The Limited Promise of Public Health

Methodologies To Prevent Youth Violence

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INTRODUCTION

Despite the daily reports of gruesome urban killings, the homicide rate in the United States today is no higher than it was in 1980.¹ Since that year, however, this nation has experienced a disturbing trend towards younger and better-armed murderers.² At the same time, public fear³ and skepticism about the criminal justice system's ability to control violent crime⁴ continue to

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1. In 1980, the U.S. homicide rate peaked at 10.7/100,000, Marcella Hammett et al., *Homicide Surveillance—United States, 1979-1988*, MMWR—CDC SURVEILLANCE SUMMARIES (Nat'l Ctr. for Envtl. Health & Injury Control, U.S. Dep't of Health & Human Servs.), May 29, 1992, at 7; in 1991, the last year for which complete data are available, that rate was 10.5/100,000. *Advance Report of Final Mortality Statistics, 1991*, MONTHLY VITAL STAT. REP. (Nat'l Ctr. for Health Statistics, U.S. Dep't of Health & Human Servs.), Aug. 1993, at 21. Between 1980 and 1991, the murder rate bottomed out in 1985 at 8.6/100,000. Hammett et al., *supra*, at 7. The U.S. homicide rate has peaked twice before: once between 1931-1934, when the mean per capita rate was 9.5/100,000, and once between 1979-1981, when the mean per capita rate was 10.4/100,000. PANEL ON THE UNDERSTANDING & CONTROL OF VIOLENT BEHAVIOR, NAT'L RES. COUNCIL, UNDERSTANDING AND PREVENTING VIOLENCE 3, 50 (Albert J. Reiss, Jr. & Jeffrey A. Roth eds., 1993) [hereinafter UNDERSTANDING AND PREVENTING VIOLENCE].

2. See *infra* part II.A. Although the rate at which juveniles are committing violent crimes, and especially murder, has increased dramatically over the decade, adults still account for the almost 83% of all violent crime arrests and almost 86% of all murder arrests in the United States. See FEDERAL BUREAU OF INVESTIGATION, U.S. DEP'T OF JUSTICE, UNIFORM CRIME REPORTS: CRIME IN THE UNITED STATES 1991, at 217, Table 32 (1992) [hereinafter UNIFORM CRIME REPORTS].

3. See, e.g., U.S. DEP'T OF JUSTICE, SOURCEBOOK OF CRIMINAL JUSTICE STATISTICS 187, Table 2.31 (1992) (finding that, in 1992, 54% of Americans thought there was more crime in their areas than there had been the year before) [hereinafter SOURCEBOOK OF CRIMINAL JUSTICE STATISTICS]; LOUIS HARRIS, LH RESEARCH, INC., SURVEY OF THE AMERICAN PEOPLE ON GUNS AS A CHILDREN'S HEALTH ISSUE at iv, v (June 1993) (prepared for Harvard School of Public Health) (finding that 78% of adults believe that "concerns over their physical safety have seriously altered the lives of children"; only 29% of parents believe that most children are safe from violence in schools); Michele Ingrassia, *Growing Up Fast and Frightened*, NEWSWEEK, Nov. 22, 1993, at 52 (noting that 73% of parents and 56% of children fear that they or family member would become victim of violent crime).

4. This skepticism has resulted, in part, from the concurrence of two events: the near tripling of the U.S. prison population between 1975 and 1989 and the rising violent crime rates since 1985. See UNDERSTANDING AND PREVENTING VIOLENCE, *supra* note 1, at 6, 292 (noting also that, between 1975 and 1989, average sentence served per violent crime roughly tripled); cf. Joan Petersilia, *Crime and Punishment in California: Full Cells, Empty Pockets, and Questionable Benefits*, in URBAN AMERICA: POLICY CHOICES FOR LOS ANGELES AND THE NATION 175, 176-78, 182 (James B. Steinberg et al. eds., 1993) (stating that,

mount. In the quest for new answers, the public health model of violence⁵ prevention recently has been proffered as a possible response to the epidemic of youth violence. While both private organizations⁶ and public officials,⁷ including President Clinton,⁸ have invoked public health rhetoric about violence, the ability of the associated model to prevent youth violence has received scant careful consideration.

A two-part agenda underlies the rhetoric about violence as a public health problem. First, public health advocates seek to reclassify violence as a public health problem, rather than as a criminal justice problem.⁹ This reclassification is premised on the large number of Americans killed and injured annually by violence,¹⁰ as well as on the astronomical medical costs incurred in treating

over last five years, California's criminal justice expenditures grew by more than 70%, prison population grew commensurately, and crime rate remained relatively constant); Francis X. Clines, *Prisons Run Out of Cells, Money and Choices*, N.Y. TIMES, May 28, 1993, at B7 (noting that "a certain disgust with the consequences of prison megabuilding may be dawning in the nation as education and other governmental responsibilities take second place to corrections").

5. For purposes of this Essay, I define "violence" as behavior by an individual that threatens, attempts to inflict, or inflicts physical harm against another individual or individuals and, consistent with the FBI definition, I define "violent crime" to include murder, nonnegligent manslaughter, forcible rape, robbery, and aggravated assault. UNIFORM CRIME REPORTS, *supra* note 2, at 10.

6. See, e.g., *Violence Having Traumatic Effect on Kids, Study Says*, MESA TRIB., Apr. 24, 1993, at A3 (referring to finding of Zero to Three, a national early-childhood organization, that "an anti-violence campaign similar to the anti-drunken driving movement could increase public awareness" and could "shape public opinion along the lines of the anti-drinking/driving campaigns"); ABA PRESIDENTIAL WORKING GROUP ON THE UNMET LEGAL NEEDS OF CHILDREN AND THEIR FAMILIES, AMERICA'S CHILDREN AT RISK: A NATIONAL AGENDA FOR LEGAL ACTION 38 (1993) (concluding that violence is public health problem).

7. See, e.g., Brooks Boliek, *Surgeon General's Rx for TV Violence*, BPI ENT. NEWS WIRE, Sept. 17, 1993, available in LEXIS, Nexis Library, BPIENT File (stating that Surgeon General Joycelyn Elders advocates "public-health approach" by "establishing a television anti-violence campaign that would work in the same way as AIDS prevention and anti-smoking campaigns have in the past"); Sheryl Stolberg, *Clinton Counts Cost of Violence in Health Plan*, L.A. TIMES, Oct. 3, 1993, at A1 (quoting Hillary Rodham Clinton's statement that "[v]iolence is a public health problem" that the Administration is committed to tackling); Abigail Trafford, *Two Cabinet Voices, One Echo: Violence Is a Public Health Issue*, WASH. POST, Apr. 6, 1993, at Z6 (reporting that U.S. Attorney General Janet Reno and Secretary of Health and Human Services Donna Shalala both have described violence as public health problem).

8. See, e.g., Bob Moos, *Violence Has Become Health Crisis*, DALLAS MORNING NEWS, Oct. 1, 1993, at A21 (noting that President Clinton is trying to use "bully pulpit of the presidency" to "cast violence as a health problem").

9. See, e.g., Mark H. Moore et al., *Violence and Intentional Injuries: Criminal Justice and Public Health Perspectives on an Urgent National Problem* 2, 4-5 (Oct. 22, 1991) (unpublished paper, on file with author) (arguing that public health methodologies should be used to complement the criminal justice system because public health focuses on prevention and altering violence risk factors, in contrast to criminal justice system's "predominantly re-active stance").

10. For instance, the FBI estimated that 24,703 people were murdered in 1991. UNIFORM CRIME REPORTS, *supra* note 2, at 14. Experts have estimated, based on government statistics, that the ratio of nonfatal assaults to homicides is far greater than 100:1. See VIOLENCE IN AMERICA: A PUBLIC HEALTH APPROACH 17 (Mark L. Rosenberg & Mary Ann Fenley eds., 1991). Moreover, data suggest that FBI statistics may significantly undercount actual injuries because of underreporting. One study found, for example, that the FBI's estimate of the total number of "aggravated assaults" (1,092,739 in 1991) equals roughly one-fourth of the total number of assault injuries recorded by hospitals for the same period. Jerome I. Barancik et al., *Northeastern Ohio Trauma Study: I. Magnitude of the Problem*, 73 AM. J. PUB. HEALTH 746, 748 (1983). A significant number of Americans also die annually in gun suicides and accidents unrelated to crime. See Children's Defense Fund Data 5-6 (based on National Center for Health Statistics data and unpublished 1991 FBI data) (on file with author) [hereinafter CDF Data] (noting that in 1991,

gunshot injuries.¹¹ Second, proponents seek to apply to youth violence traditional public health methodologies of cause and effect. Presuming that "every health problem has underlying root causes and that people stricken with the disease have certain identifiable risk factors and vulnerabilities,"¹² public health aims to prevent death and disease by "destroy[ing] the pathogen" and/or by "mak[ing] potential victims impervious to assault."¹³ Applied to violence, this means "identify[ing] aggregate patterns of violence that might be alleviated by preventive social interventions."¹⁴ More specifically, it means collecting data to identify risk factors and designing and evaluating programs to prevent violence or reduce its lethality.

Unfortunately, conventional public health terminology does not easily lend itself to the violence-prevention agenda. Technically, the pathogen is the element that causes death or injury, and the vulnerability (or combination of risk factors) inheres in the victim. In the context of youth violence, the pathogen may be defined as either the assaultive behavior or the weapon if one is used. If the pathogen is defined as the assaultive behavior, that behavior itself becomes the subject of the prevention effort. However, public health rarely has attempted to address *human behavior qua pathogen*. Even when addressing other nontraditional "diseases," such as smoking and drunken driving, public health has operated by altering the interaction between the pathogen and human behavior. For instance, with smoking, nicotine is the

18,526 Americans committed suicide with a firearm and 1441 Americans died from accidental gunshot wounds).

11. See, e.g., Peter Edelman & David Satcher, *Violence Prevention as a Public Health Priority*, HEALTH AFFAIRS, Winter 1993, at 123 ("Violence kills so many Americans and sends so many others into the health care system that we must consider it a public health problem."); William Greider, *A Pistol-Whipped Nation*, ROLLING STONE, Sept. 30, 1993, at 31, 120 ("The annual health-care bill for treating gunshot wounds has been estimated at \$4 billion . . ."). One study "calculated the average cost of hospital treatment for gunshot victims at \$13,200, with individual cases ranging as high as \$495,000. Spinal-cord injuries and paralysis, often associated with gun violence, are especially expensive. Three months of therapy at a rehab center typically costs \$135,000." *Id.* Moreover, because most gunshot victims do not have private insurance, more than 85% of their medical costs are paid for by government programs or are written off by providers as bad debt. See Michael J. Martin et al., *The Cost of Hospitalization for Firearm Injuries*, 260 JAMA 3048, 3049-50 (1988). The prospect of these medical costs becomes even more troubling when considered in the context of the differential rates at which the population and gun violence are increasing. See, e.g., C. Everett Koop & George D. Lundberg, *Violence in America: A Public Health Emergency*, 267 JAMA 3075, 3075 (1992) (reporting that, between 1960 and 1980, population grew 26%, while homicide rate due to guns increased 160%). This discrepancy translates into exploding costs borne by a modestly increasing tax base.

