



Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30329-4027

April 18, 2016

The Honorable Thomas R. Carper
Ranking Member, Committee on Homeland Security
and Governmental Affairs
United States Senate
Washington, DC 20510

Dear Senator Carper:

Thank you for your letter regarding the status of the Centers for Disease Control and Prevention's (CDC) research into the causes and prevention of gun violence. CDC appreciates your concerns and those of the Committee on Homeland Security and Governmental Affairs, and is committed to protecting the health, safety, and security of the American people.

Enclosed, please find detailed responses to the specific questions outlined in your letter. We appreciate the Committee's interest in this important public health issue.

If you have additional questions or concerns, please contact Cristi Schwarcz in the CDC Washington Office at Cschwarcz@cdc.gov or (202) 245-0600.

Sincerely,

Thomas R. Frieden, MD, MPH
Director, CDC

Enclosure

Centers for Disease Control and Prevention (CDC) Response to the Senate Committee on Homeland Security and Governmental Affairs regarding Gun Violence Research

- 1. Please describe the CDC's policy toward scientific research into the causes and prevention of gun violence.**

Understanding the patterns, characteristics, and impact of firearm violence is an important step toward preventing firearm injuries and deaths in the United States. While CDC's National Center for Injury Prevention and Control (NCIPC) has no specific program dedicated to firearm violence research and prevention, firearms are a mechanism (cause) of injury. Therefore, CDC addresses firearm-related violence prevention in the context of addressing related areas, including youth violence, child maltreatment, domestic violence, and sexual violence. These areas coincide with topical line items that are supported through CDC's annual appropriation for research and non-research activities. The Fiscal Year (FY) 2017 President's Budget includes \$10 million to dedicate to gun violence prevention research.

- 2. Has the CDC or the Department of Health and Human Services' (HHS) Office of the General Counsel conducted any analysis of the Dickey Amendment, including the types of gun violence research that are still permissible? If so, please provide this analysis.**

In 1997, after the Dickey Amendment was passed, CDC interpreted the amendment as prohibiting impermissible lobbying related to advocating or promoting gun control. CDC also interpreted the amendment to mean that activities that supported the collection of firearm injury-related data and engagement in scientific, public health research directed to preventing injuries from violence and firearms were still permissible.

More recently, in January 2013, the President issued a Presidential Memorandum, "Engaging in Public Health Research on the Causes and Prevention of Gun Violence" (Presidential Memorandum). This Presidential directive outlines the types of gun violence research that are permissible, including conducting or sponsoring research into the causes of gun violence and ways to prevent it, identifying the most pressing research questions with the greatest potential public health impact, and assessing existing public health interventions to prevent gun violence.

The President's plan to reduce gun violence, "Now is the Time," also states that the language in the Dickey Amendment, limiting the use of appropriated funds to "advocate or promote gun control," does not bar CDC from conducting research on the causes of gun violence, noting specifically that "research on gun violence is not advocacy."

- 3. In the aftermath of the shooting at Sandy Hook Elementary School in December 2012, President Obama issued a memorandum directing the Secretary of Health and Human Services (HHS), through the Director of the CDC and other agencies within HHS, to conduct or sponsor research into the causes of gun violence and the ways to prevent it. Please describe the efforts CDC has taken in response to this memorandum.**

In January 2013, in response to the President's memorandum, CDC asked the Institute of Medicine (IOM), in collaboration with the National Research Council (NRC), to convene a committee to engage diverse stakeholders and identify the most pressing research questions on

gun violence, including those with the greatest potential public health impact. The IOM/NRC released their report, which is available at www.nationalacademies.org/hmd/Reports/2013/Priorities-for-Research-to-Reduce-the-Threat-of-Firearm-Related-Violence.aspx, on June 5, 2013. In addition, the CDC Foundation, in collaboration with CDC, commissioned the IOM/NRC to develop and disseminate three supplemental discussion papers focusing on youth possession and acquisition of firearms, the relationship between alcohol and firearm violence, and firearm access by persons at risk of harming themselves or others. These papers, available at www.nationalacademies.org/hmd/~media/Files/Activity%20Files/Global/2014-DEC-18/Youth-Acquisition-Carrying-Firearms-US.pdf, www.nationalacademies.org/hmd/~media/Files/Activity%20Files/Global/2014-DEC-18/Alcohol-Firearms.pdf, and www.nationalacademies.org/hmd/~media/Files/Activity%20Files/Global/2014-DEC-18/Firearms-Suicide-Homicide.pdf, were released in late 2014.

