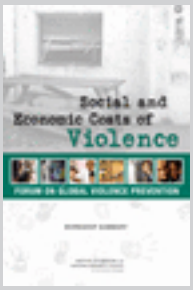

Social and Economic Costs of Violence: Workshop Summary

ISBN
978-0-309-22024-8

192 pages
6 x 9
PAPERBACK (2012)

Deepali M. Patel and Rachel M. Taylor, Rapporteurs; Forum on Global Violence Prevention; Institute of Medicine

Social and Economic Costs of Violence

WORKSHOP SUMMARY

Deepali M. Patel and Rachel M. Taylor, *Rapporteurs*

Forum on Global Violence Prevention

Board on Global Health

INSTITUTE OF MEDICINE *AND*
NATIONAL RESEARCH COUNCIL
OF THE NATIONAL ACADEMIES

THE NATIONAL ACADEMIES PRESS
Washington, D.C.
www.nap.edu

THE NATIONAL ACADEMIES PRESS 500 Fifth Street, N.W. Washington, DC 20001

NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

This study was supported by contracts between the National Academy of Sciences and the Department of Health and Human Services: Administration on Aging, Administration on Children, Youth, and Families, Office on Women's Health; Anheuser-Busch InBev; Avon Foundation for Women; BD (Becton, Dickinson and Company); Catholic Health Initiatives; Centers for Disease Control and Prevention; Eli Lilly and Company; Department of Education: Office of Safe and Drug-Free Schools; Department of Justice: National Institute of Justice; Fetzer Institute; F. Felix Foundation; Foundation to Promote Open Society; The Joyce Foundation; Kaiser Permanente; National Institutes of Health: National Institute on Alcoholism and Alcohol Abuse, National Institute on Drug Abuse, Office of Research on Women's Health, John E. Fogarty International Center; Robert Wood Johnson Foundation; and the Substance Abuse and Mental Health Services Administration. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the organizations or agencies that provided support for this project.

International Standard Book Number-13: 978-0-309-22024-8
International Standard Book Number-10: 0-309-22024-6

Additional copies of this report are available from the National Academies Press, 500 Fifth Street, N.W., Lockbox 285, Washington, DC 20055; (800) 624-6242 or (202) 334-3313 (in the Washington metropolitan area); Internet, http://www.nap.edu.

For more information about the Institute of Medicine, visit the IOM home page at: **www.iom.edu.**

Printed in the United States of America

The serpent has been a symbol of long life, healing, and knowledge among almost all cultures and religions since the beginning of recorded history. The serpent adopted as a logotype by the Institute of Medicine is a relief carving from ancient Greece, now held by the Staatliche Museen in Berlin.

Suggested citation: IOM (Institute of Medicine) and NRC (National Research Council). 2012. *Social and economic costs of violence: Workshop summary.* Washington, DC: The National Academies Press.

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

The **National Academy of Sciences** is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Upon the authority of the charter granted to it by the Congress in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters. Dr. Ralph J. Cicerone is president of the National Academy of Sciences.

The **National Academy of Engineering** was established in 1964, under the charter of the National Academy of Sciences, as a parallel organization of outstanding engineers. It is autonomous in its administration and in the selection of its members, sharing with the National Academy of Sciences the responsibility for advising the federal government. The National Academy of Engineering also sponsors engineering programs aimed at meeting national needs, encourages education and research, and recognizes the superior achievements of engineers. Dr. Charles M. Vest is president of the National Academy of Engineering.

The **Institute of Medicine** was established in 1970 by the National Academy of Sciences to secure the services of eminent members of appropriate professions in the examination of policy matters pertaining to the health of the public. The Institute acts under the responsibility given to the National Academy of Sciences by its congressional charter to be an adviser to the federal government and, upon its own initiative, to identify issues of medical care, research, and education. Dr. Harvey V. Fineberg is president of the Institute of Medicine.

The **National Research Council** was organized by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy's purposes of furthering knowledge and advising the federal government. Functioning in accordance with general policies determined by the Academy, the Council has become the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in providing services to the government, the public, and the scientific and engineering communities. The Council is administered jointly by both Academies and the Institute of Medicine. Dr. Ralph J. Cicerone and Dr. Charles M. Vest are chair and vice chair, respectively, of the National Research Council.

www.national-academies.org

PLANNING COMMITTEE FOR WORKSHOP ON SOCIAL AND ECONOMIC COSTS OF VIOLENCE: THE VALUE OF PREVENTION[1]

MARK L. ROSENBERG (*Chair*), President and CEO, The Task Force for Global Health

MINDY THOMPSON FULLILOVE, Research Psychiatrist and Professor of Clinical Psychiatry and Public Health, New York State Psychiatric Institute at Columbia University

PEGGY MURRAY, Senior Advisor for International Research, Office of the Director, National Institute for Alcohol Abuse and Alcoholism

PAMELA B. TEASTER, Director of the Graduate Center for Gerontology, Chairperson of the Department of Gerontology, and Associate Dean for Research, College of Public Health, University of Kentucky

ELIZABETH WARD, Chairman, Violence Prevention Alliance, University of the West Indies, Mona Campus

[1]Institute of Medicine planning committees are solely responsible for organizing the workshop, identifying topics, and choosing speakers. The responsibility for the published workshop summary rests with the workshop rapporteurs and the institution.