12. Abigail Trafford, *Violence as a Public Health Crisis*, PUB. WELFARE, Fall 1992, at 16; cf. William H. Foote, *Focusing Public Attention on Violence Prevention*, 106 PUB. HEALTH REP. 242, 242 (1991) ("The public health approach to controlling infectious diseases has been to understand cause and effect; the same applies to violence. We need to expand the role of medicine to include issues of environment, poverty, and quality of life as causes of violence . . .").

13. Trafford, *supra* note 12, at 16 (noting that public health's goal is prevention, "whether it's a vaccine to eliminate epidemics like smallpox and polio or proper sewage systems to erase diseases like cholera"); cf. Moore et al., *supra* note 9, at 58-59 (arguing that criminal justice system, at best, promotes "secondary prevention" through "general and specific deterrence, incapacitation, and rehabilitation," while public health also promotes "primary prevention").

14. Moore et al., *supra* note 9, at 31.

pathogen for lung cancer. By educating the public about the effects of nicotine, the public health community has succeeded in convincing people to reduce their contact with nicotine, i.e., to stop smoking.

The difficulty in using this model to address the *incidence* of youth violence stems from the fact that, in this case, the public health community must address the particular vulnerabilities that cause individuals to engage in the assaultive behavior that injures and kills *other* individuals.¹⁵ In this scenario, therefore, the vulnerabilities inhere not in the victim, but in the aggressor, who is also the pathogen. Of course, this slippage is less pronounced if the public health model is used to address the *lethality* of youth violence and the pathogen is defined exclusively as the weapon, usually a firearm.

While the recharacterization of violence as a public health issue has great public appeal because it claims to supply a novel approach to the perennial problem of violent crime, it should not be adopted simply because it is new and public fear is high. Rather, a critical analysis of the benefits and limits of the public health model of violence prevention, and of the reasons for the apparent failure of the criminal justice system to deter violent crime, is needed. A closer inspection suggests that some of the weaknesses of the criminal justice system inhere equally in the public health model.

This Essay argues that the public health model, like the criminal justice system, is ill-suited to improving the fundamental social conditions, such as poverty, joblessness, and lack of family and community supports, that seem to underlie much violent behavior. The public health community, however, does have the capacity to collect violence data, identify violence risk factors, and educate the public about the risks associated with firearms. Ultimately, the public health model promises to be much more effective in *reducing the lethality* of violent behavior (by addressing the lethality of firearms) than in *preventing* that behavior.

Part I of this Essay describes the public health model of violence prevention. Part II surveys the available data regarding both youth perpetration and victimization, as well as risk factors for youth violence. Part III examines the potential efficacy of the public health model of violence prevention, and concludes that, although the United States likely will benefit from violence-data collection efforts and from interventions focused on firearms, public health's claims regarding its ability to prevent youth violence are greatly exaggerated.

15. *But cf. Violence Prevention Strategies Directed Toward High-Risk Minority Youths*, 66 PUB. HEALTH REP. 250 (1991) (noting that "the person who engages in frequent violent behavior is also at risk of suffering violent injury or death").

I. THE PUBLIC HEALTH MODEL

Historically, public health has been concerned with treating and preventing infectious diseases. Through persistent application of public health methodologies, the incidence of many such diseases has been reduced in the United States; some diseases virtually have been eliminated.¹⁶ These advances typically have been achieved by determining the cause of the disease in question, and either discovering an antibody with which to inoculate the public or eliminating contact between the public and the source of the disease. More recently, public health has tackled—via enhanced legal sanctions and massive public education—a variety of nontraditional “diseases,” including cigarette smoking, drunken driving, and driving without a seat belt.

Over the last decade, epidemic levels of death and injury in the United States attributable to violence¹⁷ have prompted many public health experts to classify violence as a public health threat. Analogizing violence, on the one hand, to cigarette smoking, drunken driving, and driving without a seat belt, on the other,¹⁸ public health advocates argue that public health methodologies of cause and effect can change violent attitudes and behavior.¹⁹

These epidemiological methods break down into four broad categories:

- 1) Public health surveillance (i.e., the development and refinement of data systems for the ongoing and systematic collection, analysis, interpretation, and dissemination of health data);

16. See *Children of War: Violence and America's Youth: Hearings Before the Subcomm. on Children, Family, Drugs, and Alcoholism of the Senate Comm. on Labor and Human Resources*, 102d Cong., 2d Sess. 34 (1992) (statement of Mark L. Rosenberg, Director of the Nat'l Ctr. for Injury Prevention & Control of the Ctrs. for Disease Control) [hereinafter Rosenberg Testimony]; Antonia C. Novello et al., *From the Surgeon General, U.S. Public Health Service*, 267 JAMA 3007 (1992).

17. No other industrialized nation's incidence of firearm-related violence even approaches that of the United States. “In 1990, handguns killed 22 people in Great Britain, 13 people in Sweden, 91 people in Switzerland, 87 people in Japan, 10 people in Australia, [and] 68 people in Canada . . .” By comparison, handguns were used to murder 10,567 people in the United States. Handgun Control, Inc., Flier (on file with author); see also NATIONAL CTR. FOR INJURY PREVENTION CONTROL, U.S. DEP'T OF HEALTH & HUMAN SERVS., *International Variation in Homicide Rates, Males 15-24 Years of Age, 1986-1987* (chart) (June 1993) (finding U.S. rate, which was well over 20/100,000, was highest among industrialized nations; Scotland had next highest rate at 5/100,000).

18. See VIOLENCE IN AMERICA, *supra* note 10, at 6 (“Major advances in the prevention of public health problems, such as motor vehicle injuries, have been achieved through the application of sound scientific principles. Applying these principles will allow the development of an information base necessary for identifying effective strategies for preventing firearm injuries.”).

19. See, e.g., Mark L. Rosenberg, *Violence Is a Public Health Problem*, 10 TRANSACTIONS & STUD. C. PHYSICIANS PHILA. 147, 148 (1988) (contending that “violence, like smallpox and many other infectious diseases, is a problem that can be addressed and perhaps prevented through the application of epidemiological methods”); see also DEBORAH PROTHROW-STITH & MICHAEL WEISSMAN, *DEADLY CONSEQUENCES* 135-43 (1991); Katherine K. Christoffel, *Toward Reducing Pediatric Injuries from Firearms: Charting a Legislative and Regulatory Course*, 88 PEDIATRICS 294 (1991); cf. Moore et al., *supra* note 9, at 64 (arguing that because approximately 40 million Americans already own guns, any ban on new production or change in safety design would be insufficient to reduce violent crime without accompanying “efforts to change behavior through laws or educational programs or mass media campaigns”).

- 2) Risk group identification (i.e., the identification of persons at greater risk of disease or injury and the places, times, and other circumstances that are associated with increased risk);
- 3) Risk factor exploration (i.e., the analytic exploration of potentially causative risk factors for the disease or death as suggested by the nature of the high risk population and other research); and
- 4) Program implementation/evaluation (i.e., the design, implementation, and evaluation of preventive interventions based on our understanding of the population at risk and the risk factors for the outcome of interest).²⁰

Public health advocates contend that, for these epidemiological methodologies to be effective, Americans first must recognize that violence is a public health problem, i.e., that it is preventable.²¹ Then, these experts argue, public health methodologies will introduce a "primary prevention" focus to youth violence, in order to prevent assaultive and risky behaviors *before* youths engage in criminal conduct.²² The public health approach also promises to "mobilize a broad array of existing resources in medicine, mental health, social services, education, and substance abuse prevention" behind this mission.²³ Ultimately, public health advocates acknowledge that success will

20. Moore et al., *supra* note 9, at 30-31; see also PROTHROW-STITH & WEISSMAN, *supra* note 19, at 138 (stating that public health approach to violence prevention entails (i) "the development of 'surveillance systems for morbidity and mortality associated with interpersonal violence,'" (ii) "the 'identification of those who are at risk for non-fatal events,'" (iii) "the 'application of case control methods to the exploration of modifiable risk factors for victims and perpetrators,'" and (iv) rigorous evaluation of trial programs); VIOLENCE IN AMERICA, *supra* note 10, at 12 (describing public health approach to violence prevention); Rosenberg Testimony, *supra* note 16, at 34 ("The public health model [is] surveillance, epidemiologic analysis, intervention design, implementation, and evaluation . . .").

21. See, e.g., VIOLENCE IN AMERICA, *supra* note 10, at 12.

22. Rosenberg Testimony, *supra* note 16, at 34.

23. *Id.* at 35. One forum of public health experts grouped such behavioral and attitudinal interventions into the following four categories:

*Educational interventions are generally designed to change young people's knowledge, attitudes, and behavior patterns that could lead to violence. Educational approaches are based on the premise that violence is often precipitated by interpersonal conflict, which could be prevented if people are offered a range of nonviolent options and are motivated to choose a nonviolent response. Public information and education campaigns provide information on the impact of violence and publicize existing violence prevention services.

*Environmental technological interventions focus on changes within the environment that discourage the possibility of violence from occurring (such as the use of metal detectors to discover hidden weapons, landscape design that does not allow people to hide, reducing or making violence less glamorous in the media, and demonstrating positive conflict resolution in television shows and movies).

*Recreation interventions provide an excellent outlet for pent-up tension, stress, and anger; therefore, they are a significant means to prevent violence. They also increase opportunities for youth to engage in healthy options and to spend leisure time in socially acceptable activities.

*Legal interventions are strategies that employ laws and police enforcement to deter situations or an environment conducive to violence (for example, youth curfews, policing school campuses, and firearms regulations).

Robert F. Boruch et al., *Violence Prevention Strategies Targeted at the General Population of Minority Youth*, 106 PUB. HEALTH REP. 247, 248 (1991).

depend on the public health community's ability to change "the social norms and attitudes that accept violence as a part of American life."²⁴

II. THE PROBLEM AT HAND: YOUTH VIOLENCE

Public health advocates have paid particular attention to youth violence and, thus far, have concentrated their efforts primarily on methodological steps one through three (collecting data, identifying risk factors, and exploring the potentially causal nature of those factors). Data documenting the *severity* of youth violence are plentiful.²⁵ Researchers also have collected, and continue to collect, information on risk factors associated with youth violence. Causal analyses, however, remain inconclusive.

A. Violence Data

The rate at which juveniles²⁶ are perpetrating violent crimes, especially murder, has increased dramatically over the last decade.²⁷ While arrests²⁸ for murder and nonnegligent manslaughter among individuals eighteen years of age and older grew by 10.5% between 1982 and 1991, corresponding juvenile arrests rose by 92.7%.²⁹ Moreover, this increase in juvenile arrests for murder and nonnegligent manslaughter is grossly disproportionate to the 5.6% increase in total juvenile arrests for all offenses during the same period.³⁰

24. VIOLENCE IN AMERICA, *supra* note 10, at 12.

25. Although, even here, research on the nuances of youth violence is incomplete. For instance, there is no reliable information documenting where children get guns or tallying the number of children injured, but not killed, by firearms. *See, e.g., infra* notes 43, 81-82 and accompanying text.

26. For purposes of FBI statistics, juveniles are defined as persons ages 10 through 17. UNIFORM CRIME REPORTS, *supra* note 2, at 279. The FBI uses this definition because this age group is responsible for 98% of all juvenile violent crime arrests. *Id.* at 283.