In February 2014, CDC met with a number of Executive Branch agencies, including representatives from HHS and the Department of Justice, to discuss approaches for strengthening data to understand patterns and characteristics of firearm violence, address research questions identified in the IOM/NRC report, ensure that research carried out by the different agencies is complementary and builds upon individual and collective strengths, and determine opportunities to collaborate on current or future efforts. For examples of CDC investigations, analyses of surveillance, and other data to document the public health burden of firearm injuries, see **Appendix A**.

In FY 2015, with increased appropriations, CDC expanded the National Violent Death Reporting System (NVDRS) from 18 to 32 participating states. In FY16, utilizing increased appropriation (\$4.7 million), CDC plans to expand the NVDRS to an additional four to seven states. NVDRS is a state-based surveillance system that pools information about the “who, when, where, and how” from data on violent deaths to provide insights on “why” they occur. It gives states and communities a clearer understanding of violent deaths to guide local decisions about efforts to prevent violence and track progress over time. Findings from NVDRS have resulted in tailored interventions, including increased veterans services to prevent suicide, ensuring child witnesses of domestic violence homicides are linked to social services, and screening older adults for depression.

- 4. In April 2013, the National Center for Injury Prevention and Control asked the Institute of Medicine to recommend a research agenda on the public health aspects of firearm-related violence. Please describe the actions the CDC plans to take in response to the findings of the Institute of Medicine report issued in June 2013.**

The President’s FY 2017 Budget request includes \$10 million in funding for gun violence prevention research. These funds would enable CDC to pursue research priorities identified in the IOM/NRC report.

Should funding become available, CDC will pursue research activities that align with the priorities identified in the IOM/NRC report, *Priorities for Research to Reduce the Threat of*

Firearm-Related Violence (available at www.nap.edu/read/18319/chapter/1). This includes understanding the characteristics of firearm violence (e.g., patterns of access and use among children and youth, and among high-risk racial/ethnic minority populations; rural/urban differences in firearm-related violence); the risk and protective factors for homicide and suicide firearm violence (e.g., alcohol, other situational or environmental factors; the factors influencing non-fatal firearm violence); and the effectiveness of interventions to prevent firearm violence (e.g., safe storage practices; whether existing evidence-based approaches and policies for preventing interpersonal violence are effective in reducing firearm-related deaths and injuries).

5. **From 1996 to the present, please describe notable examples of research conducted or funded by the CDC, including research by or through the National Center for Injury Prevention and Control, related to understanding gun violence.**

For a list of projects funded through the research grant programs, the Injury Control Research Centers (ICRC), and the first cycle of the Academic Centers of Excellence for Youth Violence Prevention (ACE), please see **Appendix B**.

5a. Please also provide all instances when the CDC included requests for gun violence research in its research proposal solicitation materials.

Firearm-related research priorities were included in funding solicitations from 1996-2001 within the context of addressing assaultive behavior among youth, suicidal behavior, intimate partner violence and sexual violence. The funding solicitations for the ICRCs and ACEs were broad and did not include specific priorities for firearm-related research. For a list of these funding announcements, please see **Appendix C**.

6. **For each year from FY1996 to FY2015, what portion of the CDC's budget, including the budget of the National Center for Injury Prevention and Control, has been devoted to gun violence research?**

In FY 1997, Congress redirected \$2.6 million from gun violence prevention activities to traumatic brain injury. CDC addresses firearm-related violence prevention in the context of other violence-related areas, including youth violence, child maltreatment, domestic violence, and sexual violence. These areas coincide with topical line items that are supported through CDC's annual appropriation for research and non-research activities. As previously noted, CDC has requested \$10 million to dedicate to gun violence prevention research in the FY 2017 President's Budget.

Because firearms are a cause of injuries in these related areas, CDC has awarded research grants that address firearms as part of their scope, based on a competitive process. Proposals are evaluated for scientific and technical merit by an external peer review group, in accordance with CDC peer review policy and procedures, using stated review criteria. Since awards are competitive, the funding levels for firearm-related activities from 1997 through 2015 have ranged from about \$100,000 to just over \$1 million. Comparisons to the total NCIPC budget or total CDC budget are not informative because the agency's budget structure and scope have changed dramatically in the past 20 years.