FORUM ON GLOBAL VIOLENCE PREVENTION

JACQUELYN C. CAMPBELL (*Co-chair*), Anna D. Wolf Chair and Professor, Johns Hopkins University School of Nursing
MARK L. ROSENBERG (*Co-chair*), President and CEO, The Task Force for Global Health
CLARE ANDERSON, Deputy Commissioner, Administration on Children, Youth, and Families, Department of Health and Human Services
FRANCES E. ASHE-GOINS, Deputy Director, Office on Women's Health, Department of Health and Human Services
KATRINA BAUM, Senior Research Officer, Office of Research Partnerships, National Institute of Justice, Department of Justice
SUSAN BISSELL, Associate Director, Child Protection Section, United Nations Children's Fund (UNICEF)
ARTURO CERVANTES TREJO, Director General, National Center for Injury Prevention, Ministry of Health, Mexico
XINQI DONG, Associate Director, Rush Institute for Health Aging; Associate Professor of Medicine, Behavioral Sciences, and Gerontological Nursing, Rush University Medical Center
AMIE GIANINO, Senior Global Director, Beer & Better World, Anheuser-Busch InBev
KATHY GREENLEE, Assistant Secretary for Aging, Administration on Aging, Department of Health and Human Services
RODRIGO V. GUERRERO, City Counselor, Cali, Colombia
JOHN R. HAYES, Global Strategy Leader for Neuroscience, Medical Affairs, Eli Lilly and Company
DAVID HEMENWAY, Director, Injury Control Research Center and the Youth Violence Prevention Center, Harvard School of Public Health
FRANCES HENRY, Advisor, F. Felix Foundation
MERCEDES S. HINTON, Program Officer, Initiative on Confronting Violent Crime, Open Society Institute
LARKE NAHME HUANG, Senior Advisor, Office of the Administrator, Substance Abuse and Mental Health Services Administration, Department of Health and Human Services
L. ROWELL HUESMANN, Amos N. Tversky Collegiate Professor of Psychology and Communication Studies Director, Research Center for Group Dynamics, Institute for Social Research, University of Michigan
KEVIN JENNINGS, Assistant Deputy Secretary of Education, Office of Safe and Drug Free Schools, Department of Education
CAROL M. KURZIG, President, Avon Foundation for Women

JOANNE LACROIX, Manager, Family Violence Prevention Unit, Public Health Agency of Canada
JACQUELINE LLOYD, Health Scientist Administrator, Prevention Research Branch, Division of Epidemiology, Services and Prevention Research, National Institute on Drug Abuse
BRIGID McCAW, Medical Director, NCal Family Violence Prevention Program, Kaiser Permanente
JAMES A. MERCY, Special Advisor for Strategic Directions, Division of Violence Prevention, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention
PEGGY MURRAY, Senior Advisor for International Research, Office of the Director, National Institute for Alcohol Abuse and Alcoholism
MICHAEL PHILLIPS, Director, Suicide Research and Prevention Center, Shanghai Jiao Tong University School of Medicine
COLLEEN SCANLON, Senior Vice President, Advocacy, Catholic Health Initiatives
KRISTIN SCHUBERT, Interim Team Director, Public Health and Program Officer, Vulnerable Populations, Robert Wood Johnson Foundation
EVELYN TOMASZEWSKI, Senior Policy Advisor, Human Rights and International Affairs, National Association of Social Workers
ELIZABETH WARD, Chairman, Violence Prevention Alliance, University of the West Indies, Mona Campus

Staff

DEEPALI M. PATEL, Program Officer
RACHEL M. TAYLOR, Research Associate
RACHEL E. PITTLUCK, Senior Program Assistant (until May 2011)
MEGAN M. PEREZ, Senior Program Assistant (from June 2011)
ELENA NIGHTINGALE, Scholar-in-Residence
KATE BURNS, Intern
JULIE WILTSHIRE, Financial Officer
PATRICK KELLEY, Board Director

Reviewers

This report has been reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the National Research Council's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published report as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the process. We wish to thank the following individuals for their review of this report:

THERESA BETANCOURT, Assistant Professor of Child Health and Human Rights, Department of Global Health and Population, Harvard School of Public Health; Director, Research Program on Children and Global Adversity, Francois-Xavier Bagnoud Center for Health and Human Rights

JÜRGEN REHM, Director, Social and Epidemiological Research Department, Centre for Addiction and Mental Health

GARY SLUTKIN, Executive Director, CeaseFire; Professor, Epidemiology and International Health, University of Illinois at Chicago School of Public Health

ELIZABETH WARD, Chairman, Violence Prevention Alliance, University of the West Indies, Mona Campus

Although the reviewers listed above have provided many constructive comments and suggestions, they were not asked to endorse the final draft of the report before its release. The review of this report was overseen by **ANNE C. PETERSEN,** Research Professor at the Center for Human Growth and Development at the University of Michigan. Appointed by the Institute of Medicine she was responsible for making certain that an independent examination of this report was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this report rests entirely with the author and the institution.

Contents

APPENDIXES

1

Introduction

The costs of violence are borne by all segments of society, but their measurement and impact are difficult to quantify. Traditional approaches, consisting mostly of measuring the direct economic effects of healthcare utilization and productivity loss, vastly underestimate the additional social and developmental costs of both morbidity and mortality.

Beyond the measurable costs, violence causes pain and suffering, can lead to chronic trauma, affects child development, and can increase the risk of chronic health outcomes later in life (Repetti et al., 2002). As well, violence affects communities and societies, leading to losses in business sectors, financial divestment, and increased burden on the healthcare and justice systems. Although some methodologies exist for estimating such social or indirect costs, many are confounded by uncertainties in definitions and lack of rigorous evidence of causative factors.