27. Between 1980 and 1990, the juvenile arrest rate for violent crime increased approximately 30%. *See* CDF Data, *supra* note 10, at 20. Between just 1985 and 1990, the juvenile arrest rate for murder increased almost 113% (from 5.7/100,000 to 12.1/100,000). *Id.* During those same five years, the murder rate for offenders of all ages increased almost 19% (from 7.9/100,000 to 9.4/100,000). *See* FEDERAL BUREAU OF INVESTIGATION, U.S. DEP'T OF JUSTICE, UNIFORM CRIME REPORTS: CRIME IN THE UNITED STATES 1990, at 50 (1991). Moreover, children and young adults commit a disproportionate percentage of violent crimes. During the 1980's, for example, over 48,000 persons were murdered by youths and young adults between 12 and 24 years of age, and "almost 50% of the estimated 4.2 million nonfatal crimes of violence committed in the United States in 1989 were committed by offenders between 12 and 24 years of age." Rosenberg Testimony, *supra* note 16, at 33.

28. Although arrest rates are imperfect indicators of offending rates, they do provide a rough indication of criminal activity.

29. UNIFORM CRIME REPORTS, *supra* note 2, at 217. Moreover, just between 1987 and 1991, the number of juvenile arrests for violent crimes rose by 50%, compared to a 25% increase for the same category of arrests of persons over 17. During those same four years, juvenile arrests for murder rose by 85%, compared with 21% for persons over 17. Barbara Allen-Hagen & Melissa Sickmund, *Juveniles and Violence: Juvenile Offending and Victimization*, FACTSHEET (Office of Juvenile Justice & Delinquency Prevention, U.S. Dep't of Justice), July 1993, at 1.

30. UNIFORM CRIME REPORTS, *supra* note 2, at 217. Although juveniles historically have had a "proclivity toward property-related crimes," during the 1980's "crimes related to violence became a more significant component of juvenile crime, not only involving disadvantaged minority youth in urban areas

Not only more, but also increasingly younger, juveniles are committing murder.³¹ For example, between 1985 and 1991, arrest rates for criminal homicide increased 140% among thirteen- and fourteen-year-old males, 217% among fifteen-year-old males, 158% among sixteen-year-old males, and 121% among seventeen-year-old males.³²

The recent increases in the juvenile murder arrest rate—and, presumably, in murders by juveniles—appear inextricably linked to firearms. Between 1980 and 1990, there was a 79% increase in the number of juveniles aged ten to seventeen who committed murder by using a firearm.³³ By 1990, 82% of all homicides among teenagers fifteen- to nineteen-years-old involved firearms.³⁴ Between 1982 and 1991, arrests for weapons violations (carrying, possessing, etc.) among juveniles increased almost 80%, while corresponding arrests among those eighteen years of age and older increased less than 13%.³⁵

but evident in all races, social classes, and lifestyles." *Id.* at 279.

James Alan Fox documented the extreme and aberrational increase in the rate at which juveniles are committing violent crimes, especially murder. Fox has developed a demographic model for forecasting violent crime rates that assumes adolescents and young adults are prone to commit *violent crimes*, while more mature adults are prone to commit *property crimes*. According to Fox's model, since, for instance, the number of teenagers aged 15 to 17 years declined over 25% during the 1980's, see Howard N. Snyder, *Arrests of Youth 1990*, JUV. JUST. BULL. (Office of Juvenile Justice & Delinquency Prevention, U.S. Dep't of Justice), Jan. 1992, at 7, the 23% drop in the homicide rate between 1980 and 1985 was not due to programs and policies designed to reduce crime, but primarily to the aging of baby boomers out of "their violent ways." "[A]ll else equal," this model predicted that the violent crime rate should have continued to fall even after 1985, as the population of adolescents and young adults continued to decrease. However, this did not happen because "clearly, all else was not equal. Although fewer in number, the new generation . . . was committing violent crimes at an alarming and unprecedented rate." James A. Fox, *Murder Most Common*, BOSTON GLOBE, Jan. 31, 1993, at 65, 68; see also CDF Data, *supra* note 10, at 20 (finding juvenile arrest rate for violent crime rose almost 40% between 1985 and 1990).

31. See Fox, *supra* note 30, at 68 (reporting that between 1986 and 1991, while rate of homicides committed by those over 25 years of age fell, rate among persons aged 18-24 years rose 62%, and rate among persons aged 14-17 years increased 124%); CDF Data, *supra* note 10, at 20 (indicating that juvenile arrest rate for murder increased by more than 85% between 1980 and 1990; for Black juveniles, murder arrest rate jumped nearly 150%).

32. Glenn L. Pierce & James A. Fox, Recent Trends in Violent Crime: A Closer Look (Nat'l Crime Analysis Program, Northeastern Univ.), Oct. 1992, at 2-3 (on file with author).

33. UNIFORM CRIME REPORTS, *supra* note 2, at 279. The trend in the juvenile arrest rate for weapons-law violations has paralleled the trend since 1980 in the juvenile arrest rate for homicide. *Id.* According to the *New York Times*, the number of children ages 7 to 15 arrested on gun charges in New York City increased 75% between 1987 and 1990. See *Mowing Down Our Children*, N.Y. TIMES, Nov. 4, 1992, at A16 (editorial).

34. Lois A. Fingerhut, *Firearm Mortality Among Children, Youth, and Young Adults 1-34 Years of Age, Trends and Current Status: United States 1985-90*, ADVANCE DATA (Nat'l Ctr. for Health Statistics, U.S. Dep't of Health & Human Servs.), Mar. 23, 1993, at 2 [hereinafter Fingerhut, ADVANCE DATA] (91% of Black males and 77% among White males). By contrast, in 1988, just two years before, 77% of homicides among teenagers ages 15 to 19 involved firearms; 88% of homicides among Black males involved firearms. Lois A. Fingerhut et al., *Firearm Mortality Among Children, Youth, and Young Adults 1-34 Years of Age, Trends and Current Status: United States 1979-88*, MONTHLY VITAL STAT. REP. (Nat'l Ctr. for Health Statistics, U.S. Dep't of Health & Human Servs.), Mar. 14, 1991, at 7.

35. UNIFORM CRIME REPORTS, *supra* note 2, at 217. While there are no national data specifying what percentage of weapons violations involve firearms, some states do maintain such information. For instance, in New York in 1991, 85.5% of all weapons violations involved firearms. Among juveniles ages 16-17, 86.9% of all weapons violations involved firearms; among individuals aged 18 and older, 85.3% of those violations involved firearms. New York State: Arrests for Weapons Offenses, 1991 (Computerized Criminal History System available through the New York State Division of Criminal Justice Services, Feb. 1994).

During those same nine years, juvenile arrests increased 71.7% for aggravated assault³⁶ and 92.4% for other assaults.³⁷ The corresponding arrests among individuals eighteen years of age and older increased 61.3% and 97.5%, respectively.³⁸ These figures demonstrate the nexus between firearms and murder by youths. While arrests for general assaultive violence have increased at roughly equal rates among juveniles and persons over eighteen years of age, arrests for weapons violations and murder have skyrocketed among juveniles. Therefore, it is not the upsurge of generally violent behavior alone, but the increased lethality (due to firearms) of that behavior among juveniles, that is causing such devastating effects.³⁹

Firearms also are linked to recent increases in the number of youths suffering violent deaths and injuries.⁴⁰ Between 1985 and 1988, the number of firearm-related deaths among children and youths ages one to nineteen rose 25%;⁴¹ between 1987 and 1990, gunshot wounds among children ages sixteen and under nearly doubled in major urban areas.⁴² In fact, in addition to the scores of children killed, every day somewhere between thirty and sixty-five children are injured by guns.⁴³

36. *Id.* The FBI defines "aggravated assault" as "an unlawful attack by one person upon another for the purpose of inflicting severe or aggravated bodily injury. This type of assault is usually accompanied by the use of a weapon or by means likely to produce death or great bodily harm." *Id.* at 31. According to the FBI, firearms were used in only 24% of the estimated 1,092,739 aggravated assaults committed in 1991. *Id.* at 32.

37. *Id.* at 217.

38. *Id.*

39. It is not surprising that guns are intertwined with the growing juvenile murder arrest rate. Firearms simply are more lethal than other weapons, with estimates ranging between two and five times as lethal as knives, *see* JAMES D. WRIGHT ET AL., UNDER THE GUN: WEAPONS, CRIME, AND VIOLENCE IN AMERICA 198 (1983), and seven times as lethal as all other weapons combined. *See* U.S. DEP'T OF JUSTICE, UNIFORM CRIME REPORTS: CRIME IN THE UNITED STATES 1963, at 7 (1964). And, as Fox has noted, children now are armed with technologically advanced firearms and "[a] 14-year-old armed with a gun is far more menacing than a 44-year-old with a gun. While the teenager may be less schooled in using a firearm, he is more willing to pull the trigger." Fox, *supra* note 30, at 68.

40. James A. Fox, Teenage Males Are Committing Murder at an Increasing Rate (Nat'l Ctr. for Juvenile Justice, Northeastern Univ.), Apr. 18, 1993, at 2 (on file with author); *see, e.g.*, Fingerhut, ADVANCE DATA, *supra* note 34, at 9, 11 (stating that between 1985 and 1990, non-firearm homicide rate for Black males, ages 15-24, remained roughly constant; by contrast, corresponding firearm homicide rate more than doubled).

41. Katherine K. Christoffel, *Pediatric Firearm Injuries: Time To Target a Growing Population*, 21 PEDIATRIC ANNALS 430, 431 (1992).

42. *Keeping Every Child Safe: Curbing the Epidemic of Violence: Joint Hearings Before the Subcomm. on Children, Family, Drugs and Alcoholism of the Senate Comm. on Labor and Human Resources and the House Select Comm. on Children, Youth, and Families*, 103d Cong., 1st Sess. 63 (1993) (statement of Marian Wright Edelman, President of Children's Defense Fund, Wash., D.C.) [hereinafter Edelman Testimony] (citation omitted).

43. *See id.* (stating that nearly 30 children are injured by guns each day). According to the National Education Association, guns kill and injure approximately 40 children every day; on average, 13 of those 40 children die from their gunshot wounds. However, other experts estimate that there are at least five nonfatal firearm injuries for every fatal firearm injury. *See* VIOLENCE IN AMERICA, *supra* note 10, at 46. That estimate suggests that approximately 65 children are injured by guns every day.

B. *Risk Factors for Violence*

Most youth homicides involve males⁴⁴ and guns,⁴⁵ are intraracial,⁴⁶ and occur between acquaintances.⁴⁷ While abundant data document the dramatic escalation over the last decade in fatal youth violence, there are few data documenting the underlying causes of that escalation.