7. **Each year, CDC's Division of Violence Prevention solicits investigator-initiated research via an "RO1" Grant Program Announcement. The language in these announcements signals to grant-seeking public health researchers the research priorities of the CDC and its Division of Violence Prevention. Please describe any Division of Violence Prevention's RO1 Grant Program Announcements related to gun violence research put forward from 1996 to the present.**

Firearm-related research priorities were included in funding solicitations from 1996-2001 within the context of addressing assaultive behavior among youth, suicidal behavior, intimate partner violence, and sexual violence. All R01 applications were evaluated for scientific and technical merit by an external peer review group, in accordance with CDC peer review policy and procedures, using stated review criteria. Following initial peer review, recommended applications received a second level of review. A variety of factors were considered in making funding decisions, such as scientific and technical merit of the proposed project as determined by scientific peer review, availability of funds, and relevance of the proposed projects to program priorities.

The research solicitations during these years focused on enhancing the understanding of social, economic, and environmental factors that may impact the frequency and severity of these forms of violence. The research solicitations also focused on enhancing evaluations of policies, programs, or other interventions that may reduce morbidity, mortality, and disabilities associated with suicidal behavior, assaultive violence, firearm-related injuries, intimate partner violence, and sexual violence. Researchers proposed firearm-related research projects in the Injury Control Research Center (ICRC) grants and in the first cycle of funding for the Academic Centers of Excellence for Youth Violence Prevention (ACEs) during this period. The funding solicitations for the ICRCs and ACEs were broad and did not include specific priorities for firearm-related research. **See Appendix C.**

The funding priorities for the R01 investigator-initiated research grants from 2002-2012 emphasized dissemination research and effectiveness research, particularly the effectiveness of primary prevention strategies to prevent child maltreatment, intimate partner violence, sexual violence, youth violence, and suicidal behavior. The research objectives outlined in Funding Opportunity Announcements are based on priorities in the NCIPC Research Agenda.

8. **The National Violent Death Reporting System collects and combines data from multiple sources to provide states and communities with a more complete record of the circumstances surrounding violent deaths. Participation from all 50 states would significantly increase the amount of data available to the National Violent Death Reporting System and, thereby, improve its effectiveness. In how many states has the National Violent Death Reporting System been implemented?**

NVDRS has been implemented in 32 states, and with the FY2016 appropriations increase, the system will expand to include an additional four to seven states. The funding announcement was recently released, and states' applications are due to CDC on May 27. Final funding decisions will be made by September. CDC has requested an increase of \$7.6 million in FY 2017 in order to support NVDRS nationwide.

8a. How many states have applied to be included in this system?

Over the years, 41 states have applied to the NVDRS funding opportunity announcements. This year, 18 states and Washington, DC, are eligible to apply. The remaining 32 states are funded for multiple years. Therefore, they are not eligible to apply this year.

8b. What circumstances have prevented all state applicants from being added to the National Violent Death Reporting System?

Currently, NVDRS does not include all state applicants because levels of funding are not sufficient to support every state. Therefore, all prior funding opportunity announcements for NVDRS have been competitive. Based on objective reviews, criteria for not funding prior applicants include lack of an injury prevention (or other suitable public health) infrastructure to provide adequate staffing and resources, inability to develop or demonstrate partnerships with data providers (vital registrars, coroners/medical examiners, or law enforcement) required for NVDRS, problems with grant/application writing, and/or state legislation that restricts sharing of data required for NVDRS.

The FY 2017 President's Budget includes \$23.5 million in funding for the National Violent Death Reporting System. With the total request of \$23.5 million, CDC will be able to complete the expansion of NVDRS to all 50 states and Washington, DC.

CDC expects that all states will apply for NVDRS funding should full funding be provided to support a national system. In FY 2016 and FY 2017, to prepare for additional expansion, CDC and our partners will continue to work with unfunded states to determine barriers related to collecting violent death data and develop strategies to address identified barriers. CDC has and will continue to collaborate with partners to provide training to previously unfunded states to offer guidance for implementing the system and for facilitating collaboration between previously unfunded states and experienced states.

9. Has the CDC previously entered into any agreements with the National Rifle Association offering to provide advanced notice of any publication on the subject of gun violence? If so, please provide a description of any such agreements as well as communications and documents memorializing the agreements.

CDC routinely informs stakeholder organizations, including the National Rifle Association, when articles of interest, such as articles on firearm-related violence, are released.