Nevertheless, even initial and crude estimates of both the cost of violence and the cost of prevention show the financial benefits of early intervention. In most cases, the cost of implementing successful preventive interventions is less than the cost to individuals and society of inaction.

On April 28-29, 2011, the Institute of Medicine's (IOM's) Forum on Global Violence Prevention convened its second workshop to explore the social and economic costs of violence. Part of the Forum's mandate is to engage in multisectoral, multidirectional dialogue that explores cross-cutting public health approaches to violence prevention. To that end, the workshop was designed to examine these approaches from multiple perspectives and at multiple levels of society. In particular, the workshop was focused on exploring the successes and challenges presented by calculating

and categorizing both direct and indirect costs at multiple levels of society, as well as the potential cost-effectiveness of intervention. Speakers were invited to share the progress and outcomes of their work and to engage in dialogue exploring gaps and opportunities in the field.

The workshop was planned by a formally appointed committee of the IOM, whose members created an agenda and identified relevant speakers. Because the topic is large and the field is broad, presentations at this event represent only a sample of the research currently being undertaken. Speakers were chosen to present a global, balanced perspective, but by no means a comprehensive one. Given time and resource constraints, the planning committee members chose speakers who could provide diverse perspectives upon which further discussion could occur. The agenda for this workshop can be found in Appendix A.

ORGANIZATION OF THE REPORT

This summary provides a factual account of the presentations given at the workshop. Opinions expressed within this summary are not those of the Institute of Medicine, the Forum, or its agents, but rather of the presenters themselves. Statements are the views of the speakers and do not reflect conclusions or recommendations of a formally appointed committee. This summary was authored by a designated rapporteur based on the workshop presentations and discussions and does not represent the views of the institution, nor does it constitute a full or exhaustive overview of the field.

The workshop summary is organized thematically, covering the major topics that arose during the 2-day workshop, so as to provide a larger context for these issues in a more compelling and comprehensive way. In addition, the thematic organization allows the summary to serve as an overview resource of important issues in the field. The themes were chosen as the most frequent, cross-cutting, and essential elements that arose from the workshop, but do not represent the views of the IOM or a formal consensus process.

The first part of this report consists of four chapters, which provide the summary of the workshop; the second part consists of submitted papers and commentary from speakers regarding the substance of the work they presented at the workshop. These papers were solicited from speakers to provide further information about their work, though not all speakers contributed papers. The appendix contains additional information regarding the agenda and participants.

DEFINITIONS AND CONTEXT

Violence is defined by the World Health Organization (WHO) as "the intentional use of physical force or power, threatened or actual, against

oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation" (WHO, 2002). WHO further categorizes violence into seven types: child and elder abuse, sexual and intimate partner violence, youth and collective violence, and self-directed violence. This workshop examined all seven types of violence, as well as the underlying common risk factors and common outcomes.

The workshop explored both social and economic costs—the latter more easily quantifiable than the former—at four ecological levels: individual, family, community, and societal. While costs, benefits, outcomes, and measurement indicators can be defined differently, all workshop participants provided the context of their presentations and attempted to relate their content to a common framework. Speakers endeavored to enumerate costs and benefits where possible and to describe other potential costs where no suitable accounting methodology exists. Costs included not just the immediate and direct, but also the longer-term, widespread, and indirect.

The next four chapters examine the four major themes that arose from participants' presentations and discussions: approaches to measurement and costing methodology (Chapter 2), challenges in calculating cost (Chapter 3), the creation of a bigger picture of the costs of violence (Chapter 4), and the promise of investing in violence prevention (Chapter 5). The three chapters in Part II include the submitted papers, organized as direct and indirect costs (Chapter 6), context and place (Chapter 7), and investing in prevention (Chapter 8).

Finally, the appendixes consist of the agenda (A), the speakers' biographies (B), the planning committee members' biographies (C), and the Forum on Global Violence Prevention members' biographies (D).

ACKNOWLEDGMENTS

The Forum on Global Violence Prevention was established to address a need to develop multisectoral collaboration among stakeholders. Violence prevention is a cross-disciplinary field that could benefit from increased dialogue among researchers, policy makers, funders, and practitioners. As awareness of the insidious and pervasive nature of violence grows, so too does the imperative to mitigate and prevent it.

A number of individuals contributed to the successful development of this workshop and report. These include IOM staff: Rosemary Chalk, Angela Christian, Patrick Kelley, Elena Nightingale, Julie Wiltshire, and Jordan Wyndelts. The Forum staff, including Deepali Patel, Megan Perez, Rachel Pittluck, and Rachel Taylor, also put forth considerable effort to ensure this workshop's success. The staff at the Kaiser Family Foundation's Barbara Jordan Conference Center provided excellent support for the event.

The planning committee contributed several hours of service to develop and execute the agenda, with the guidance of Forum membership. Reviewers also provided thoughtful remarks in reading the draft manuscript. These efforts would not be possible without the work of the Forum membership itself, an esteemed body of individuals dedicated to the concept that violence is preventable. Their names and biographies can be found in Appendix D.

The overall successful functioning of the Forum and its activities rests on the foundation of its sponsorship. Financial support for the Forum on Global Violence Prevention is provided by the Department of Health and Human Services: Administration on Aging, Administration on Children, Youth, and Families, Office on Women's Health; Anheuser-Busch InBev; Avon Foundation for Women; BD (Becton, Dickinson and Company); Catholic Health Initiatives; Centers for Disease Control and Prevention; Eli Lilly and Company; Department of Education: Office of Safe and Drug-Free Schools; Department of Justice: National Institute of Justice; Fetzer Institute; F. Felix Foundation; Foundation to Promote Open Society; The Joyce Foundation; Kaiser Permanente; National Institutes of Health: National Institute on Alcoholism and Alcohol Abuse, National Institute on Drug Abuse, Office of Research on Women's Health, John E. Fogarty International Center; Robert Wood Johnson Foundation; and the Substance Abuse and Mental Health Services Administration.