Nonetheless, researchers have been able to identify various risk factors *correlated* with youth violence. Those factors include: (1) poverty; (2) repeated exposure to violence; (3) drugs; (4) easy access to firearms; (5) unstable family life and family violence; (6) delinquent peer groups; and (7) media violence.⁴⁸ Although no studies have proven the proportional contribution of any of these factors, researchers have found—unsurprisingly—that multiple risk factors have a cumulative effect.⁴⁹

Studies also have demonstrated that a small number of juveniles commit the majority of violent offenses. For instance, in a longitudinal study that followed approximately 4000 youths in Denver, Pittsburgh, and Rochester for five years, more than half of the youths admitted to some form of violent criminal behavior by age sixteen; however, 15% of the sample were responsible for 75% of the violent offenses.⁵⁰

That a small percentage of juveniles is responsible for the great majority of violent offenses further underscores the failure, to date, to pinpoint causative factors. If the risk factors identified above were causally related to violence, the primary offending cohort would be much greater than it is, because more juveniles experience those factors than engage in violent crime. Nonetheless, these risk factors constitute the best available working hypotheses as to what must be addressed in order to prevent or reduce youth violence.

44. Allen-Hagen & Sickmund, *supra* note 29, at 3 (finding 73% of youth homicide victims aged 10-17 were male).

45. Fingerhut, *ADVANCE DATA*, *supra* note 34, at 2 (finding that over 80% of youth homicides involved firearms in 1990).

46. UNIFORM CRIME REPORTS, *supra* note 2, at 17 (explaining that, in 1991, 93% of Black murder victims were killed by Black offenders; 85% of White victims were killed by White offenders).

47. Allen-Hagen & Sickmund, *supra* note 29, at 3 (noting that 61% of victims aged 10-17 were killed by friend or other acquaintance).

48. See Barbara Kantrowitz, *Wild in the Streets*, *NEWSWEEK*, Aug. 2, 1993, at 46; see also *infra* notes 51-104 and accompanying text.

49. Hirokazu Yoshikawa, *Prevention as Cumulative Protection: Effects of Early Family Support and Education on Chronic Delinquency and Its Risks*, 115 *PSYCHOL. BULL.* 28 (1994).

50. Kantrowitz, *supra* note 48, at 46; see also Yoshikawa, *supra* note 49, at 6 (noting that one study found that 7.5% of cohort was responsible for 61% of all recorded offenses).

1. *Family Income*

A recent report by the National Research Council concluded that the risk factor most closely correlated with youth violence is low family income.⁵¹ Family income largely determines objective opportunities, including housing, neighborhoods, and schools. Moreover, family income often determines opportunities for advanced education and employment.⁵²

Beyond determining objective opportunities, family income affects perceived opportunities. While White children account for 42% of all children living in poverty, fewer than 5% of White children live in sustained poverty, i.e., for more than six years; by contrast, almost 40% of Black children experience persistent poverty.⁵³ Sustained poverty inevitably affects a child's expectations by creating a sense of hopelessness and uselessness.⁵⁴ As James Garbarino, a Chicago-based developmental psychologist, has explained, children in public housing in the United States have a diminished sense of the

51. COMMISSION ON BEHAVIORAL & SOCIAL SCIENCES & EDUC., NATIONAL RESEARCH COUNCIL, *LOSING GENERATIONS* 2, 7 (1993) [hereinafter *LOSING GENERATIONS*]. The report argues that evidence of the link between poverty and increased violence is emerging now because, "[s]ince the late 1970s, structural and demographic changes in the U.S. economy and society have caused a substantial and broad-based deterioration in the economic position of prime-age young adults, those aged 25-34." *Id.* at 2. The structural changes over the last two decades include the decline in the availability of blue-collar and skilled jobs, and the corresponding increase in unemployment; demographic changes include the more than doubling of the number of female-headed households, which generally have lower annual incomes. *Id.* at 27-29, 34-35; see also PROTHROW-STITH & WEISSMAN, *supra* note 19, at 69-73. The real median annual earnings of heads of young families (those headed by someone under the age of 30) plunged 44% between 1973 and 1990; one in six American children and two-thirds of all American children under the age of six live in young families. See Clifford M. Johnson et al., *Vanishing Dreams: The Economic Plight of America's Young Families* (Children's Defense Fund, Northeastern Univ. Ctr. for Labor Mkt. Studies), 1992, at 1, 15. Compounding these statistics is the duration of many children's experiences with poverty. See *infra* note 53, and accompanying text.

52. *LOSING GENERATIONS*, *supra* note 51, at 2, 16.

53. *Id.* at 16. Among American children who experience poverty by age 15, Black children are six times more likely to stay poor for all 15 years (12% versus 2% of White children), while White children are seven times more likely to spend just one year in poverty (36% versus 5% of Black children). See Karl Ashworth et al., *Economic Disadvantage During Childhood* (Centre for Research in Social Policy, Loughborough Univ. of Technology), Apr. 1992, Table 5 (unpublished manuscript on file with author). Forty-three percent of Black and Hispanic children have lived in poverty over 75% of their lives, compared to 13% of White children. Jane D. McLeod & Michael J. Shanahan, *Poverty, Parenting, and Children's Mental Health*, 58 AM. SOC. REV. 351, 357 (1993).

54. See generally NICHOLAS ZILL ET AL., *CHILD TRENDS, THE LIFE CIRCUMSTANCES AND DEVELOPMENT OF CHILDREN IN WELFARE FAMILIES: A PROFILE BASED ON NATIONAL SURVEY DATA* (Oct. 29, 1991); see also Vernon N. Houk & Rueben C. Warren, *The Necessity of Social Change in Preventing Violence*, 106 PUB. HEALTH REP. 228 (1991) ("Marked economic and social disparities among Americans contribute to the etiology of violence in fundamental ways. Poverty, joblessness, and the lack of real employment opportunities promote violence by generating a sense of frustration, low self-esteem, and hopelessness about the future.").

future.⁵⁵ "This lack of a positive future orientation produces depression, rage, and disregard for human life—their own and others."⁵⁶

Finally, poor adults are at high risk for "major psychiatric disorders, including depression and alcohol or drug abuse, and they report high levels of psychological distress relative to nonpoor adults."⁵⁷ In turn, parental distress has been found to be a "strong predictor of harsh, unresponsive parenting, . . . [which] is related to poor mental health among children."⁵⁸

2. *Exposure to Violence*

In many poor American neighborhoods, particularly poor inner-city neighborhoods, children often are exposed to chronic and extreme violence. For example, Carl Bell, a Chicago-based psychiatrist, found that among a group of students ranging in age from ten to nineteen, residing in low-income, and moderate to extremely high-crime areas,

three out of four had witnessed a robbery, stabbing, shooting, and/or killing; 35% had witnessed a stabbing, 39% a shooting, and 24% reported that they had seen someone killed. Forty-five percent had seen more than one violent incident. Many of the victims of the observed violence were known to these children: 50% of the shooting victims were either a classmate, friend, neighbor, or family member, as were 55% of the stabbing victims and 40% of those murdered.⁵⁹

55. Between 1970 and 1980, there was a 331% increase in the number of what have been termed "underclass neighborhoods" (those with consistently high rates of unemployed working-age males, female-headed households with children, households receiving welfare, and high school dropouts) and a 75% increase in the number of "concentrated poverty neighborhoods" (where 40% or more of residents have poverty-level incomes). See LOSING GENERATIONS, *supra* note 51, at 66. Moreover, underclass neighborhoods have experienced a 355% increase in the amount of "idleness," i.e., "no regular attachment to the labor force or education." *Id.* at 67.

56. Unpublished Remarks of James Garbarino, Nov. 26, 1991, at 4 (testimony presented at *Youth Gangs, Guns and Violence: Hearings Before the Subcomm. on Juvenile Justice of the Senate Comm. on the Judiciary*, 102d Cong., 1st Sess. (1991)); see also Houk & Warren, *supra* note 54, at 228 ("Faced with such bleak prospects, some minority youth have feelings of anger and hopelessness about the future. Many sense that it does not matter what they do because they do not believe they will live to see middle age.").

57. McLeod & Shanahan, *supra* note 53, at 358 (citation omitted); see also Ronald C. Kessler, *A Disaggregation of the Relationship Between Socioeconomic Status and Psychological Distress*, 47 AM. SOC. REV. 752 (1982).

58. McLeod & Shanahan, *supra* note 53, at 358-59. See generally Rolf Loeber & Magda Stouthamer-Loeber, *Family Factors as Correlates and Predictors of Juvenile Conduct Problems and Delinquency*, 7 CRIME & JUST. 29 (Michael Tonry & Norval Morris eds., 1986); Elizabeth J. Susman et al., *Child Rearing Patterns in Depressed, Abusive, and Normal Mothers*, 55 AM. J. ORTHOPSYCHIATRY 237 (1985).

59. Carl C. Bell & Esther J. Jenkins, *Community Violence and Children on Chicago's Southside*, PSYCHIATRY, Feb. 1993, at 46, 49 (citation omitted); see also *Violence Having Traumatic Effect on Kids, Study Says*, *supra* note 6, at A3 ("A study of sixth-, eighth-, and 10th-graders in New Haven, Conn., showed 30 percent reported witnessing at least one violent crime in the last year."). Notably, Bell and Jenkins also found that, "An examination of factors related to exposure found that the strongest predictor of witnessing, victimization, and perpetration was carrying a weapon." Bell & Jenkins, *supra*, at 49.

Garbarino has found that American inner-city children exposed to such extreme violence exhibit the same symptoms of post-traumatic stress disorder as children living in war-torn countries like Mozambique and Cambodia.⁶⁰ "Children experiencing acute traumatic events lose interest in the world and try to avoid anything that reminds them of the event; they also manifest feelings of estrangement, constriction in affect and cognition, memory impairment, phobias, and impairment in performing daily activities."⁶¹ After repeated exposure to violence, these "children [become] sad, angry, aggressive, and uncaring . . . [and] display[] sleep disturbances, disruptions in peer relationships, and erratic behaviors."⁶²

Sometimes, chronic "exposure to violence can produce what appears to be a functional adaptation to the violence but is actually a pathological effect For example, some children develop a sense of 'futurelessness,' or a profound fatalism about their lives."⁶³ For these children, violent and risky behavior seems unthreatening,⁶⁴ even appealing, because it aligns the child with the aggressor instead of the victim.⁶⁵

In addition, children suffering from post-traumatic stress disorder experience problems with their schoolwork more often than other children.⁶⁶ As one expert has noted:

Children who live with danger develop defenses against their fears, and these defenses can interfere with their development. When children have to defend themselves constantly from outside or inside dangers, their energies are not available for other, less immediately urgent tasks, such as learning to read and write and do arithmetic and learning about geography and history and science. In addition to not having enough energy to devote to schoolwork, there is evidence that specific cognitive functions such as memory and a sense of time can be affected by experiencing trauma.⁶⁷

60. JAMES GARBARINO ET AL., CHILDREN IN DANGER: COPING WITH THE CONSEQUENCES OF COMMUNITY VIOLENCE 13, 22-23, 67-99 (1992); see also Nan Dale, *Children of Inner Cities Can Be Worse Off than Children of War*, INT'L HERALD TRIB., Jan. 18, 1994, at 6 (op. ed.) (stating that workers from U.S. residential treatment center for acutely troubled youths worked in refugee camp in Croatia and found that children in those camps had been less psychologically wounded by war than children in New York City had been wounded by violence because at least Croatian children have peaceful pre-war memories, while many children from New York have no such memories and have never experienced security).

61. GARBARINO ET AL., *supra* note 60, at 55 (citation omitted).

62. *Id.* at 56.