10. From 1996 to the present, has the CDC instructed any employee or researcher to not conduct scientific research on gun violence? Has the CDC instructed any employees or researchers to re-write reports submitted for publication to avoid using any variation of the word "gun"?

CDC has not instructed employees or researchers to refrain from scientific research on gun violence. To ensure scientific integrity, technical accuracy, consistency with appropriations language, and usefulness to the intended audience, CDC has a standard agency review process for any manuscript or report produced by CDC scientists. Agency review is not specific to any topic area.

In the course of reviewing manuscripts or reports on firearm violence, CDC has asked employees to use correct terminology—for example, to say “died as a result of a firearm-related injury” vs. “died from a firearm” in the same way as one would write “died as a result of a motor-vehicle crash” vs. “died from a car.”

11. What remedies are available to CDC researchers who believe their scientific research has been inappropriately suppressed or discouraged? Please describe any review or appeals processes and include a list of the offices or review boards who would address any such concerns.

CDC is committed to a transparent research process and works to conduct scientific research in a manner that increases our knowledge of public health and ensures scientific quality and integrity. As diligent stewards of the public funds entrusted to us, CDC programs work to ensure that our scientific efforts meet established public health goals. Working with their leadership, scientists and subject matter experts ensure accuracy, validity, and appropriateness of results and findings and follow best practices to assure scientific quality and integrity. CDC scientists are required to complete scientific integrity and quality training.

CDC has established an organizational framework that supports its scientists through the Associate Director for Science (ADS) structure. Through the ADS structure, CDC scientists can consult with their manager, leader, or ADS in their immediate program if they have concerns about research decisions. The ADS in the immediate program may escalate the matter to ADSs serving at higher organizational levels within the agency, as needed. Scientists may also escalate the matter to an ADS serving at higher organizational levels if they are in disagreement with the ADS in their immediate program or believe their research has been inappropriately discouraged.

To enhance the agency’s strategic approach to scientific research, CDC also has established the Excellence in Science Committee (EISC). The EISC provides a forum for information exchange among CDC’s ADSs. As an advocate for scientific quality and integrity, the EISC serves as a consulting body for science-related issues and makes recommendations when appropriate.

Appendix A – Examples of CDC firearm-related surveillance activities and analyses

Fowler KA, Dahlberg LL, Haileyesus T, Annest JL. Firearm injuries in the United States. *Preventive Medicine* 2015; 79:5-14.

Sullivan EM, Annest JL, Simon TR, Luo F, Dahlberg L. Suicide trends among persons aged 10–24 years — United States, 1994–2012. *Morbidity and Mortality Weekly Report* 2015; 64(08):201-205.

Kegler SR, Mercy JA. Firearm homicides and suicides in major metropolitan areas—United States, 2006–2007 and 2009–2010. *Morbidity and Mortality Weekly Report* 2013; 62(30):597-602.

Sullivan, E., Annest, J. L., Luo, F., Simon, T. R., & Dahlberg, L. L. Suicide among adults aged 35–64 years—United States, 1999–2010. *Morbidity and Mortality Weekly Report*, 2013; 62(17):321-325.

Ferdon CD, Dahlberg LL, Kegler S. Homicide rates among persons aged 10-24 years – United States, 1981-2010. Centers for Disease Control and Prevention. *Morbidity and Mortality Weekly Report*, 2013; 62(27):545-548.

Egley A, Logan J, McDaniel D. Gang Homicides — Five U.S. Cities, 2003–2008. *Morbidity and Mortality Weekly Report*, 2012; 61(03):46-51.

Enclosure

Appendix B – CDC firearm-related research projects

Projects listed below were funded through the research grant programs, the Injury Control Research Centers (ICRC) and the first cycle of the Academic Centers of Excellence for Youth Violence Prevention (ACE).

Jeffrey Fagan
Situational Contexts of Gun and Non-Gun Injuries
R49/R01 1995-1997

Jeffrey Fagan
Lethal & Non-Lethal Adolescent Violence: Social, Economic, & Neighborhood
R49/R01 1996-1998

David McDowall
Injury Prevention Effects of Violence Interventions
R49/R01 1996-1998

David Grossman
Firearm Storage Device Evaluation
R49/R01 1998-2000

David Hemenway
Adult Firearms Survey
ICRC 1998-2001 (Harvard)

Daniel Webster
Understanding risks for retaliatory shootings and opportunities for prevention
ICRC 1999-2000 (Hopkins)

Daniel Webster
Estimating the effects of laws setting minimum legal age for handgun purchase and possession on youth suicide and homicide
ACE 2000-2005

David Hemenway
Evaluation of State-Level Firearms Policies
ICRC 2001-2006 (Harvard)

Appendix C – Research solicitations

A synopsis of firearm-related funding announcements, from 1996-2001, within the context of addressing assaultive behavior among youth, suicidal behavior, intimate partner violence and sexual violence, is provided below.