REFERENCES

Repetti, R. L., S. E. Taylor, and T. E. Seeman. 2002. Risky families: Family social environments and the mental and physical health of offspring. *Psychological Bulletin* 128(2): 330-366.

WHO (World Health Organization). 2002. *World report on violence and health*. Geneva.

Part I

Workshop Overview

2

Approaches to Measurement and Costing Methodology

Several workshop participants noted that no comprehensive framework for estimating the true economic and social burden of violence exists. Speakers offered numerous theories for the lack of such a framework, citing weaknesses in the knowledge base both in economic costing and in violence prevention, difficulty in creating a universal algorithm for diverse settings, and disagreements in types of costs to include. However, participants held mixed opinions regarding the importance of creating such a framework and the focus on relying on economic data.

The need for a robust methodology to calculate costs was best exemplified by the desire to determine the cost-effectiveness of intervention programs. Speaker Phaedra Corso from the University of Georgia outlined three major reasons for accurately measuring costs:

1. To determine the true impact of violence beyond morbidity and mortality,
2. To place violence in the context of and make comparisons to other public health issues, and
3. To compare the cost of violence to the cost of preventing violence, and determine the cost-effectiveness of intervention programs.

Ultimately, Dr. Corso felt that the goal of accurately estimating cost was to determine the return on investment in both the public and the private sectors. Speaker Jack Shonkoff of Harvard University agreed and emphasized the point that prevention is generally cheaper than a cure, stating that "although you could always make improvements, the end point will never

be as good as it would have been had you gotten things right in the first place, and the cost of getting to a better place is going to be higher than the cost of getting it done right the first time."

However, some speakers cautioned against overreliance on economic data because the complexity of violence does not always lend itself to quantifiable impact. Some outcomes, such as pain and suffering, cannot be reduced to calculated costs, and relying solely on numbers would potentially miss larger effects of prevention. Also, some outcomes of violence, when calculated in terms of medical costs, suggest potential financial benefits from preventing violence-related mortality. For example, speaker and Forum member Michael Phillips of the Shanghai Jiao Tong University School of Medicine pointed out that survivors of suicide attempts often have ongoing psychological illnesses that require medical attention and can pose a burden on the social welfare system through requiring subsidized health care or disability. He referenced a study in which researchers determined that $5 billion was saved in 1990 due to just over 30,000 suicides, which did not take into account the costs of psychological and physical pain and suffering, suggesting that suicide prevention should not be assessed solely in terms of monetary cost (Yang and Lester, 2007).

Still, most speakers felt that determining the economic costs of violence held some value and developing a framework for doing this would be useful in showing the importance of primary prevention. The framework would allow for comparisons across types of violence, types of impact, and types of context. These speakers also noted that such a framework would be most effective through accounting for social costs and that research into developing a methodology for calculating costs of pain, suffering, and other nontangible effects was important.

A number of factors that would be useful in thinking about a broader process for calculating costs were discussed. Participants discussed ways of categorizing costs, criteria for inclusion in cost calculations, noneconomic effects, and placement of costs in a larger context.

In terms of categorizing costs, participants began with a matrix that broke out costs by traditional economic categories and by ecological elements (see Table 2-1 and Box 2-1). For example, traditional cost categories include health services, social services, workforce, community development, and criminal justice. Ecological elements include individual, family, community, and societal. Thus, speakers were able to consider costs at various intersections of these two axes, as well as the relative ease or difficulty of obtaining such figures.

Dr. Corso further simplified the categories of costs into three: medical, nonmedical, and productivity. Medical costs include medical claims and other acute costs, as well as the costs of long-term sequelae. At various levels, these could include out-of-pocket expenses (individual), effects

TABLE 2-1 Sample of Potential Costs of Violence at Various Ecologic Levels

	Individual	Family	Community	Societal
Economic development	• Loss of personal investments		• Access to business establishments	• Business tax revenue • Entrepreneurship • Foreign direct investment
Criminal justice services	• Legal services	• Legal services	• Reentry or recidivism	• Court proceedings • Legal services • Incarceration • Juvenile delinquency programs • Policing (emergency responders, patrol, and investigative units) • Victim compensation • Violence training
Health services/ health effects	• Cardiovascular disease • Mental health (internalizing or externalizing behaviors) • Cancer • Chronic fatigue • Chronic pain • Cognitive impairment • Diabetes • Infectious disease • Inflammatory disease • Interference with treatment plans • Behavioral health • Neurological disorders • Physical injury • Pregnancy complications • Respiratory disorders • Sexual dysfunction • Surgery • Time of diagnosis	• Mental and behavioral health		• Behavioral health care • Chronic disease treatment • Emergency medical care • Infectious disease containment • Infectious disease treatment • Maternal health care • Pharmaceutical manufacturing • Mental health care • Poison control • Surgical procedures

continued

TABLE 2-1 Continued

	Individual	Family	Community	Societal
Social services				• Adult protective services (in-home care, foster care, nutrition services, case management) • Child protective services (foster care, in-home treatment, case management, investigation) • Crisis centers, domestic violence shelters (housing vouchers, disability and unemployment services, welfare and public assistance)
Perpetration of future violence	• Normalization of violence • Risk-taking behavior	• Intergenerational relationships	• Normalization of violence • Gender inequality	• Normalization of violence • Gender inequality
Mortality	• Death	• Impact on family unit	• Impact on community structure	• Value of human life • Life insurance
Educational system	• Lower occupational attainment • Decreased sense of self-worth • Economic dependence		• Funding based on student performance • Property damage • Staff turnover • Attendance and graduation rates	• Counseling services • Grade retention • Property damage • Resources for managing delinquent behavior • Graduation rates • Student attendance • Security services • Special education for students with disabilities • Productivity loss