63. *Id.* at 63.

64. *Id.* at 63-64.

65. *Id.* at 66. Furthermore, "child victims of trauma may reenact the events surrounding the trauma, perhaps seeking to find an alternative outcome." *Id.* at 14 (citation omitted).

66. *Id.* at 59 (finding that "[c]hildren exposed to chronic community violence often develop problems related to school performance and intellectual development" such that, children under seven exposed to such violence "could not learn in a normal classroom situation").

67. Lorraine B. Wallach, *Helping Children Cope with Violence*, YOUNG CHILDREN, May 1993, at 4, 5-6 (citation omitted).

Academic problems and school truancy have been found to correlate with delinquent and violent behavior. For instance, one study estimated that about 19% of eighteen- to twenty-four-year-old dropouts have criminal records, while 41% of Black dropouts are under supervision of the criminal justice system.⁶⁸

3. *Drugs and Alcohol*

Illicit drugs and alcohol have at least two distinct impacts on youth violence. First, a pharmacological connection exists between aggressive behavior and consumption of drugs and alcohol.⁶⁹ Second, a financial connection exists between the drug trade and violence. Although the extent of the connection between youth violence and these two categories of heightened risk is unclear, the connection itself is undeniable.⁷⁰ The trend in juvenile arrests over the last decade for cocaine and heroin violations has paralleled the trend in juvenile homicide arrests over that same period: Between 1980 and 1990, the overall rate for juvenile heroin/cocaine arrests rose 713%, while the arrest rate for Black juveniles rose 2373%.⁷¹

Although the connection between financially motivated violence and the drug trade is undeniable, drug-trade-related crimes in fact appear to result in a relatively small percentage of all homicides. In 1991, for example, the FBI reported that approximately 6.25% of all homicides were known to be related to felony violations of the narcotics laws.⁷² Nonetheless,

68. Richard B. Freeman, *Crime and the Employment of Disadvantaged Youths*, in *URBAN LABOR MARKETS AND JOB OPPORTUNITY* 201, 211 (George E. Peterson & Wayne Vroman eds., 1992). Significantly, these statistics fail to control for other risk factors, particularly poverty, for which race often is a rough proxy. For example, dropout rates vary substantially by race. However, studies indicate that, when controlled for poverty, dropout rates among Whites and Blacks compare closely. See CHILDREN'S DEFENSE FUND, *A CHILDREN'S DEFENSE BUDGET* 135-36 (1988).

69. See PROTHROW-STITH & WEISSMAN, *supra* note 19, at 118-19 (describing pharmacological connection between ingestion of cocaine and violence resulting from user's heightened bravado, stimulation, and paranoia). It also is noteworthy that "[t]he Medical Examiner in the District of Columbia reported in 1989 that 80 percent of the bodies of the 438 homicide victims in that city contained residues of cocaine." *Id.* at 118.

70. See, e.g., *Urban Delinquency and Substance Abuse*, INITIAL FINDINGS REP. (Office of Juvenile Justice & Delinquency Prevention, U.S. Dep't of Justice), July 1993, at 5, 11 (according to a three-site longitudinal study, "[t]he more serious the youth's involvement in drug use, the more serious is his or her involvement in delinquency, and vice versa").

71. UNIFORM CRIME REPORTS, *supra* note 2, at 279, 283. Arguably, at least some portion of these increases resulted from changes in law enforcement policies rather than from changes in behavior.

72. *Id.* at 19 (estimating that out of 21,505 murders in 1991, 1344 related to felony narcotics offenses). The FBI's category appears to cover just those homicides related to the drug trade, and to exclude both homicides motivated by the psychopharmacological effects of narcotics and homicides motivated by the compulsive need to support a drug habit. When all three categories are combined, drug-related violence probably accounts for a more significant percentage of homicides. For instance, a study of homicides in New York City in 1984 concluded that 23.8% of those homicides involved at least one of the above three categories of drug-relatedness. See Henry H. Brownstein & Paul J. Goldstein, *Drugs and Homicide in New York State* (New York State Div. of Criminal Justice Servs. & Narcotic and Drug Research, Inc.), Aug. 1988, at 2-3. Research disclosed no juvenile-specific data on this point.

[t]he highly visible, lucrative, and violent drug markets have simultaneously accelerated the exodus of stable families . . . [,] undermined the authority of long-term community leaders. . . [and] weakened inhibitions against violence in all neighborhood contexts. The large amounts of money that can be made in the drug trade act as a magnet to draw children and adolescents into criminal activity.⁷³

4. *Easy Access to Firearms*

The Bureau of Alcohol, Tobacco and Firearms estimates that two hundred million firearms are in circulation in the United States.⁷⁴ “For at least three decades, the fraction of all households owning any type of gun has remained stable at about 50 percent; however, the fraction owning a handgun rose from 13 percent in 1959 to 24 percent in 1978, where it has remained, more or less, since then.”⁷⁵ Handguns were used to commit approximately 55% of all murders and 80% of all firearm murders in 1991.⁷⁶

The juvenile arrest rate for weapons possession has surged since 1980, rising almost 63% just between 1980 and 1990.⁷⁷ By 1990, there were 151 arrests per 100,000 juveniles.⁷⁸ This figure represents a 58% increase for White youths and a 103% increase for Black youths since 1980.⁷⁹ Furthermore, “[j]uveniles’ use of guns in homicides increased from 64% to 78% between 1987 and 1991”⁸⁰

Given the preceding figures, it is not surprising that juveniles increasingly have access to and possess firearms. A recent study found that, among male, juvenile inmates and male students from ten inner-city public schools, 83% of the inmates owned a gun just prior to confinement and 22% of the students owned a gun at the time of the survey.⁸¹ Although children clearly are carrying firearms at unprecedented rates, it is far from clear where they are getting those guns. In the same study, participants were asked how they would get a gun if they wanted one. Forty-five percent of the inmates and 53% of the students said they would “borrow” a gun from a family member or friend; 54% of the inmates and 37% of the students said they would get one “off the

73. LOSING GENERATIONS, *supra* note 51, at 67-68 (citation omitted).

74. Michael Isikoff, *200 Million Guns Reported in Circulation Nationwide*, WASH. POST, May 24, 1991, at A1 (citing 1991 ATF report which estimated number of firearms in circulation as of 1989 and found that number of guns produced in U.S. grew 42% between 1985 and 1989).

75. UNDERSTANDING AND PREVENTING VIOLENCE, *supra* note 1, at 256 (citation omitted).

76. UNIFORM CRIME REPORTS, *supra* note 2, at 17.

77. *Id.* at 289.

78. *Id.* at 279, 283.

79. *Id.* at 283.

80. Allen-Hagen & Sickmund, *supra* note 29, at 1.

81. Joseph F. Sheley & James D. Wright, *Gun Acquisition and Possession in Selected Juvenile Samples*, RES. IN BRIEF (Nat’l Inst. of Justice and Office of Juvenile Justice & Delinquency Prevention, U.S. Dep’t of Justice), Dec. 1993, at 4-5 (finding also that 67% of inmates acquired first gun by age 14, and 65% owned at least three firearms just prior to incarceration; 6% of students reported owning three or more guns).

street.”⁸² Therefore, although the precise correlation between firearms and youth violence is uncertain, firearms are undeniably critical to the increasing lethality of that violence.

5. *Family Structure and Domestic Abuse*

Juvenile delinquency has been found to correlate with a history of childhood abuse and neglect, as well as with growing up in a single-parent household. Researchers have found that adolescents who were physically and/or sexually abused or neglected as children are 53% more likely to be arrested as a juvenile, and 38% more likely to commit a violent crime as an adult, than their counterparts who did not suffer such abuse.⁸³ Moreover, among the symptoms of child sexual abuse are “high levels of aggression and antisocial behavior.”⁸⁴

Second, although it is difficult—if not impossible—to control for income, some studies have found that 70% of juvenile offenders come from single-parent homes.⁸⁵ Moreover, single-parent households correlate with elevated high school dropout rates,⁸⁶ which themselves correlate with elevated violent crime offending rates.⁸⁷ Researchers also have found that, “even after controlling for socioeconomic status, single-parent families and stepfamilies” tend to be “more likely to have adolescent children exhibiting deviant behavior (smoking, early dating, truancy, running away from home, contact with police, and arrests) than are two-parent families.”⁸⁸

6. *Delinquent Peer Groups*

Youth gangs are the most visible peer group correlated with youth violence. Traditionally associated with life in large cities, gangs are becoming increasingly common in smaller cities and towns as well.⁸⁹ Perhaps more

82. *Id.* at 6. Another study estimated that “1.2 million latchkey children have access to guns when they come home from school.” CENTER TO PREVENT HANDGUN VIOLENCE & AM. ACADEMY OF PEDIATRICS, PREVENTING FIREARM INJURIES AMONG CHILDREN AND ADOLESCENTS 1 (1992).

83. Cathy S. Widom, *The Cycle of Violence*, RES. IN BRIEF (National Inst. of Justice Research, U.S. Dep’t of Justice), Oct. 1992, at 2. In addition, the study found that those who had been abused and/or neglected as children “were also more likely to average nearly 1 year younger at first arrest . . . , to commit nearly twice as many offenses . . . , and to be arrested more frequently” *Id.*

84. LOSING GENERATIONS, *supra* note 51, at 55 (citation omitted).

85. UNIFORM CRIME REPORTS, *supra* note 2, at 279.

86. In 1989, more than 50% of Black high school dropouts, 20% of White dropouts, and 30% of Hispanic dropouts were from female-headed households. See Robert M. Hauser & Hanam S. Phang, *Trends in High School Dropout Among White, Black, and Hispanic Youth, 1973 to 1989*, DISCUSSION PAPERS (Institute for Research on Poverty, Univ. of Wis. at Madison), July 1993, at 10.

87. See *supra* note 68 and accompanying text.

88. LOSING GENERATIONS, *supra* note 51, at 49 (citation omitted).

89. For instance, in the last year, the *New York Times* has published two separate articles on gang-related violence in communities such as Little Rock, Arkansas, and Wichita, Kansas, as well as even smaller communities in Kansas. See *On Kansas Plains, Street Gangs Are Springing Up*, N.Y. TIMES, Feb.

importantly, while spreading territorially, these gangs are using ever-more lethal weapons⁹⁰ to engage in increasingly violent behavior.⁹¹ Although gang violence is difficult to quantify, some statistics are available. For example, between 1987 and 1991, juvenile gang killings soared nearly 265% and deaths classified by the FBI as "gangland homicides" increased over 556%.⁹² In their search for acceptance, identity, and rites of passage, children and youths continue to turn to peer groups,⁹³ and it is becoming increasingly common for those groups to be armed with high-tech weaponry.

7. Television Violence⁹⁴

Television has become the primary educational medium for many American children,⁹⁵ and it is teaching them well a lesson about emotionally antiseptic violence.⁹⁶ Between ages two and fifteen, the average American

28, 1993, at 25; Erik Eckholm, *Teenage Gangs Are Inflicting Lethal Violence on Small Cities*, N.Y. TIMES, Jan. 31, 1993, at 1, 24.