1996

FOA# CE96-011 Grants for Violence-Related Injury Prevention Research

Grant applicants should concentrate on the need to reduce morbidity, mortality, and disabilities caused by suicidal behavior, assaultive behavior among youth, and family and intimate partner violence.

1. Injury from Suicidal and Assaultive Behavior

Enhancing our understanding of social, economic, and environmental factors that may affect suicidal behavior:

- Study how choice of method (firearm, overdosing, etc.) in planning or attempting suicidal behavior is influenced by cultural, social, or environmental factors.
- Conduct research to determine the nature of suicide risk among gay and lesbian persons in comparison to the general population.
- Evaluate policies, programs, or interventions that may reduce suicidal behavior via the modification of social, economic, or environmental circumstances.
- Assess the effectiveness of interventions that attempt to remove access to lethal means in reducing injury and severity of injury from suicidal behavior.

Enhancing our understanding of the importance of social and economic factors that influence assaultive behavior among youth:

- Study why many socioeconomically disadvantaged youth do not engage in assaultive behavior despite their socioeconomic status.
- Undertake research to increase our understanding of relationships between poverty and assaultive behavior among youth.
- Study how unequal access to criminal justice, health care, and educational systems is related to assaultive behavior.
- Evaluate policies, programs, or interventions that may reduce assaultive behavior among youth via the modification of social or economic circumstances.

2. Family and Intimate Violence Prevention

Address and define the needs of mothers and children in families where intimate violence occurs.

- Undertake research to determine effective interventions for mothers and children in families with ongoing violence
- Conduct studies to determine which mothers and children are most likely to be helped by interventions designed for families with ongoing violence
- Examine variables related to mothers, children, and families that may predict intervention effectiveness
- Conduct studies related to the impact of children witnessing violence in their families.

Define the incidence or prevalence of functional limitations and disabilities among women as a result of intimate partner violence.

- Quantify injuries sustained (nature and severity) and subsequent short and long-term (1-year) functional limitations and disability
 - Quantify the use of acute care, mental health, rehabilitation, and social services
 - Identify risk factors for adverse outcomes
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1998

FOA# CE98-029 Grants for Violence-Related Injury Prevention Research

Grant applicants should concentrate on the need to reduce morbidity, mortality, and disabilities caused by suicidal behavior, firearm-related injury, sexual violence, or intimate partner violence.

1. *Injury prevention research addressing emerging issues in suicidal behavior*
 - Conduct research to develop and improve measurement instruments for the identification and study of suicides and suicide attempts in surveys, research studies, and surveillance systems.
 - Conduct research designed to improve understanding of the nature of suicide risk among emerging high-risk populations such as young African American males.
 - Conduct research that further illuminates understanding of the contribution of potential risk factors for suicide such as impulsivity, sexual orientation, and hopelessness.
 2. *Injury prevention research addressing firearm-related injuries among children and adolescents*
 - Conduct research to improve understanding of the motivations and deterrents for weapon carrying behavior among adolescents at high risk for firearm-related injuries.
 - Conduct research that estimates injury risk associated with firearm storage or carriage practices.
 - Conduct research that addresses the effects of firearm safety training and education programs on firearm storage and carriage practices.
 3. *Injury prevention research addressing sexual violence or intimate partner violence*
 - Conduct research to address the impact of welfare and welfare-to-work programs on women (and their children) who experience intimate partner violence.
 - Conduct research to determine the effectiveness of prevention programs for adolescent males at risk for perpetration of sexual violence or intimate partner violence or intervention programs for perpetrators of sexual violence or intimate partner violence.
 - Conduct research on risk factors for perpetration of sexual violence.
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1999

FOA# CE99-055 Extramural Grants for Violence-Related Injury Evaluation Research

The purposes of this program are to: evaluate the effectiveness and/or cost effectiveness of interventions and policies designed to reduce morbidity, mortality, and disabilities caused by suicidal behavior, firearm-related injury, sexual violence, or intimate partner violence.

