Health & Human Services.
- O'Carroll, Patrick W., et al. 1991. Suicide, 184-196. In Rosenberg ML, Fenley MA, eds. *Violence in America: a public health approach*. NY: Oxford, 1991.
- Office of Criminal Justice Plans and Analysis. 1992. *Homicide Report*. Government of Washington, D.C., April.

- Ordog, Gary J., et al. 1994. Civilian Gunshot Wounds--Outpatient Management. *Journal of Trauma* 36:106-111.
- Organ, Claude H., Jr. 1992. Trauma: The Motor End Plate of Violence. *Archives of Surgery* 127:651-652.
- PHS [Public Health Service]. 1979a. Healthy People The Surgeon General's Report on Health Promotion and Disease Prevention. Washington, D.C.
- 1979b. Healthy People The Surgeon General's Report on Health Promotion and Disease Prevention: Background Papers. Washington, D.C.
- Polsby, Daniel D. 1994. The False Promise of Gun Control. *Atlantic Monthly*, March.
- Rand, Michael R. 1990. Handgun Crime Victims. U.S. Dept. of Justice, Bureau of Justice Statistics.
- Reeves, Richard. 1992. Give Gun Control a Chance. *Baltimore Sun*, September 25.
- Rice, Dorothy P., et al. 1989. Cost of Injury in the United States: A Report to Congress. San Francisco: Institute for Health & Aging, University of California, and Injury Prevention Center, Johns Hopkins University.
- Rich, Charles L., et al. 1990. Guns and Suicide: Possible Effects of Some Specific Legislation. *American Journal of Psychiatry* 147:342-346.
- Ropp, Leland, Paul Visintainer, Jane Uman, and David Treloar. 1992. Death in the City: An American Childhood Tragedy. *JAMA* 267:2905-2910.
- Rosenberg, Mark L. 1992. Testimony before the U.S. Senate Subcommittee on Social Security and Family Policy, Committee on Finance, on Bullet-Related Violence and Its Impact on Family and Federal Entitlements. October 23.
1993. The Face of Injury. *American Journal of Preventive Medicine* 9(Suppl.2):3-7.
- Rosenberg, Mark L. and James A. Mercy. 1991. Introduction, pp. 3-13. In Mark L. Rosenberg and Mary Ann Fenley (eds.), *Violence in America: A Public Health Approach*. New York: Oxford University Press.
- Rosenberg, Mark L., James A. Mercy, and Vernon N. Houk. 1991. Guns and Adolescent Suicides. *JAMA* 266:3030.
- Rosenberg, Mark L., Patrick W. O'Carroll, and Kenneth E. Powell. 1992. Let's Be Clear: Violence is a Public Health Problem. *JAMA* 267:3071-3072.
- Saltzman, Linda E. et al. 1992. Weapon involvement and injury outcomes in family and intimate assaults. *JAMA* 267:3043-3047.
- Sheley, Joseph F., and James D. Wright. 1993. Gun Acquisition and Possession in Selected Juvenile Samples. *Research in Brief*. National Institute of Justice and Office of Juvenile Justice and Delinquency Prevention, U.S. Department of Justice, December.
- Sheley, Joseph F., Zina T. McGee, and James D. Wright. 1992. Gun-Related Violence in and Around Inner-city Schools. *American Journal of Diseases of Children* 146:677-682.
- Sheley, Joseph F., James D. Wright, and M. Dwayne Smith. 1994. *Firearms, Violence and Inner-city Youth: A Report of Research Findings*. U.S. Department of Justice, National Institute of Justice.
- Sloan, John Henry et al. 1988. Handgun Regulations, Crime, Assaults, and Homicide: A Tale of Two Cities. *New England Journal of Medicine* 319:1256-1262.

1990a. Firearm Regulations and Rates of Suicide: A Comparison of Two Metropolitan Areas. *New England Journal of Medicine* 322:369-373.

1990b. Correspondence: Firearm Regulations and Rates of Suicide. *New England Journal of Medicine* 323:136-137.

Smith, Jack C. et al. 1986. Suicide and Homicide Among Hispanics in the Southwest. *Public Health Reports* 101(May-June):265-270.

Snyder, Howard N. 1992. Arrests of Youth 1990. U.S. Dept. of Justice Office of Juvenile Justice and Delinquency Prevention.

Treanor, William W. and Marjolijn Bijlefeld. 1989. Kids & Guns: A Child Safety Scandal, Second Edition. American Youth Work Center and the Educational Fund to End Handgun Violence [NCBH/CSGV].

U.S. Bureau of the Census. 1992. Statistical Abstract of the United States: 1992 (112th edition). Washington, D.C.

