The proliferation of firearms in the United States, including handguns and semiautomatic weapons, has contributed to a steep increase in gun-related homicides, suicides, accidental deaths, and injuries. The campaigns organized by physicians starting in the 1960s to educate the public about the nature and consequences of nuclear weapons and other weapons of mass destruction provide a model for those concerned today with the epidemic of gun violence. A new physicians campaign would call for the elimination of the most lethal weapons from civilian hands; a ban on the most lethal forms of ammunition; and stricter governmental regulation of the ownership and use of all firearms. [M&GS 1994;1:67-73]
Homicide

The paroxysm of violence in our society continues unabated. The number of murders in America increased from below 20,000 in 1987 to more than 23,000 in 1990 [2]. Homicide is the fourth leading cause of premature mortality in the U.S., the third leading cause of death among all youth aged 15 to 24 years, and the leading cause of death among African American men aged 15 to 34 years [4]. The evidence that firearms are a major factor is substantial. The incidence of murders by means other than firearms increased substantially between 1960 and 1980; however, this rate of increase was only half of that associated with firearms [5]. Most disturbing has been the recent substantial rise in firearm homicide victims among children five to nine years of age [6]. An even greater impact of gun violence on total mortality has been noted among older children. Between 1985 and 1990, firearm-related homicide increased by 141% among teenagers 15 to 19 years of age [7]. By 1990, 82% of homicides among teenagers 15 to 19 years of age were associated with firearms [8]. Six hundred fifty thousand a year, handguns are used in attempted rapes, robberies, and assaults, resulting in 90,000 injuries [2]. In Los Angeles County alone, in the year before the riots (1991), more than 8,000 people were either killed or wounded by firearms [1].

Suicide

The link between firearms and suicide is well established. More people kill themselves by firearms than all other methods combined [3]. The key factor appears to be the finality that pulling a trigger conveys. Few recover from a firearm-related attempt (Fig 2) [9,10]. The presence of firearms in the home, irrespective of type or method of storage, is the most strongly associated factor in successful suicide attempts among adults as well as emotionally disturbed adolescents [10,11].

Injury Related to Access

The accessibility of firearms appears to be a key factor in the likelihood of an injurious encounter. Even though the incidence of assault is comparable for Denmark and the communities of northeastern Ohio, the homicide rate in Denmark is one-fifth that of northern Ohio [12]. In Denmark, private ownership of firearms is permitted only for hunting, and handguns are rigidly restricted. Sloan et al. compared two demographically similar communities (Seattle and Vancouver) with differing prevalences of handgun availability [5]. Seattle, the city with the greater prevalence of handguns, experienced a nearly five times greater rate of handgun homicide even though the rates of assault in Seattle and Vancouver were similar [5]. Several additional studies have suggested that firearm-related deaths are high in regions where firearms are readily available [13,14].

More recent studies have focused specifically on the relationship between firearms and the perpetration of homicide within the home. When assaults occur between family members and intimate acquaintances, the victim is 12 times more likely to die if the assailant utilizes a gun [15]. The presence of a gun in the home is an independent risk factor for familial homicide and a powerful predictor when coupled to prior histories of drug abuse or physical assault, or both [16].

Although there are data to suggest that a gun may provide protection in self-defense when reached and used in time, the strength of such data is grossly overstated [17,18]. Anecdotes of successful self-defense must be weighed against examples of egregious misuse, such as the slaying of Yoshiro Hattori, a camera carrying Japanese exchange student, fatally shot when mistaken for an armed
intruder [19]. When guns are viewed as a risk factor for violent death and injury, it is clear that gun tragedies far outweigh the benefit of self-protection.

The Link to Arms Control

Much has been written about violence as a public health problem and about the responsibility of physicians to work for gun control. But these analyses have failed to examine an analogous effort of physicians in the arena of arms control. Indeed, the role that physicians might play in the containment and elimination of firearm-related communal violence is suggested by the vital role assumed by physicians in reducing the threat of global devastation by weapons of mass destruction. In 1962, a series of sentinel articles described in rigorous detail the virtually unimaginable medical and public health consequences of thermonuclear war [20-23]. An accompanying editorial clearly stated the rationale for physician activism: "No single group is as deeply involved in and committed to the survival of mankind. No group is as accustomed to the labor of applying the practical solutions to life-threatening difficulties" [24].

The authors of the articles were leaders in the founding of Physicians for Social Responsibility (PSR). At that time, the demonstration of iodine-131 (a potential sequestrant in juvenile thyroid glands) in the food chain and of strontium-90 in the deciduous teeth of children was potent evidence of the hazards of above ground nuclear testing. The intellectual and moral arguments of physicians coupled to these data helped to galvanize public support for the Limited Test Ban Treaty signed by President Kennedy and Premier Khrushchev in 1963, which banned nuclear tests in the atmosphere, in space, and underwater.