1. In the area of suicide, there is particular interest in projects to evaluate suicide prevention interventions for general or high risk populations and projects to evaluate services provided in various settings such as a managed care setting.
2. In the area of firearm injuries, there is particular interest in projects evaluating prevention programs and policies that offer promise in preventing firearm injuries among children and adolescents (e.g., safe storage of firearms in homes, safe gun technology, curricula to promote gun safety for children and adolescents).

3. In the areas of sexual violence and intimate partner violence, there is particular interest in evaluation research to determine the effectiveness of:
 - Prevention programs for adolescent males at risk for perpetration of sexual violence or intimate partner violence; or
 - Intervention programs for perpetrators of sexual violence or intimate partner violence.
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2001

FOA# CE01-016 Grants for Violence-Related Injury Prevention Research

Research is sought to better understand the etiology of violence and its consequences, to determine how best to prevent violence-related injury among different segments of the population and in different settings, and how best to reduce the severity of the emotional and physical consequences of violence.

1. *Improve understanding of the etiology of violence (i.e., interpersonal youth violence, child abuse, intimate partner violence, suicide, and sexual assault) and its consequences through research that addresses:*
 - The independent, additive, interactive, and sequential effects of psychological, socioeconomic, and environmental risk and protective factors.
 - Factors that have differential effects on the onset, persistence, escalation, de-escalation, or desistance of violent offending at different ages.
 - Factors that increase the severity of the emotional and physical consequences of violence and suicidal behavior.
 - The effect of social and economic risk and protective factors such as poverty, social contagion, social norms, and social capital on interpersonal violence.
 - The effect of psychological, social, and environmental factors not directly related to mental health on suicide.
 - The risks and benefits of firearm access or carrying.
2. *Improve understanding of the relationships between different types of violence. of particular concern are:*
 - The relationship between intimate partner violence victimization and perpetration to child abuse.
 - The effects of exposure to child abuse and intimate partner violence on suicidal behavior.
 - The effects of witnessing violence as a child in the home and community on violent behavior during adolescence and adulthood.
3. *Design and test preventive interventions for intimate partner violence, sexual violence, suicidal behavior, and child abuse.*
4. *Evaluate the feasibility and impact of screening and intervention methods in the acute medical care setting for youth interpersonal violence, child abuse, suicidal ideation, and intimate partner violence.*
5. *Advance our understanding of the effectiveness of interventions to prevent youth violence by evaluating:*
 - The long-term impact of promising interventions.
 - Multifaceted interventions to prevent youth violence.

Enclosure

- The effect youth-violence-prevention strategies in diverse cultural and social settings.
 - The cost effectiveness of promising interventions
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2015

FOA# CE15-001 Research Grants for Preventing Violence and Violence-Related Injury

NCIPC is soliciting investigator-initiated research that will help expand and advance knowledge in three areas: (1) how best to disseminate, implement, and translate evidence-based primary prevention strategies, programs and policies designed to reduce youth violence; (2) what works to prevent violence by rigorously evaluating primary prevention strategies, programs, and policies; and (3) research to determine ways to effectively prevent serious and lethal interpersonal and self-directed violence. The following research objectives are the focus of this announcement:

1. *Research to prevent youth violence:*

- Dissemination/implementation/translation research to accelerate the adoption of evidence-based strategies, programs, and policies to prevent youth violence. There is particular interest in research that examines how models that have shown preventive effects on violence outcomes at the community level (e.g., Communities That Care, Cardiff Violence Prevention Program) can be adopted for use in high risk communities. Prevention models that bring together different sectors within communities to make data driven decisions about the set of evidence-based prevention activities that are most appropriate for the local community and then ensure implementation of those strategies have the potential to reduce risk for violence at the community level. Additional research is needed to help communities understand the capacity needed to implement these models, how the models can be appropriately adopted, and the effects of modifications on violence outcomes.
- Effectiveness research to determine which community-level and societal-level strategies, programs, and policies effectively prevent youth violence. This includes studies to assess the effectiveness of economic development schemes (e.g., business improvement districts) and other efforts to improve the physical, social, and economic characteristics of neighborhoods; and the effectiveness of strategies aimed at reducing the level and concentration of community risk factors. There is also interest in the area of youth violence to assess the economic efficiency of strategies, programs and policies designed to prevent youth violence.
- Effectiveness research to prevent serious and lethal violence among youth. Although there is a strong and growing evidence-base to prevent youth violence (e.g., universal school-based programs, parent/family focused interventions), there is less evidence addressing the more serious forms of violence among youth. Research is needed to determine ways to effectively prevent serious and lethal violence involving youth, particularly identifying and evaluating strategies addressing the leading mechanisms of youth homicide and assault-related injuries.