90. For example, a recent Chicago-based study found that "incidents involving a high-caliber, automatic, or semi-automatic weapon accounted for most of the increase in [gang-related] homicides" between 1987 and 1990. Carolyn R. Block & Richard Block, *Street Gang Crime in Chicago*, RES. IN BRIEF (National Inst. of Justice Research, U.S. Dep't of Justice), Dec. 1993, at 7. See also GARBARINO ET AL., *supra* note 60, at 44-45; Catherine H. Conly et al., *Street Gangs: Current Knowledge and Strategies*, ISSUES & PRACTICES IN CRIM. J. (Nat'l Inst. of Justice Research, U.S. Dep't of Justice), Aug. 1993, at 13 (quoting gang member's testimony on access to firearms: "They contact the drug dealer and tell him, 'I pay so much for a gun.' He'll say 'OK, I'll sell it to you.' A .12 gauge sawed-off would run, like, about 50 to 90 bucks. Nobody really ever buys a gun over 50 unless it's a fully automatic. . . . One of the main interests when someone (a gang member) breaks into a house [is] to look for guns and money. Really the guns they want to look for.").

91. See, e.g., PROTHROW-STITH & WEISSMAN, *supra* note 19, at 103.

92. UNIFORM CRIME REPORTS, *supra* note 2, at 21. However, even with these dramatic increases, gang violence still represents only a modest percentage of all homicides reported by the FBI. Of the total 21,505 homicides reported in 1991, 838 were known to result from non-felony-related gang violence, and 204 were classified as gangland homicides. Of the 1344 known narcotics felony-related murders, it is unclear how many involved gangs. *Id.* at 19.

93. PROTHROW-STITH & WEISSMAN, *supra* note 19, at 97 (noting that gangs "provide young people with goals and objectives, a world, and a place where they are valued" and a manufactured identity, dramatically symbolized in the wearing of gang "colors").

94. Although all media violence, including that contained in movies and video games, probably affects children in similar ways, televised violence has received particular attention because of the quantity of T.V. watched by the average American child. However, the other media, too, are becoming increasingly violent. For instance, a single trip to the movies often results in the witnessing of multiple, almost unnoticeable deaths. See PROTHROW-STITH & WEISSMAN, *supra* note 19, at 30 ("Vincent Canby counted 74 dead in *Total Recall*, 81 dead in *Robocop 2*, 106 dead in *Rambo III*, and 264 dead in *Die Hard II*").

95. By the time many American children graduate from high school, they have watched twice as many hours of television as they have spent in school. See FRED M. HECHINGER, *FATEFUL CHOICES* 165 (1992).

96. Acts of violence often are portrayed with neither visible consequences nor moral judgments. As one researcher stated, the depiction of violence often involves "little blood, no pain, and either the disappearance or miraculous recovery of any victim. Grief, too, is minimized. Is it any wonder that children have no understanding of the consequences of violence?" Marcy Kelly, *How the Media Handle Violence*, CATALYST, Nov. 1992, at 3. Similarly, a random sample of 88 hours of prime-time programming showed the following results: heroes and villains were equally likely to attempt to harm another character; approximately 90% of aggressive actions were portrayed as justified; few of those actions caused the perpetrator grief; and, 88% of those actions were rewarded. See W. James Potter & William Ware, *An Analysis of the Contexts of Antisocial Acts on Prime-Time Television*, 14 COMM. RES. 664, 664-86 (1987).

child watches over twenty-seven hours of television per week;⁹⁷ by the time he or she reaches seventh grade, the average child has witnessed 8,000 murders and more than 100,000 other acts of violence.⁹⁸

Researchers and public health experts have concluded that media violence increases both short- and long-term aggression, desensitization, and fear in children.⁹⁹ These claims generally are premised on the belief that children learn by imitating and that aggression is just another learned behavior.¹⁰⁰ And, according to Dr. Deborah Prothrow-Stith, an assistant dean at Harvard's School of Public Health, social learning processes¹⁰¹ operate "regardless of whether the observed behavior is seen on T.V. or in person."¹⁰²

Researchers also have found that television desensitizes viewers, especially young viewers, to the immorality of violence. For children and youths living in communities plagued by violence, "T.V. reinforces the seeming ordinariness and rightness of the violence that confronts them daily."¹⁰³ These youths come to believe that the violence they view on television is normal and acceptable.

Although it is clear that violent images and narratives saturate the American media, research demonstrating a causal relationship between media violence and youth violence remains tenuous.¹⁰⁴ Despite the inconclusive

97. Brandon S. Centerwall, *Television and Violence: The Scale of the Problem and Where To Go from Here*, 267 JAMA 3059, 3059 (1992).

98. *TV Guide* reports that a violent incident is shown, on average, every six minutes. See CHILDREN'S DEFENSE FUND, THE STATE OF AMERICA'S CHILDREN 1992 xii.

99. 138 CONG. REC. S8538 (daily ed. June 18, 1992) (testimony of Leonard D. Eron, Research Scientist and Professor of Psychology, University of Michigan) [hereinafter Eron Testimony]. In addition, according to George Gerbner, Director of the Annenberg School of Communications at the University of Pennsylvania, individuals who watch more than four hours of television a day are afflicted by the "mean world syndrome," which causes them to believe that the world is a violent, scary place populated by criminals. This belief, in turn, causes "feelings of danger, mistrust, intolerance, gloom, and hopelessness." PROTHROW-STITH & WEISSMAN, *supra* note 19, at 46; see also Centerwall, *supra* note 97, at 3059-60.

100. See, e.g., PROTHROW-STITH & WEISSMAN, *supra* note 19, at 44-45; Centerwall, *supra* note 97, at 3059.

101. Prothrow-Stith describes these processes as ones of modeling and reinforcement. In other words, children will imitate others' actions and will continue to engage in the observed behavior if it is rewarded and thereby reinforced. See PROTHROW-STITH & WEISSMAN, *supra* note 19, at 44.

102. *Id.*

103. *Id.* at 45.

104. Some studies do purport to establish a causal link between television violence and violent acts by viewers. For example, Leonard Eron and several collaborators conducted a longitudinal study that interviewed hundreds of individuals at 10-year intervals, starting at age 8 until age 38. Of the boys who were followed, a preference for television violence turned out to be a key predictor of later aggression. See Eron Testimony, *supra* note 99, at 8538-40; see also PROTHROW-STITH & WEISSMAN, *supra* note 19, at 43. In a separate study, Brandon Centerwall compared homicide rates in the United States, Canada, and South Africa after the introduction of television and concluded that "the introduction of television in the 1950s caused a subsequent doubling of the homicide rate, ie, long-term childhood exposure to television is a causal factor behind approximately one half of the homicides committed in the United States" Centerwall, *supra* note 97, at 3061. Other researchers, however, have questioned the methodology and statistical significance of these studies. See, e.g., Jonathan L. Freedman, *Effect of Television on Aggressiveness*, 96 PSYCHOL. BULL. 227 (1984); Horst Stipp & J. Ronald Milavsky, *U.S. Television Programming's Effects on Aggressive Behavior of Children and Adolescents*, 7 CURRENT PSYCHOL.: RES. & REVS. 76 (1988).

research, common sense suggests that many children internalize what they watch (why else air advertisements or educational shows?), and they clearly are watching a lot of violent television.

III. THE PUBLIC HEALTH MODEL: A CRITIQUE

The preceding sections summarized the public health model of violence prevention and the growing body of knowledge about youth violence. The question at hand is whether the public health approach presents a viable curative for youth violence. While public health is well-suited to collect needed data on violence mortality and morbidity,¹⁰⁵ traditional public health methodologies may be unable to mitigate some of the risk factors for youth violence that have been identified to date. A number of these risk factors, including poverty and unstable family circumstances, reflect an aggregation of social ills (economic, political, and moral) and are beyond the scope of public health strategies. For these factors, the public health community may be no better equipped to catalyze fundamental social change than the criminal justice system.¹⁰⁶

The one risk factor that does not appear to be inextricably bound to other social ills is easy access to firearms. Because of the clear connection between firearms and the recent surge in fatal youth violence, and because firearms are the only clearly identified *pathogen* among the risk factors, public health may be able to have an impact on firearm violence—by catalyzing public support for limitations on private access to non-sporting firearms—and thereby generally reduce the *lethality* of violence.

While traditionally public health controlled the impact of external factors (“pathogens” or “vectors”) on individuals, recently public health methodologies have successfully altered the behavior of individuals in the contexts of drunken driving,¹⁰⁷ driving without a seat belt, and cigarette smoking.¹⁰⁸ This Essay

105. Cf. Osha G. Davidson, *Get the Facts on Gun Deaths*, N.Y. TIMES, July 31, 1993, at 21 (editorial) (arguing that “gridlock over gun control is largely due to th[e] lack of information” regarding gun deaths and self-defensive uses); see also UNDERSTANDING AND PREVENTING VIOLENCE, *supra* note 1, at 43-48 (noting discrepancies between *Uniform Crime Reports* and National Center for Health Statistics reporting).

106. Moreover, to date, most public health violence-prevention strategies have not attempted to address these underlying social factors. Although the public health community is capable of producing the body of knowledge that could support a broader social agenda, public health strategies themselves historically have not been concerned with essential social conditions. In the context of violence prevention, public health interventions (other than those focused on gun regulations) have tended to focus not on altering fundamental social conditions, but rather on altering behavior and attitudes of at-risk youths through, for example, mentoring, conflict resolution, and life-skills training. Furthermore, although public health advocates support a variety of counseling and social service programs, there is no necessary link between such traditional assistance programs and public health. Sociologists, psychologists, social workers, and criminologists, for example, long have worked to develop and assess such programs.

107. But see *How Effective Are MADD's Efforts?*, USA TODAY, Apr. 1992, at 24.

108. However, even in these cases, the less behavior modification required, the greater the results. For instance, the effectiveness of the designated driver campaign to reduce drunken driving resulted at least in part from its limited behavior modification component: Only one person per vehicle was urged to refrain

argues that those successes were achieved by altering "rational" actors' cost-benefit analysis regarding the behavior in question. While the benefit of engaging in the risky conduct presumably has remained constant, public education campaigns have alerted Americans to the actual costs associated with their behavior; moreover, public laws imposing enhanced penalties and shifts in public opinion have increased those "costs." For example, smokers must balance the pleasure they derive from smoking against the associated costs, e.g., the potential for contracting lung disease. Before public health advocates made the reduction of cigarette smoking a priority, smokers (and non-smokers) presumably were unaware, or at least not fully aware, of the associated health hazards. Once the public health community educated smokers about those hazards, and once new laws further restricted smoking in public places,¹⁰⁹ the costs began to rise and, in many cases, began to outweigh the benefits.

A. *The Cost-Benefit Analysis of Violence*

When applied to violence, the "rational behavior"¹¹⁰ model presumes that either: (1) the individuals engaging in violent behavior start from imperfect information about the associated risks, such that, once these risks are fully comprehended (and/or increased) through a public education campaign, the costs will outweigh the expected benefits; or (2) the individuals engaging in violent behavior have complete and accurate information and have determined that the expected benefits of their behavior outweigh potential costs. While public health methodologies offer a means of altering the behavior of actors with imperfect information, public health's capacity to alter the behavior of actors with perfect information is limited.