Workforce	• Development of employment skills • Occupational attainment		• Workplace security	• Human capital • Payroll tax revenue • Absenteeism • Workers' compensation • Friction costs • Presenteeism
Community development	• Self-isolation		• Collective efficacy • Marginalization of specific groups • Property damage • Property value • Shared resources or space • Social capital • Transiency, displacement	
Household resources		• Education • Health insurance • Income • Household size (single parent, multifamily or generation, unplanned pregnancy, infertility)		

BOX 2-1
Example of Ecological Approach to Assessing Costs: Child Maltreatment

A child who is abused at home can experience behavioral difficulties in school. If the school fails to identify and address such issues, the response may be limited solely to punishment such as removal from class, detention, suspension, etc. The child then misses school, is labeled a "troublemaker," and may not reach full intellectual potential due to these missed opportunities. Later repercussions can include decreased employment or financial opportunities, increased stress due to lower income, potential for perpetration of violence in future family settings, increased risk for substance abuse, and chronic health outcomes due to stress. Other children in school might also experience poorer educational quality due to the disruptions, which can have similar effects on their earning potentials later in life.

These costs have the potential to extend further, to other individuals who come in contact with the abused child or his classmates later in life. For example, the job or income stress could result in workplace violence or other instability, affecting other workers.

on indirect victims (family), cost of local care (community), and costs of health insurance (societal). Productivity costs were defined as those related to absenteeism, or absence from the workplace, which has costs to both individuals and families (loss of income) as well as to community and society (loss of profit to businesses). Dr. Corso also referenced "presenteeism," a less easily defined or calculated cost, which includes being present in the workplace but not working to full capacity. Methods of calculating the impact of presenteeism are less straightforward than absenteeism; however, both are often calculated from the standpoint of lost wages. One possible alternate method is to consider the willingness of society to pay a certain price for prevention. Finally, she also discussed nonmedical costs, which were all those costs that did not readily fall into the other two categories. These costs are often not calculated or included in traditional calculations.

Two methods of cost reporting were also discussed by Dr. Corso—using prevalence-based and incidence-based data. Prevalence-based data have the limitation of providing an accurate picture of medical costs only, but not other types of costs, and providing a picture of acute costs only. Incidence-based data are not as robust, because they require reporting along the entire life span and much violence is unreported. However, such an approach would better parse nonmedical costs.

Speakers also discussed the difference between direct and indirect costs, with the former being much easier to define. Dr. Corso suggested that most nonmedical costs fall under indirect costs. Speaker Hugh Waters from the

RAND Corporation also mentioned that various types of indirect costs exist and specified the difference between a cost incurred in the provision of care that is not part of the care protocol itself and the cost of an indirect effect. Speakers Gary Milante from the World Bank and Theresa Betancourt from Harvard University and the François-Xavier Bagnoud Center for Health and Human Rights also named another important indirect cost—the cost of inaction. Both cautioned against waiting too long for the full picture of costs at the risk of waiting too long to act and prevent violence from escalating. Dr. Milante also pointed out that determining the cost-effectiveness of a program is important, but reducing the cost of inaction could have greater impact than ensuring that a preventive intervention is the most effective.

Along with the cost of inaction, several speakers suggested that opportunity costs be considered as well. Dr. Waters noted that certain costs will be incurred by certain sectors regardless of whether violence occurs. For example, medical and social services providers and infrastructure costs will be paid. However, when resources are spent to address the effects of violence, fewer resources are available to be allocated toward other issues. Speaker Aslihan Kes from the International Center for Research on Women pointed out that women who are victims of violence lose opportunities to complete household or income-generating activities. Dr. Corso suggested that productivity costs are often calculated in terms of opportunity costs.

The identification of noneconomic effects and the ability to place dollar values on such effects was also a major discussion at the workshop. Some participants strongly felt that such costs lie at the heart of the massive burden of violence but are currently difficult to enumerate. Finally, the need to place costs within a larger context was an important element of discussions; as Dr. Shonkoff highlighted, the issue is not simply about saving money, but also about ensuring a higher quality of life.

REFERENCE

Yang, B., and D. Lester. 2007. Recalculating the economic cost of suicide. *Death Studies* 31(4):351-361.

3

Challenges in Calculating Costs

As a companion to the discussions of various approaches to calculating costs, speakers offered cautions and considerations in utilizing existing methodologies. Most of the challenges are not specific to cost calculation, but plague other aspects of violence prevention research and implementation as well. Some challenges were evident in health economics and the costing of other public health problems. These challenges in both arenas increased the difficulty in enumerating costs and placing appropriate value on various preventive interventions.

The major challenge, reiterated by many speakers, was the difficulty in placing a value on nontangible, social costs. In particular, pain and suffering were two outcomes speakers cited as being unquantifiable. Some speakers suggested these costs could be indirectly measured by assessing psychological costs, but no accurate and direct assessment of them could currently be made. Speakers also felt that this was indicative of other quality-of-life issues. Thus, in placing a dollar value on some costs but not others, the true impact of violence is not being captured.