U.S. House of Representatives. 1989. Children and Guns. Hearing before the Select Committee on Children, Youth, and Families. 101st Congress, 1st Session.

Webster, Daniel W., Howard R. Champion, Patricia S. Gainer, and Leon Sykes. 1992a. Epidemiologic Changes in Gunshot Wounds in Washington, DC, 1983-1990. *Archives of Surgery* 127:694-698.

Webster, Daniel W., Modena E.H. Wilson, Anne K. Duggan, and Lawrence C. Pakula. 1992b. Firearm Injury Prevention Counseling: A Study of Pediatricians' Beliefs and Practices. *Pediatrics* 89:902-907.

1992c. Parents' Beliefs About Preventing Gun Injuries to Children. *Pediatrics* 89:908-914.

Weil, Douglas S. and David Hemenway. 1992. Loaded Guns in the Home: Analysis of a National Random Survey of Gun Owners. *JAMA* 267:3033-3037.

Wenzel, Richard P. 1988. The Mortality of Hospital Acquired Bloodstream Infections: Need for a New Vital Statistic? *International Journal of Epidemiology* 17:225-227.

Westat, Inc. 1980. Self-Reported Tax Compliance: A Pilot Survey Report. Prepared for the Internal Revenue Service. Rockville, Md.: Westat (March 21).

Whitaker, Catherine J. and Lisa D. Bastian. 1991. Teenage Victims: A National Crime Survey Report. U.S. Department of Justice, Bureau of Justice Statistics.

Wilson, Margo I. and Martin Daly. 1992. Who Kills Whom in Spouse Killings?: On the Exceptional Sex Ratio of Spousal Homicide in the United States. *Criminology* 30:189-215.

Wintemute, Garen J. 1987. Firearms as a Cause of Death in the United States, 1920-1982. *Journal of Trauma* 27:532-536.

1991. Public Health Action in a New Domain: The Epidemiology and Prevention of Violence. Langmuir Lecture, 1991. *EIS Bulletin* (June):8-9.

World Health Organization. 1977. Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death. Geneva, Switzerland.

1989. World Health Statistics Annual. Geneva, Switzerland.

Wright, James D. 1988. Second thoughts about gun control. *Public Interest* 91:23-39.

Wright, James D. Peter H. Rossi, and Kathleen Daly. 1983. Under the Gun: Weapons, Crime, and Violence in America. New York: Aldine.

Zedlewski, Edwin W. 1987. Making Confinement Decisions. Research in Brief. National Institute of Justice, U.S. Department of Justice, July

### **Endnotes**

1. One could observe, for example, that the "risk factor" most commonly associated with premature death in the United States is the M.D.
2. To bring back emotion, he tells of the near-fatal shooting of a woman by her husband, a state trooper, who used his service revolver and successfully won acquittal, claiming that the shooting was accidental. It is unclear what action the CDC would propose to prevent shootings by law enforcement officers, or prevent their being able to claim the shootings were accidental in a court of law. (Rosenberg, 1993)
3. Sometimes, of course, there is no basis for a statement. For example, Surgeon General Antonia C. Novello felt compelled to discuss firearms in her plenary remarks to a CDC-sponsored conference on violence. (Novello, 1991) She said: "Today, homicide and suicide are the second and third leading causes, respectively, of death among children. Investigators believe that ready access to loaded firearms in the home for children under 15 is the chief contributing factor in unintentional shootings, with an increase in the use of firearms paralleling an increase in violent deaths." Yet firearms accidents, overall and among children, have been declining, and her statements regarding homicide and suicide, while perhaps accurate for slightly older age groups, are untrue when speaking of children under 15, or even 1-14.
4. Public Law 99-649 essentially calls upon the CDC to study the issue of injury to children, without defining that which is to be studied. The bipartisan legislation was enacted at a time when the data available to Congress would have shown trends moving in the right direction. The legislative findings—part of the Act of Congress—asserted that injuries caused the deaths of half of "children" 1-15 and two-thirds of all deaths of "children" over the age of 15. In order for that to be approximately true, Congress's view of "children" was that they constituted persons aged 1-34 or 1-35. For younger children over the age of one, the data available to Congress would have indicated that injuries were the cause of 75-80% of deaths. (NCHS, 1987) The legislative history of a bill to study children's injury deaths also noted that injuries were the leading cause of all deaths of persons aged 1-44—an accurate statement, but perhaps a misleading suggestion about possible definitions of children. U.S. Code Congressional and Administrative News, 99th Congress, 2nd Session (1986) 6:6162.
5. An alternative wording of this in a resolution proposed at the American Medical Association semi-annual meeting in December 1993 was that there have been more deaths by gunshot between 1933 and 1989 (1,209,199) than in all the United States wars from the Revolutionary War to the present (1,177,956). In addition to some obvious inaccuracy, the comparison is one of apples and oranges. Wars, particularly American involvement in wars, generally involve a tiny percentage of the population, a very short span of time, and very high death rates per 100,000; ordinary life represents the population as a whole, with very low death rates from gunshot wounds. The period for gunshot wounds, for example, covers a population of 100-250,000,000 and a period of 57 years; the period for war actually involves less than 25 years and normally less than 500,000 American servicemen. The numbers are, of course,