2. *Research to prevent teen dating violence, intimate partner violence, and sexual violence:*

- Within the context of teen dating violence, intimate partner and sexual violence, there is interest in assessing the efficacy/effectiveness of primary prevention strategies aimed at preventing the initial perpetration of violence and promoting respectful, nonviolent relationships.⁶ Intervening in ways that prevent the initial perpetration of violence, that alter developmental trajectories leading to initial perpetration of violence, and that promote an environment of nonviolence and respect is key to eliminating sexual and intimate partner violence.
- Effectiveness research to determine which community-level and societal-level strategies, programs, and policies effectively prevent teen dating violence, intimate partner and sexual

violence. This includes studies to assess the effectiveness of economic schemes (e.g., microfinance, business improvement districts) and other efforts to improve the physical, social,

and economic characteristics of neighborhoods and other settings; studies to assess the effectiveness of social and cultural norm change strategies at the community and societal level aimed at changing social contexts that condone or tolerate aggression and perpetration; and the effectiveness of strategies aimed at reducing the level and concentration of community risk factors.

- There is also interest in studies to assess the effectiveness of programs, policies, or strategies to prevent injuries and deaths in the context of teen dating violence and intimate partner violence. Women are much more likely than men to be injured or killed in incidents of violence between intimate partners. Research is needed to determine ways to effectively prevent serious and lethal violence against intimate partners, particularly identifying and evaluating strategies addressing the leading mechanisms of intimate partner homicide.

3. *Research to prevent suicidal behavior:*

- In the area of suicidal behavior, there is interest in efficacy/effectiveness studies of social, economic, and environmental primary prevention strategies to prevent suicidal behavior, including strategies aimed at enhancing connectedness for groups at high-risk for suicidal behavior and community-level efforts to reduce social isolation and stigma associated with seeking help for personal crises. There is also interest in studies to determine whether evidence-based programs for other forms of violence can also prevent suicidal behavior. Suicidal behavior and interpersonal violence share a number of risk and protective factors. However, only a limited number of evaluations of strategies that have demonstrated reductions in interpersonal violence have examined the impact of these strategies on suicidal behavior.
- There is also interest in studies assessing the effectiveness of programs, policies, and other intervention strategies to reduce access to lethal means. Research indicates that the means used in suicidal behavior (e.g., jumping from a bridge, hanging or suffocation versus taking pills) has a substantial impact on whether the act results in significant injury or death. Strategies related to means restriction, however, have rarely been rigorously evaluated particularly for their impact and feasibility for broader implementation. Knowledge is also limited regarding the effects of means restriction on different age groups, and how means substitution (i.e., switching from one suicide method to another) will limit the effectiveness of means-restriction strategies.

Grants for Injury Control Research Centers (ICRCs)

The purposes of this program are: 1) To support injury prevention and control research on priority issues as delineated in: Healthy People 2000; Injury Control in the 1990's: A National Plan for Action; Injury in America; Injury Prevention: Meeting the Challenge; and Cost of Injury: A Report to the Congress; 2) To support ICRCs which represent CDC's largest national extramural investment in injury control research and training, intervention development, and evaluation; 3) To integrate collectively, in the context of a national program, the disciplines of engineering, epidemiology, medicine, biostatistics, public health, law and criminal justice, and behavioral and social sciences in order to prevent and control injuries more effectively; 4) To identify and evaluate current and new interventions for the prevention and control of injuries; 5) To bring the knowledge and expertise of ICRCs to bear on the development and improvement of effective public and private sector programs for injury prevention and control; and

Enclosure

6) To facilitate injury control efforts supported by various governmental agencies within a geographic region.

Grants for Academic Centers of Excellence for Youth Violence Prevention

The primary objectives of the Centers were to: 1) Build the scientific infrastructure necessary to support the development and widespread application of effective youth violence interventions, 2) promote interdisciplinary research strategies to address the problem of youth violence 3) foster collaboration between academic researchers and communities, and 4) empower communities to address the problem of youth violence. For the research component, centers could propose studies addressing the risk and protectives associated with youth violence as well as efficacy and effectiveness trials to prevent youth violence.