The field of violence prevention suffers from a few issues that add difficulty to estimating costs. Speaker Phaedra Corso of the University of Georgia emphasized that generating the evidence base for violence prevention is hampered by imprecise definitions and underreporting of events. Lacking clear definitions of what constitutes violence and violent events makes determining both prevalence and incidence difficult, both of which are essential to assessing true cost. Also, underreporting of events obscures true incidence and prevalence. Dr. Corso and other speakers proposed that relying on medical records and claims requires accurate coding of causes of injury, which does not always occur because universal screening is not in

place for violence. Speaker Deborah Prothrow-Stith of Spencer Stuart also highlighted the importance of definitions and their cultural context; what constitutes violence in one setting might not translate to another setting and therefore might not be captured in data analysis. Speaker Mindy Fullilove of Columbia University noted that structural violence, or violence that is institutionalized but not criminalized, is difficult to define and measure, correlates with other inequities, and is often missed when considering the cost of overt violence.

Dr. Corso, speaker Philip Cook from Duke University, and speaker and Forum member David Hemenway from Harvard University also emphasized the difficulty and importance of determining attributable risk, particularly for longer-term outcomes. Dr. Corso observed the lack of a good risk model, and Drs. Cook and Hemenway discussed the difficulty of attributing violence to specific risk factors. This provides a challenge in assessing how costs are allocated to risk factors or types of violence, making it difficult to assess how well preventive interventions are truly working.

Dr. Corso also identified general issues with the availability and generalizability of data; typically, a disparity in both the comprehensiveness and the quality of data from high-income countries and low-income countries exists. Thus, the assessment of costs in one context may not be applicable anywhere else. Dr. Waters emphasized this issue, citing that values placed on specific components do not take into account differences in cost-of-living standards across different countries. For example, productivity measured by loss of wages is markedly different in high-income and low- or middle-income countries, where average wages can differ by orders of magnitude. This human capital approach also takes into account life expectancy and age, which have other health implications and result in different values being placed on both employment and human life based on a country's economic development status. Speaker and Forum member Michael Phillips of the Shanghai Jiao Tong University School of Medicine highlighted another downside to the human capital approach—specific types of violence pose different relative financial burdens in relation to others and thus receive lower priority than others, despite being a potentially greater social burden.

Dr. Hemenway added to the previous comments of speakers on the availability and generalizability of data by pointing out that not only is violence underreported, but also active data collection is often limited to areas of higher income or socioeconomic status. Receiving data from diverse populations is difficult when less effort is made to collect such data. Forum member Evelyn Tomaszewski made a similar statement in commenting on undercurrents of violence and effects of violence in society, such as undiagnosed psychological illness or trauma, and the impossibility of enumerating such costs. In addition, the data are often inaccurate—Dr. Hemenway stated that a recent review of the National Violent Death Reporting System

(NVDRS) indicates that reporting of mortality due to firearms has overestimated the age of victims; such victims are actually younger than previously estimated. This can have a profound effect in calculating long-term costs (especially productivity and social losses).

A few issues on the actual accounting of costs were also raised. Dr. Corso asked how pain and suffering are quantified. Ms. Tomaszewski suggested that including community costs, not just aggregated individual costs, is important as well. Dr. Waters pointed out that aggregating numbers can often yield huge ranges, because each individual cost is often displayed as a range. He also noted, and was echoed by speaker and Forum member Rodrigo Guerrero of Cali, Colombia, that these large ranges are not always helpful to policy makers. Likewise, traditional economic approaches to measuring costs can result in confusion, such as the determination of the discount rate—the deduction applied to the future value of money so as to make comparisons to current value. The discount rate can vary by region, year, time line of projection, and economic model, yielding large intervals in value. The mathematical models often used for calculating costs rely heavily on theoretical assumptions that might not always be valid—for example, models incorporating counterfactual worlds in which violence does not exist can never be assessed for accuracy.

Speakers also questioned the presentation of cost data. Often such numbers are presented in terms of dollars lost or as a percentage of the gross domestic product (GDP). The first has the disadvantage of providing less meaningful comparison across countries, and the second is often confusing to those outside of economics. The importance of context-specific denominators for such numbers is essential in showing true impact but can hamper generalizability and comparison.

Both Ms. Tomaszewski and Dr. Prothrow-Stith commented on measuring externalities such as historical trauma and discrimination. Dr. Prothrow-Stith also questioned the possibility of measuring fear and its effect on behavior, which could have enormous implications for longer-term outcomes such as chronic health effects and future perpetration of violence. Dr. Betancourt mentioned the impact of collective violence on non-state actors and infrastructure, causing widespread damage that often takes years to address. Such impact can serve as a risk factor for future violence, again bringing forth the question of measuring the cost of future violence.

Finally, some speakers questioned the negative costs of some measures of prevention that are deemed effective. In particular, Dr. Phillips and Dr. Hemenway pointed out that access to dangerous weapons is a risk factor that can be addressed by legislation, but has implications of restricting freedom in the U.S. political climate. If costs can be calculated based on what society is willing to pay to prevent such violence, certain preventive interventions will always be deemed as having too high a cost.

4

Toward a Bigger Picture of the Costs of Violence

Despite difficulties in creating a universal framework that could comprehensively capture the total costs of violence, many workshop speakers considered some utility in enumerating some of the direct costs of violence and describing the potential impact of other types of costs, namely indirect and social costs. In particular, such an exercise serves to show an emerging picture of the larger costs of violence, beyond the immediate and obvious (see Boxes 4-1 and 4-2).