fanciful: no precise numbers are known about either the number of persons lost to gunshot wounds or to war during any period of time.

6. In his health system reform speech in 1994, President William J. Clinton expressed a similar sentiment, claiming health care costs are driven up in part because "this is the only country in the world where teenagers can roam the streets at random with semi-automatic weapons and be better armed than the police." Generally speaking, the guns used by police retail at \$300-800 and those used by teenagers at \$50-350. If police wished the same arms as teenagers, their departments could save money by downgrading, with funds left over for care of the officers injured when their new service arms jammed. Regarding health care costs, gunshot wounds for all—whether caused by teenagers or adults—account for approximately one-fifth of one-percent of health care costs (U.S. Bureau of the Census, 1992:97; Max and Rice, 1993) Total medical costs for all injuries to persons 0-19 were estimated to be \$5.1 billion (in 1987 dollars), of which 6.6% were attributable to assaults and suicides (by whatever means inflicted) and firearms accidents. (Malek et al., 1991:1003) So gunshot injuries to teenagers probably account for about one-twentieth of one percent of the nation's medical costs. And the suggestion that teenagers can roam the streets with firearms was addressed by Sheley et al. (1992:682): "[I]t is useful to point out that nearly everything that leads to gun-related violence among youths is already against the law. What is needed are not new and more stringent gun laws but rather a concerted effort to rebuild the social structure of inner cities."

7. A study in a major trauma center in Los Angeles of the 60% of shootings which could be treated on an outpatient basis after emergency-room treatment, found that 91% of cases involved single missiles from handguns, 3% multiple missiles, with rifles—the most common type of the so-called "assault weapon"—used in 3% of cases, only 5% involved high-velocity missiles, and none were reported to involve tissue damage from shock waves often rhetorically associated with military-style rifles. Even if the more serious injuries were somewhat more apt to involve such firearms, the percentage would remain fairly low. And 80% of the injuries studied involved the drive-by shootings rhetorically associated with military-style semi-automatics. (Ordog et al., 1994)

8. It is unclear what Houk was thinking of, since the total number of motor vehicle deaths peaked at about 56,000, and the number per 100-million vehicle miles has been declining fairly steadily for the past decade, unsteadily in the '70s, and was stable in the '60s, so the rate has been cut in half since 1960—a bit less than the rate of accidental firearms fatalities. That is, of course, comparing rate per 100,000 population to rate per 100,000,000 motor-vehicle miles. Doing both on a rate per 100,000 population, with strict regulation, improved cars and highways, lowered speed limits, and registration and licensing, the motor vehicle accidental death rate fell about 11% between 1960 and 1990, while the accidental death rate from firearms fell over 50%. (National Safety Council, 1993:33)

9. Similarly, Fingerhut and Kleinman (1990) looked at variations in the homicide rates, and gun use in homicide, across the state lines for half of the states, indicating an interest in the possible effectiveness of restrictive firearms laws, without noting that the gun laws fluctuated greatly in the states involved. They ignored the fact that, in the various states—especially among blacks (a supposed CDC area of focus)—restrictive laws were associated with higher homicide rates

and lenience and availability with lower rates. Similarly, while they suggested firearms laws and availability might explain differences internationally, no effort was made to determine gun laws or availability in the nations cited. And, while noting that the American homicide rates were "four to eight times higher than the rates in most other countries," they failed to note that the same was true of robbery, where American firearms involvement is about 40%, and rape, where guns are used less than 10% of the time. (INTERPOL, n.d.; FBI, 1993; BJS, 1989:64)

The 1994 CDC report notes that there have been some legislative efforts to curb firearm-related injuries and deaths, but says "efforts to evaluate these approaches have been limited." Actually, of course, thanks to Gary Kleck's *Point Blank: Guns and Violence in America* (1991), awarded the 1993 Michael J. Hindelang Award by the American Society of Criminology as the book from "the past two to three years that makes the most outstanding contribution to criminology," evaluative effort has been extensive. Kleck's is not among the three works cited by the CDC.