The Antinuclear Campaign

The years that followed were characterized by a widening and deepening of physician commitment. In 1966, the concern over the nuclear threat expanded to encompass the dangers of chemical and biological weapons [25]. During this period, the ethical imperative for physician opposition to weapons of mass destruction continued to crystallize [26]. The principle that "prevention is the only way to reduce mortality where treatment is ineffective" was specifically examined in relation to the prevention of nuclear war [27]. An analysis recalled the wisdom and courage of the 19th century English anesthesiologist John Snow, who, in the 1850s, linked the spread of cholera to contaminated water supplies [27]. Dr. Snow worked successfully to have the pump handle removed from a communal well and opposed the practices of a private water company, at the time decidedly political acts [28].

The late 1970s and early 1980s saw the development of new and massively destructive multiwarhead missiles, their widespread deployment, and increasingly belligerent positions on both sides of the cold war. The physician movement responded with a new sense of urgency [29-33]. With less sympathetic political leadership in power, physicians took their case for the containment of weaponry directly to the public, in the U.S. and abroad [29-33]. These efforts were effective in creating a climate for political dialogue, which in turn led to unilateral actions to reduce the threat and to multilateral actions through diplomatic compromise. The Nobel Committee recognized this contribution by awarding the 1985 Peace Prize to the International Physicians for the Prevention of Nuclear War (IPPNW), an organization with affiliates in 80 nations largely modeled after PSR. Both physician organizations have played important roles in support of international treaties banning biological weapons (the Biological Weapons Convention, 1972) and chemical weapons (the Chemical Weapons Convention, 1992).

Elements of Symmetry

The analogy between an established role for physicians in the struggle for a global ban on weapons of mass destruction and a potential role for physicians in containing the ever growing threat of firearm related violence is striking (Fig 3). Both problems have been characterized by technological innovations of grotesque lethality. With regard to the global threat, we have observed the development of multiwarhead land- and sea-based strategic nuclear weapons, the cruise missile, and devastating conventional weapons such as fuel-air explosives [34]. With regard to the communal threat, we have seen the development of semi-automatic assault pistols such as the MAC-11 (9mm, 12.5 inches, 32 rounds), the UZI (9mm, 9.5 inches, 25 rounds), the TEC-9 (9mm, 12.5 inches, 36 rounds), and the Calico MIOOP (9mm, 17 inches, 100 rounds) (Fig 4) [35]. A horrifying "innovation" has been the Street Sweeper, a 12 gauge shotgun with a revolving cylinder capable of firing 12 rounds [29]. The foreign version, previously used by South African security personnel, failed to meet the sporting-use test and was banned for importation [35]. However, domestically produced versions of the firearms mentioned above are not subject to this standard.

Each problem is also characterized by
massive deployments. During the 1980s, the United States added to its arsenal: 100 B-1B bombers; 1,600 air launched cruise missiles; nine Trident submarines, each carrying 16 missiles with 12 warheads on each missile; and 50 MX missiles carrying more than 400 warheads; as well as other weapons [36]. By 1990, the United States and the Soviet Union had more than 12,000 and 11,000 strategic nuclear warheads, respectively. The world’s nuclear arsenals contain the equivalent of three tons of TNT equivalent for every human being on the planet.

In America, firearms are characterized by a similar proliferation. At present, there are nearly a quarter of a million federally licensed firearm dealers operating in the United States under limited supervision [1]. Despite ordinances to the contrary, guns frequently find their way into the hands of children and adolescents. A survey of teenagers revealed that 41% of boys and 21% of girls claimed they could easily obtain a handgun if they so desired [1]. Nearly 2 million guns are sold each year. Most disturbing is the proliferation of highly lethal and concealable and potentially alterable semi-automatic and assault weapons. The number of such weapons in civilian hands is conservatively estimated to be in the hundreds of thousands [35].

Finally, adequate solutions to each problem have been blocked by the existence of rigidly ideological positions, which have served vested economic interests, possessing inordinate political influence [36,37]. Both problems have also been maintained by misguided and dangerous beliefs that security, whether personal or national, lies in the possession of devastating weaponry. In America, this latter consideration appears to be based on the seemingly visceral fear that the government would devolve into tyranny were it not held in check by an armed citizenry. This notion parallels sentiments upholding the rights of sovereign nations to possess and control weapons of mass destruction in opposition to international authority.