1. *"Rational" Actors with Imperfect Information*

Public health advocates are beginning to implement public education campaigns in order to alter the behavior of those who are unaware of the risks associated with violence.¹¹¹ The one area where public education presents particular promise is in supplying information on the dangers associated with possessing a firearm. This information may help deter individuals from owning guns and may precipitate a public outcry to increase restrictions on gun

from drinking.

109. For example, many workplaces now prohibit smoking, federal law prohibits smoking on domestic flights, and the battle over smoking in restaurants continues.

110. The term "rational" is used to refer only to the process by which an individual makes a *particular* decision and not to characterize the overall mental state of the individual in question.

111. Such campaigns strive to "(1) create greater public awareness that violence is a public health problem; (2) give the message that youth violence can be prevented; (3) debunk myths about youth violence; [and] (4) highlight current research, treatment, and prevention efforts." Rosenberg Testimony, *supra* note 16, at 36.

ownership.¹¹² Specifically, such education campaigns could disseminate information about the dangers of keeping a firearm in the home, especially when the household includes youngsters.¹¹³ According to a recent study, storing a gun in the home increases the risk of homicide in that home nearly threefold.¹¹⁴ Moreover, “[g]un ownership was most strongly associated with homicide at the hands of a family member or intimate acquaintance (adjusted odds ratio, 7.8 . . .).”¹¹⁵ In addition, an earlier study found that, for every case of self-protective homicide involving a gun in the home, there were forty-three cases of suicide, criminal homicide, and accidental death by gunshot.¹¹⁶ For children—as well as adults—who carry a firearm out of fear for their personal safety, public education could work to dispel the myth that a gun provides protection.¹¹⁷

In addition, effective education campaigns could document the flow of legally owned firearms into the black market.¹¹⁸ Of the guns used to commit crimes whose histories could be traced, fully 40% were stolen at some point.¹¹⁹ In sum, by educating the public about the low self-protective value of guns and the large seepage of legally owned guns into the black market, public health has the potential to turn the tide on the currently unregulated gun industry. If guns were generally less available, they also inevitably would be less available to children, whose disposable income usually is less than that of adults. Rather than a Saturday-night special costing about forty dollars and

112. *But see* Christoffel, *supra* note 41, at 435-36 (arguing that “experience with other types of injury control has taught us that education alone does not suffice to optimize prevention strategies”).

113. *See id.* at 435.

114. *See* Arthur L. Kellermann et al., *Gun Ownership as a Risk Factor for Homicide in the Home*, 329 *NEW ENG. J. MED.* 1084, 1087 (1993) (finding that “keeping a gun in the home is independently associated with an increased risk of homicide at adjusted odds ratio of 2.7”). *But see* *Gun in Home? Study Finds It a Deadly Mix*, *N.Y. TIMES*, Oct. 7, 1993, at A18 (citing National Rifle Association argument that Kellermann study fails to “reflect the effectiveness of guns for personal protection because ‘99.8 percent of the protective uses of guns do not involve homicides’”).

115. Kellermann et al., *supra* note 114, at 1087.

116. Arthur L. Kellermann & Donald T. Reay, *Protection or Peril? An Analysis of Firearm-Related Deaths in the Home*, 314 *NEW ENG. J. MED.* 1557, 1560 (1986). Moreover, while fear of becoming the victim of a violent crime seems to be the motivation behind many firearm purchases, only 22% of all murders in 1991 occurred in the course of another felony; by contrast, almost one-third of the total homicides in 1991 resulted from arguments. *UNIFORM CRIME REPORTS*, *supra* note 2, at 19. In addition, in 1991, only 15% of all homicides occurred among strangers, while nearly half of all the homicide victims were either related to (12.5%) or acquainted with (33%) their assailants. *Id.*

117. For example, only in a small percentage of all assaults, robberies, and burglaries (1.2% to 4.6%) do victims use firearms to defend themselves against violent crime. *UNDERSTANDING AND PREVENTING VIOLENCE*, *supra* note 1, at 266. Although a gun may protect in the rare case, the added protection does not outweigh the added risk.

118. There are few reliable data on this question because it is complicated by firearms’ “frequent movement, through burglary, unregulated sales, and simple carrying, from one situation to another.” *UNDERSTANDING AND PREVENTING VIOLENCE*, *supra* note 1, at 260. Nonetheless, it has been estimated that a new handgun has a one in three chance of being used for illegal purposes. *Id.* Moreover, although “only about one firearm of every six used in crimes was legally obtained,” *id.* at 269, virtually all firearms *originally* enter the stream of commerce legally, often flowing from licensed dealer to felon through theft and unregulated transfer.

119. *Id.* at 269.

being readily accessible, guns would—and should—be expensive and hard for children to obtain.

Public health advocates also contend that America's romance with guns and violence must change, "just as the social image of smoking has gone from glamorous to offensive over the past generation."¹²⁰ According to Prothrow-Stith, the public health community must work to decrease the public's appetite for "the images of gun-toting power and violence on television and movie screens."¹²¹

One way public health advocates propose to change deeper attitudes towards violence is by teaching dispute resolution skills.¹²² These courses purport to teach methods of avoiding conflicts and settling conflicts peaceably. However, such changes will be difficult to effect, particularly given the risk factors correlated with youth violence. Although many of these programs have yet to be evaluated thoroughly, one recent analysis of several such programs concluded that there is little reason to believe that conflict resolution courses will "produce long-term changes in violent behavior or risk of victimization."¹²³ Moreover, it is hard to believe that anger-management skills effectively can counterbalance the real-life problems of a child who, for example, is living in poverty, a dangerous neighborhood, and an unstable family. Therefore, public health's ability to alter the behavior of rational actors with imperfect knowledge seems most promising as to the use and possession of firearms rather than as to underlying aggression.

2. "Rational" Actors with Perfect Information

As to the second category of "rational actors," those with accurate information about the associated costs and benefits of the anticipated violent behavior, there is little reason to believe that public health strategies are better suited to deterring this "rational" behavior than criminal justice strategies, which should create a cost-benefit equation much like the one created by the public health model. A rational actor should weigh the length of a potential

120. Don Colburn & Abigail Trafford, *Guns at Home*, WASH. POST, Oct. 12, 1993, at Z12, Z14. One leading public health advocate, Katherine K. Christoffel, has argued that attitudes towards guns must be transformed, just as smoking was transformed in the public's mind from a civil liberties issue into a public safety issue regarding the dangers of secondhand smoke. See Janice Somerville, *Gun Control as Immunization*, AM. MED. NEWS, Jan. 3, 1994, at 7.

121. See Colburn & Trafford, *supra* note 120, at Z14.

122. See, e.g., PROTHROW-STITH & WEISSMAN, *supra* note 19, at 186-94 (describing proposed anti-violence curriculum).

123. Daniel W. Webster, *The Unconvincing Case for School-Based Conflict Resolution Programs for Adolescents*, HEALTH AFFAIRS, Winter 1993, at 127. Webster based this conclusion on (i) the absence of evidence showing that such programs produce long-term changes, (ii) the failure of other classroom-based curricula to produce substantial behavioral changes, and (iii) the questionable assumptions underlying conflict resolution programs. *Id.* Significantly, he also concluded that such programs "provide political cover for politicians, bureaucrats, and school officials and distract the public from structural determinants of youths violence." *Id.*

sentence and the likelihood of receiving that sentence (i.e., of apprehension, prosecution, conviction, and incarceration) against the expected value of the criminal behavior.¹²⁴

Senator Phil Gramm recently argued, in attempting to make the case for mandatory minimum sentences, that “most criminals are perfectly rational men and women” who have determined that crime pays.¹²⁵ To “bolster” his argument in favor of increasing one element of the cost of criminal conduct, Gramm cited statistical analyses of average sentences served for various types of violent crimes. These analyses computed the “probability of arrest, prosecution, conviction, imprisonment, and the average actual sentence served by convicts for particular crimes.”¹²⁶ Taking these factors into account, the study concluded:

On average, a person committing murder in the United States today can expect to spend only 1.8 years in prison. For rape, the expected punishment is 60 days. Expected time in prison is 23 days for robbery, 6.7 days for arson and 6.4 days for aggravated assault. And for stealing a car, a person can reasonably expect to spend just a day and a half in prison.¹²⁷

Assuming that the average criminal is a rational actor (a questionable assumption), these averages underscore the flaw in the “get tough” approach to crime adopted in the 1980’s. In order for enhanced sentences to make an appreciable difference in these averages, sentences would have to be lengthened dramatically and probably out of proportion to the crime in question. This suggests that rather than longer sentences,¹²⁸ we should pursue greater overall law enforcement, that is, increase the probability of apprehension, prosecution, and conviction.¹²⁹

124. The criminal code commonly is considered to have three underlying purposes: retribution, rehabilitation, and deterrence—both specific and general. *See, e.g.,* Morris R. Cohen, *Moral Aspects of the Criminal Law*, in *CRIME, LAW, AND SOCIETY* 35 (Abraham S. Goldstein & Joseph Goldstein eds., 1971). Proponents of “get tough” on crime regimes tend to rely on one of the following three rationales: (1) “if crime did not pay, if harsher penalties outweighed the gains from crime, then fewer crimes would be committed”; (2) “if prisons could not rehabilitate offenders, at least they could prevent them from preying on society by putting them behind bars (i.e., by incapacitating them)”; or (3) “even if tough sentences did not affect crime rates, they [would] reflect[] a clear social condemnation of the criminal’s behavior.” Petersilia, *supra* note 4, at 175-76; *see also id.* at 191.

125. Phil Gramm, *Don’t Let Judges Set Crooks Free*, N.Y. TIMES, July 8, 1993, at A19.

126. *Id.*

127. *Id.*

128. Although the severity of criminal sentences certainly *could* be increased so that severity itself would have a deterrent effect, one rationale of criminal sanctions is retribution, which has a moral aspect that requires some basic symmetry between the criminal act and the sanction.

129. *See* UNDERSTANDING AND PREVENTING VIOLENCE, *supra* note 1, at 6, 292-94 (citing estimate that “50 percent increase in the *probability of incarceration* would prevent twice as much violent crime as a 50 percent increase in the average term of incarceration”). One inmate serving a life sentence for murder recently stated:

The length of a prison sentence has nothing to do with deterring crime. . . . When the average guy commits a crime, he’s either at the point where he doesn’t care what happens to him, or

Besides enhancing the swiftness, certainty, and severity of criminal punishment, the costs of violent behavior can be raised by increasing the potential losses associated with that behavior. In other words, a rational actor's cost-benefit analysis also can be altered by increasing what that individual has at stake. So, for instance, if a child has educational and employment opportunities on the line, the potential costs associated with violent behavior may seem much greater than when no opportunities lie ahead, and there is little to lose.

Sadly, many American children and youths today see their future prospects as so bleak that potential criminal sanctions seem meaningless. Some take it for granted that they will not live past their twentieth birthdays.¹³⁰ Others believe that their only choice is between prison and death.