The division between direct and indirect costs was rough at best, in part due to differences in definitions and methodologies for calculation. However, speakers attempted to make such distinctions, expressing dollar values where such existed and exploring potential impact where numbers did not exist, even when values sometimes seemed contradictory. This chapter distinguishes roughly between enumerated and estimated costs for the purpose of organization, while recognizing that the distinction is often artificial and can obscure the fuller picture.

ENUMERATED COSTS

One of the most comprehensive overviews of the costs of interpersonal violence was presented by Dr. Hugh Waters of the RAND Corporation, who drew from a World Health Organization (WHO)–sponsored study exploring the costs of violence across multiple countries. The study reviewed more than 100 studies and determined that studies that included indirect costs yielded significantly higher numbers than those that looked only at direct costs. Dr. Waters further broke down the various categories of

BOX 4-1
A Bigger Picture of the Cost of Violence: The Case of Lily

Lily was a patient from Hot Springs, Arkansas, who moved to Chicago to care for her 16-year-old grandson because her daughter, his sole caregiver, was incarcerated. Lily suffered from a number of medical problems, with arthritis and diabetes as her most prominent complaints. Because of the severity of her arthritis pain, she was eventually prescribed a medication called Dilaudid, which is a hydromorphone that is stronger than morphine. Dilaudid comes in both pills and a sublingual form that can dissolve rapidly without entering the gastrointestinal (GI) tract.

In Chicago, Lily obtained employment in the mailroom of an office. About 3 months after her second visit to her physician, she complained that her pain seemed to be getting worse.

As it turned out, her grandson had been taking her medication and selling it on the street (Dilaudid in the sublingual form, such as the one she had been taking, has fairly high street value because it provides a rapid "high" and has no GI side effects). Her grandson was performing poorly in school and experiencing difficulties with other youth. He also tried to steal money from Lily for drugs and other illicit uses.

Because Lily's pain was not well-controlled, she began to experience difficulty at work, arousing the suspicion of her supervisors that she was falsifying claims of pain in order to obtain disability. She also began to experience harassment in the workplace and worried that she would be fired with no recourse available.

One day there was a fire drill in the building, requiring everyone to take the stairs. In the stairwell, someone pushed Lily and she fell, and she broke her hip. She had a complicated intratrochanteric fracture that took her to the hospital, where she underwent a difficult surgery. She experienced excess bleeding and a skin infection and developed pneumonia. Both her cognitive abilities as well as her physical function deteriorated rapidly, and she was admitted to a long-term care facility.

Because Lily was no longer at home, child protective services was called and her grandson was placed in foster care. Since she was no longer able to work, she could not pay her medical bills and had to sell her house and stay in the nursing home. About a year later, she passed away from a complicated pulmonary embolism, a clot from her legs that went to her lungs.

SOURCE: Vignette presented by XinQi Dong, Rush University Medical Center.

costs, details of which can be found in Chapter 6. Overall, he noted that in 2000, the total cost of interpersonal violence was $37 billion in the United States, a number that speaker Phaedra Corso of the University of Georgia also referenced (Corso et al., 2007). This total included medical costs and productivity costs only. The same study also stated that suicide and self-directed violence accounted for $33 billion in productivity loss and medical

BOX 4-2
A Bigger Picture of the Cost of Violence: The Case of Vi and Alex

Vi was a 36-year-old member of the school board, mother of an 8-year-old and wife to a state trooper, Alex, in Pulaski, Tennessee. She was shot by her husband under uncertain circumstances, which Alex initially stated were accidental. The bullet of the .357 magnum severed her spine, and left her a quadriplegic and unable to breathe without a ventilator. Following the shooting, evidence began to emerge that Vi and Alex had been experiencing domestic disputes and financial insecurity. Alex was reportedly unhappy about Vi's standing in the community as a member of the school board and was potentially abusing alcohol. When Vi decided to take steps to end the marriage, Alex allegedly sent their young child, Little Alex, outside to play and shot his wife.

Vi suffered tremendously from the injury, experiencing multiple infections, cerebral spinal leak, and severe psychological trauma. Her stay in the hospital required constant watch, and she was plagued by nightmares about dying. She also experienced psychological distress when her husband visited, torn between wanting to see him and being unable to come to terms with what he had done. When Vi left the hospital, she and her son went to stay with her sister, who was a nurse. Her sister undertook the complicated care required for Vi, as well as her son. Little Alex suffered from nightmares regarding his father and faced diminishing achievement at school.

Vi's husband, Alex, was tried for the attempted murder, but was acquitted. Vi filed a civil suit, and a jury awarded her several million dollars. She was unable to attend the trial, but resolved to be in court for the civil case, riding in the back of a moving van in her wheelchair from Chicago to Tennessee.

For the rest of her life, Vi experienced a number of costly medical problems as a quadriplegic and often received substandard care. Her ex-husband, Alex, continued to abuse alcohol, smoke excessively, and died several years later. Her son experienced pain and guilt for much of his adult life, often finding himself in unhealthy or violent relationships.

Vi spent the last part of her life in a long-term care facility, where she died in her sleep. She was buried next to her brother, also a victim of a violent shooting, in the town in which she was born.

SOURCE: Vignette presented by Mark Rosenberg, Task Force for Global Health.

costs. Dr. Waters indicated that specific risk factors, or what he termed "facilitators," accounted disproportionately for costs. For example, alcohol accounts for 8.3 percent of costs of violent crimes, and drug-related violent crime accounts for some $6 billion to $10 billion annually. Speaker Kevin Sabet of the White House Office of National Drug Control Policy also highlighted the impact of drugs as a risk factor for violence, stating that its pathway is triple: violence is related to pharmacologic changes, economic

motivation to procure further drugs, and illegal "turf" wars, suggesting that the costs can be much higher than simple calculations can specify.