10. Accuracy of citation is not the strong suit of Kellermann and his colleagues. This miscitation of surveys followed the study which cited two FBI sources for the proposition that "Less than 2 percent of homicides nationally are considered legally justifiable." Neither source reported that figure. The FBI did not then report data on the number of homicides police thought might be legally justifiable, and still does not collect data on the number determined by prosecutors or others to be legally justifiable. Their next study cited Wright et al.(1983) to support the assertion that "restricting access to handguns could substantially reduce our annual rate of homicide." (Sloan et al., 1988:1256) Wright et al. considered and dismissed the theory as not demonstrated.

11. Although the public health profession is not responsible for media going beyond their studies, Kellermann may have had some chance to make sure NBC News understood what the situation was in Vancouver when interviewed for an NBC news segment discussing whether handguns should be banned. Using the Vancouver/Seattle study, NBC reported that in Vancouver there is a handgun ban. (NBC Evening News, January 27, 1994) There is not; handgun ownership is restricted to sporting purposes, which generally involves joining a gun club.

12. A more imaginative effort at *ad hominem* criticism occurred when Kellermann wished to suggest that the theory that, absent a firearm, a potential suicide would simply use a different method, was flawed. He and his colleagues first cited a letter to the *New England Journal of Medicine* where the substitution theory was enunciated by an employee of the NRA, but the employee's affiliation could not properly be included in the citation, so they then cited a paper by the same person, where the substitution theory was not mentioned, but the NRA could arguably be listed as the "publisher." (Kellermann et al., 1992:467, 472)

13. If the article were right that the chance of being killed is increased by 2.7 times if a gun is owned, that means the chances rise to about one in 15,000 that the average gun owner will be murdered in his or her home each year. The chance that a gun owner will use a gun for protection each year is better than one in 50. Protective gun use is not a rare event requiring or benefiting from case-control methodology.

14. Kellermann et al. believe underreporting of gun ownership is not a problem based on a study of whether ownership was accurately reported in "a pilot study of homes listed as the addresses of owners of registered handguns...." (Kellermann et

al., 1993:1089) It is certainly possible that persons in households where gun ownership has been reported to the authorities will also more willingly report it to pollsters.

15. Using FBI data, the following is the number of homicides per year before and after a gun law was enacted which took full effect in February 1977—although Loftin et al. prefer to use the late-September 1976 date, in Washington and Baltimore. (By quarter, the number of homicides in the District from the last quarter of 1974 through the last quarter of 1978 were: 90; 56, 59, 66, 55; 57, 51, 38, 42; 50, 50, 51, 41; 37, 49, 60, 43.)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Washington	245	268	277	235	188	192	189	180	200	223
Baltimore	330	280	293	259	200	171	197	245	216	228

In 1987, the last year of the Loftin et al. study, Baltimore had 226 homicides and the District 225. The 1992 figures were 335 and 443, respectively, although Loftin et al. had concluded that, but for the gun law, the post-1987 trend would have been worse in the District.

16. While not generally enthusiastic about the National Rifle Association, an article in the Washington Post described the NRA's "Eddie Eagle" book on firearms safety education for children as "[a] must for any parent who keeps a gun in the home." (January 7, 1992, p. B5) Others have refused to consider using the "Eddie Eagle" program, while admitting it to be a good program, because of the policies of the NRA. It is apparently more important to avoid the appearance of endorsement of NRA policies than to promote child safety. (Jackson, 1992)

17. The basis for the study was 47 suicides in western Pennsylvania (Brent et al., 1991), and a letter to the editor described it as a small-scale study (Blackman, 1992). The authors responded that it was not really small scale, since it replicated an earlier study involving 27 suicides (Brent and Perper, 1992).

18. Blackman suggested that perhaps the higher level of gun ownership among non-disturbed teenagers than, overall, among the mentally disturbed, might mean there is a positive relationship between firearms in the home and mental health, suggesting more study of the hypothesis. The authors responded oddly, ignoring the fact that none of their study involved any mentally healthy teenager, that: "Both the suicide victims and suicide attempters were psychiatrically ill, but the rate of firearm ownership was higher in families of suicide victims, suggesting that there is no relationship between psychiatric illness in an adolescent and gun availability." (Blackman, 1992a; Brent and Perper, 1992)

19. Doctors sometimes have trouble with simple arithmetic. When a representative for the anti-animal testing Physicians Committee for Responsible Medicine wrote to the JAMA claiming to speak for 3,000 physician-members, the official AMA response was to belittle the figure by noting that "its membership represents less than 0.005% of the total US physician population." (JAMA 268:789[1992])

20. If, and to the extent, survey questions are improved, trend knowledge will be distorted or delayed.