The Physician Role

The idea of the physician’s role in a ban on firearms is not a new one [2,6,38-43]. Coincident with the emotional upheaval surrounding the King and Kennedy assassinations of 1968, an insightful editorial asked, “Can the voice of the medical profession not be heard above that of the lobbyists representing gun clubs and other groups, and usually blamed for congressional activity in this area?” [38] The editorial further insisted that “the sale and traffic of firearms must be controlled...” Medical associations such as the American Academy of Pediatrics, the American Public Health Association, and the American Psychiatric Association have formally endorsed a proposed ban on handguns, and others such as the American Medical Association and the National Medical Association have highlighted the need for greater physician action [2,6,39,41,44]. The proliferation of firearms is clearly a major public health and medical problem [45,46]. Where do we go from here?

Reshaping Public Debate

Although the nuclear threat remains, the work of PSR and IPPNW has raised the moral conscience of the world against the use and proliferation of weapons of mass destruction. Just as physicians have helped to change public perceptions of the global arms race, so must we now help to reshape the public debate regarding firearms to reflect their growing lethality (Fig 5). Our profession must take the lead in challenging erroneous interpretations of rights granted under the Second Amendment, the legalistic justification for today’s carnage. We must vigorously point out that the Supreme Court has upheld a collective, not a personal, right to bear arms; and that the Amendment’s key qualifying phrase granting such rights to “a well-regulated militia” has been conveniently ignored (Fig 6) [47-49]. We must remind our citizenry that the Supreme Court has allowed to stand the ruling of a lower court upholding a 1981 ban on handgun sale and possession in Morton Grove, Illinois [44]. Physicians must influence the societal view of guns and gun violence, as we are doing in similar campaigns against cigarette smoking and drunk driving.
In America, guns, unlike consumer products, are not subjected to federal safety standards. Guns must be treated like all other products that can maim and kill. Let us never minimize that maiming and killing are the results of their use. Again as before, the overriding principle of prevention must prevail. The production of guns must be curtailed; their lethality reduced; and their possession strictly and assiduously regulated. The force of the medical profession through endorsements of all its constituent bodies must be placed behind these general principles. Endorsements alone are not enough. If there is one clear lesson that can be gained from the struggle for global arms control, it is that there is no substitute for direct education and mobilization of the public. It is indeed the mandate that echoes to us from 25 years ago: "Such pronunciatos satisfy many but persuade few. It is the individual physician who as a citizen must take the time to act" [38].

Initial Goals of a Physician Campaign

What then should be the initial aims of a physician led campaign?

1. We propose the immediate and complete elimination from civilian hands of the most lethal weapons confronting society: a ban on further sales combined with confiscation of automatic and semi automatic assault rifles and pistols in addition to maintenance of the current bans on importation and future production. Such a proposal would be parallel to international efforts to control the most lethal nuclear weapon delivery systems; i.e., multi-warhead missiles. Legislation passed by the U.S. House in May, prohibiting the manufacture and sale of certain types of semiautomatic assault weapons, is a step in the right direction. The political margin of victory for this bill was so narrow, however, that stronger measures may be difficult to pass unless the public is better educated and more vocal in its support of gun control. Moreover, the bill does not retroactively ban assault weapons that were purchased legally before its passage, or that will continue to be purchased legally before it is signed by the President.

2. We further advocate a total ban on the most lethal types of ammunition and the tools of assassins: silencers and kits for a unknown. Concealment of weapons cannot be tolerated. Long guns for legitimate, law-abiding purposes may remain in private hands. However, handguns should not. Those who enjoy target shooting may sequester handguns in secure, public firing ranges. But the targeting of human beings must stop.

Conclusion -- A Call for Action

Let us not be deterred by opposition, nor deluded that such goals will be easily attained. Many will proclaim an infringement of sovereignty. Again there are lessons from the global struggle. Has not a proliferation in firearms fueled the internecine conflict in Somalia, resulting in famine and societal dissolution? While the rights of sovereignty might support their possession, no enlightened nation would find desirable or wise the unbridled proliferation of weapons of mass destruction. Is not the common good promoted by their restriction?

In the past, the call went forth for science regarding the nature of firearm injuries [43]. The present contributions of the medical literature have more than exceeded such exhortation. By all scientific and social measures, the damage to our society has exceeded "the killing threshold," i.e., any conceivable standard for a civilized society [2]. Now is the time for action.

This action must not preclude or substitute for other actions to reduce communal violence. Until the injustices of our society begin to be effectively addressed, until effective remedies to eliminate poverty are enacted, until the models for violence on television and motion pictures are reduced, until all of us begin to deal with the root causes of violence in our families and in our communities, gun control alone cannot solve the problem. But, as in the prevention of catastrophe by weapons of mass destruction, the elimination of the firearms is a good place to begin.

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