[P]rison has become a more positive option than home and neighborhood for many youths who see no hope, no safety, no jobs, and no future outside prison walls. A Latino youth told a CNN reporter that he just hoped he could grow up and "go to prison and not be dead."¹³¹

Moreover, as one Los Angeles prosecutor recently described, many children have abandoned hope of conventional success and are seizing their only perceived opportunities: "The kids that are selling crack when they're in the fifth grade are not the dumb kids . . . They're the smart kids. They're the ambitious kids . . . trying to climb up their own corporate ladder. And the only corporate ladder they see has to do with gangs and drugs."¹³²

Ultimately, many of the risk factors for youth violence seem to relate to a lack of hope and positive, future-oriented structure in many children's lives. In turn, these failures are associated with fundamental societal ills—increased and prolonged poverty, disparities in income and wealth, unemployment, family breakdown, and the breakdown of institutional supports such as church and community. Not only do these risk factors themselves create enormous hurdles, but economic status also seems to create its own hurdle for public

more likely he feels he is going to get away with it. Punishment never factors into the equation. He just goes ahead because he feels he won't get caught. . . . Only one thing [will stop violent crime]: the certainty of apprehension. If a criminal fears that he's going to get caught, he will think twice before he robs or steals. And it won't matter whether the sentence is one year or 100 years.

A Convict's View: "People Don't Want Solutions," TIME, Aug. 23, 1993, at 33. See generally PANEL ON RESEARCH ON DETERRENCE & INCAPACITATION EFFECTS, NATIONAL ACADEMY OF SCIENCES, DETERRENCE AND INCAPACITATION: ESTIMATING THE EFFECTS OF CRIMINAL SANCTIONS ON CRIME RATES (Alfred Blumstein et al. eds., 1978).

130. Rather than playing house or doctor—games that combine hopes with expectations—some children have begun plotting their funerals and the way in which they wish their passing to be celebrated. See Mary A. French, *In Black Despair*, WASH. POST, June 20, 1993, at C1.

131. CHILDREN'S DEFENSE FUND, *supra* note 98, at xii.

132. Kantrowitz, *supra* note 48, at 44 (second ellipsis in original).

health methodologies. Although some public health campaigns against nontraditional "diseases" have been successful, those successes have been achieved primarily in the affluent segments of society. For instance, Prothrow-Stith has noted that, although the incidence of smoking has declined by 30% over the twenty-five years since the Surgeon General first declared it a health hazard, this decline is not evenly distributed across the economic spectrum.¹³³ Public health experts have failed, "despite 25 years of effort, to convince blue collar and poor Americans to quit smoking as often as more affluent Americans have."¹³⁴

Some blame this class-based difference on the fatalism of the poor. Poorer Americans, it is said, do not believe that they can control their own destinies, and so do not act to quit smoking and protect their health. Others say poorer Americans are more oriented toward immediate, rather than delayed gratification Whatever the reason, the public health establishment has not been able to convince large numbers of those in our society with less money and social standing to stop smoking.¹³⁵

Since low family income closely correlates with involvement in violent crime, many of the youths most at risk for violence, particularly gun-related violence, are members of communities most resistant to traditional public health approaches.

Therefore, while the public health model may be able to reduce the lethality of violence by documenting and disseminating information about the risks associated with firearms and advocating laws designed to reduce private access to non-sporting firearms, it is questionable whether the public health model is more generally capable of reducing the incidence of violence.¹³⁶ Rather, reducing violence will require a national will to better the circumstances and developmental structures of American children, youths, and young adults. This will involve making fundamental societal changes that are

133. PROTHROW-STITH & WEISSMAN, *supra* note 19, at 141.

134. *Id.*

135. *Id.* at 141-42.

136. Public health seems best equipped to reduce the number of deaths and injuries resulting from *accidental* firearm violence (rather than from intentional violence). For example, a violence prevention program instituted by New York City's Harlem Hospital has been able to reduce by 50% the number of accidental deaths and disabling injuries. However, the number of deaths and injuries resulting from intentional violence has continued to increase despite the institution of the program. See *Violence as a Health Issue: Its Impact on Children and Youth: Hearings Before the New York City Assembly* 2-3 (Jan. 15, 1992) (testimony of Arthur Cooper, Chief of Pediatric Surgical Critical Care at Harlem Hospital Center). Although accidental injuries and deaths are tragic, and should be prevented wherever possible, they represent a relatively small percentage of the total. For example, in 1990, accidental firearm deaths of youths under the age of 20 comprised only about 11% of that population's total firearm deaths. Fingerhut, *ADVANCE DATA*, *supra* note 34, at 12-14. The experience at Harlem Hospital bears out the public health model's limited ability to reach the motivation of the violent actor.

beyond the reach of both the criminal justice system and the public health community.

3. "Irrational" Actors

Assuming that, through a course of more vigorous overall law enforcement and a commitment to increasing the economic, educational, recreational, and employment opportunities of American youths, the United States could deter those proverbial rational criminals, the question would remain whether public health is capable of reaching those individuals who engage in risky behavior without engaging in a cost-benefit analysis and who admittedly are beyond the reach of the criminal law's deterrent function.

Public health's traditional strategies for nontraditional "diseases" rely on massive public education and increased legal sanctions for the targeted behavior. These strategies are designed primarily to reach the rational actor with imperfect information, rather than the irrational actor. In fact, neither public education campaigns nor the threat of legal sanctions (nor the two combined) can reach irrational behavior. However, although public health cannot prevent the "irrational" actors' violent behavior, it can alter the lethality of that behavior. Once again, this comes down to reducing access to firearms. Public health promises to be most effective vis-à-vis the violent behavior of "irrational" actors in the same way public health promises to be most effective vis-à-vis "rational" behavior: by providing both rational and irrational actors with an environment free of, or at least less saturated by, non-sporting firearms.

Therefore, public health resources are best expended on controlling firearm injuries and deaths not by changing the behavior of individuals, but by limiting their access to the dangerous "vector," i.e., the firearm.¹³⁷ In fact, several public health advocates have focused on the need to regulate or ban firearms.¹³⁸ Although such a focus may be politically divisive, gun regulation promises to reduce the carnage of violence in the short term more effectively

137. See, e.g., Stephen P. Teret, *Litigating for the Public's Health*, 76 AM. J. PUB. HEALTH 1027, 1028 (1986) (arguing that homicide gun deaths, suicide gun deaths, and accidental gun deaths all "share the same vehicle [the gun], and the public health approach should be to control that vehicle just as we control vectors of other diseases"); Garen J. Wintermute et al., *The Epidemiology of Firearm Deaths Among Residents of California*, W.J. MED. 374, 377 (1987) ("All firearm deaths, however they may otherwise be classified, are by definition associated with a common vehicle of transmission. By analogy, control of many infectious diseases has been dependent upon control of an associated vector. Motor vehicle-related deaths and injuries were substantially reduced by improvements in the design of motor vehicles, rather than efforts to change the behavior of persons using them. Restricting the availability of firearms, and particularly handguns, is one such measure.") (citation omitted).

138. See, e.g., Christoffel, *supra* note 41, at 432-34 (arguing that handguns must be banned to reduce lethality of violence because children and teenagers tend to be impulsive both about committing suicide and about engaging in fights; such impulsiveness has much greater likelihood of leading to death if gun is present in home).

than any superficial "long-term" strategy designed to alter behavior associated with deep societal ills.¹³⁹

V. CONCLUSION

Youth violence seems to be the result of myriad negative influences and a waning number of countervailing positive influences. In the rush to define new solutions and alleviate public fear and outrage, we must consider carefully whether public health is the most appropriate and best equipped vehicle for fundamental social change.¹⁴⁰

A consideration of the analogies—between driving without a seat belt, smoking, and drunken driving on the one hand, and violence on the other—proffered to support public health's claimed ability to prevent or at least reduce youth violence reveals that those comparisons fail to account for the different intentionality inherent in each behavior.¹⁴¹ While public health methodologies promise to reduce the lethality of violence (by reducing firearm deaths and injuries), they are ill-suited to reducing the underlying violent conduct. Rather, that conduct is symptomatic of deep societal and structural ills that should be addressed directly. As former Surgeon General Antonia Novello has asserted, "Violence is a multifaceted problem that results from many social and economic factors; poverty, racism, disregard for human life, family and community disintegration, denial of educational opportunity, peer pressure, and absence of positive values all contribute to the epidemic's spread."¹⁴²

139. Cf. Moore et al., *supra* note 9, at 62 ("[T]he public health community [has] learned . . . that if one can find an approach to reducing risk factors that do [sic] not depend on widespread behavioral changes, then that approach should be the primary one relied upon, since we know from experience that changing the attitudes and behaviors of large numbers of people through persuasion or coercion is extremely difficult.") (citation omitted).

140. The efficient allocation of scarce resources in combatting youth violence is of paramount importance. One point to consider in determining the appropriate allocation of resources are "entry" costs involved in convincing the public that it needs public health solutions to violence. Studies show the public is torn between its desire for more law enforcement and its skepticism about "get tough" crime policies. Compare SOURCEBOOK OF CRIMINAL JUSTICE STATISTICS, *supra* note 3, at 178-79, Table 2.24 (finding that in 1991 65% of Americans believed U.S. spends too little to halt rising crime rate); and *id.* at 195, Table 2.43 (finding that in 1992 greatest percentage of Americans (44%) thought U.S. should rely primarily on stricter law enforcement and severer penalties to combat crime and lawlessness; 31% thought U.S. should spend more on corrective programs designed to address root causes of crime; 22% thought U.S. should rely on both); and *id.* at 196-97, Table 2.45 (finding that in 1991 80% of Americans believed their local courts did not deal harshly enough with criminals) with VIOLENCE IN AMERICA, *supra* note 10, at 12 (arguing that one goal of public health is to convince Americans that violence is public health problem).

141. Cf. Moore et al., *supra* note 9, at 63 ("[T]o say that there are some commonly used products that could be re-designed or regulated to produce less crime is not quite like making safer cars, or inventing a vaccine, or building a sanitary water system. There is a much larger behavioral component to the production of interpersonal violence than there is in any of these other domains."). But cf. *id.* at 44 (noting that because public health community "sees interpersonal violence as emerging from a far broader and more complex process [than motivation of criminal offenders], their approaches are less exclusively focused on the motivations of offenders").

142. Novello et al., *supra* note 16, at 3007.

These problems are not susceptible to superficial solutions, but must be addressed head on. Therefore, before we allocate scarce resources to programs that may not work, we should be clear about the capabilities and limitations of the public health model of violence prevention. We should utilize public health's capacity to reduce the *lethality* of violence and thereby make safer the environment in which children and youths, as well as adults, live.¹⁴³ But, we should remember that the public health model offers no easy fixes. Only a concerted and committed effort to alter underlying societal factors will enable the United States to reduce its *incidence* of violence by providing children and youths with positive alternatives and environments, as well as with a reinvigorated sense of the future.

143. As to firearms-related injuries and deaths, Rosenberg has listed three "major scientific priorities" that must be addressed to establish a "solid foundation" for the prevention of firearm injuries:

1. The magnitude and distribution of firearm-related morbidity, disability, and behavioral risk factors should be routinely monitored through public health surveillance systems.
2. High priority should be given to epidemiologic investigations that focus on quantifying the risks for injury associated with firearm possession or lack thereof in individuals.
3. Regulations and other interventions that potentially affect the risk of firearm injury must be rigorously evaluated.

VIOLENCE IN AMERICA, *supra* note 10, at 6.