Dr. Waters said that the costs of violence are borne by the public sector; in the United States, up to 80 percent of such costs are absorbed as unpaid or specifically covered by public financing. Speaker christie cunningham noted that the National Institute for Occupational Safety and Health (NIOSH) has estimated that workplace violence in the United States costs approximately $121 billion. Speaker and Forum member Michael Phillips stated that in terms of disability-adjusted life-years (DALYs), the global burden of violence equals at least that of diabetes, suggesting the impact of both are equally concerning. Dr. Corso shared evidence that violence can have an effect on the next generation, citing a study in which children of mothers experiencing intimate partner violence utilize health care at higher rates through the rest of their lives, regardless of whether the abuse occurred before or after the children were born (Rivara et al., 2007). In a similar vein, speaker and Forum member XinQi Dong of the Rush Medical Center noted that elder abuse is linked to greater utilization of emergency services, which is far more expensive to both the victim and the community (see Box 4-1).

These costs extend beyond the United States to other countries, where the burden of violence is more significant. Speaker and Forum member Arturo Cervantes of the Mexican Ministry of Health noted that the cost of violence in Mexico was estimated between $83 billion and $112 billion, depending on the cost calculation for "intangibles," or indirect costs that are difficult to measure. He also pointed out that the estimated cost of combating violence—for public and private security, private bribes, and other individual measures—was $815 per person, 10 percent of gross domestic product (GDP) per capita in Mexico. Speaker and Forum member Elizabeth Ward of the Jamaican Violence Prevention Alliance indicated that the cost of violence to Jamaica equaled 5 percent of GDP. In one particular instance, the extradition of a narcotics trafficker in 2010, which resulted in increased unrest and instability, was estimated to have cost (Jamaican) $23 billion; the majority of this loss was in the tourism sector, Jamaica's largest industry. Forum member Rodrigo Guerrero noted that violence in Colombia costs the equivalent of 15 percent of GDP.

Speaker Aslihan Kes of the International Center for Research on Women stated that intimate partner violence poses significant costs to society. Costs calculated in Uganda included the criminal justice, health, and political sectors and equaled about $5 per case. In Morocco, transportation costs were also included, resulting in $157 per case. Ms. Kes also noted that while these numbers may seem low, in relation to relative gross national product (GNP)—$350 in Uganda and $2,000 in Morocco—the costs are

significant and account for only one particular form of violence. For further information, see Chapter 7.

The Small Arms Survey's Global Burden of Violence 2008 estimates that the cost of nonconflict violence in 90 countries is about $95 billion, but may reach up to 0.14 percent of global GDP, as a measure of lost productivity. "Insecurity" related to armed conflict is estimated at an annual burden of $400 billion. The cost of lost productivity due to violence-related mortality varies from 0.74 percent of GDP in Latin America and the Caribbean to 0.02 percent in Southeast Asia (using a 5 percent discount rate). On the other hand, gains in life expectancy and productivity if violence had not occurred can be enormous, particularly in Latin America. Also, rebuilding institutions in the aftermath of violence, which is essential to preventing future violence, can yield additional economic benefit in measures of national productivity (Geneva Declaration Secretariat, 2008).

In a related area, Dr. Waters noted that research into the cost-effectiveness of interventions has shown promising results. For example, the Violence Against Women Act has been estimated to have saved more than $16 billion since its enactment, the majority of which has been in averted victims' costs. Dr. Waters also referenced other interventions that target juvenile offenders and yield economic benefits orders of magnitude beyond the costs that accrue to violence (and the investment in such interventions) and mentioned a gun registration law in Canada that saved almost $5 billion annually.

ESTIMATED COSTS

By far, speakers felt that those costs that are not easily enumerated in terms of financial cost, but whose impact are readily seen, constituted the bulk of the cost of violence. Such costs generally fall within the realm of social costs but can also include economic costs, which are difficult to measure, or social costs, which result in financial loss indirectly. Social costs include outcomes such as future violence or loss of social cohesion. Economic costs that are difficult to measure can include community divestment or loss of infrastructure, and indirect financial costs can be accrued by indirect victims who are affected by a violent environment without being directly victimized by violence. Such costs often cause a "domino effect" and result in other costs down the line. As speaker David Hemenway stated: "The cost of gun crime in the inner city is not just that somebody is dying and somebody has a traumatic brain injury … but it's the whole destruction of the entire city…. Gun violence today has a real cost because it increases the likelihood of gun violence a year from now."

Dr. Cervantes concurred, stating that violence causes a loss of trust among the citizenry in law enforcement and political leaders. Such a loss

of trust means an inability to use social services in the public sector, such as emergency services and the judicial system. This leads to a loss of social cohesion and distrust within the community itself and also places citizens at higher risk for being victimized by violence and for responding to violence outside the legal confines of society. Speaker Michael Phillips noted that self-directed violence correlates highly to loss of social cohesion, particularly in cultures where family and community ties are strong. He said that the indirect victims of suicide—the family members—often experience longer-term adverse outcomes such as trauma and trauma-related issues.

Speakers also described a set of costs in terms of missed opportunities, or diverted costs (in economic terms, opportunity costs). Such costs include those that are used to address violence, either the prevention before or the response after, which are diverted from other necessary programs or people. As an example, Dr. Waters pointed out that hospital operating costs such as infrastructure or salary, which are paid regularly, could be used to address other diseases instead of violence. This is particularly important in resource-constrained settings. Speaker Gary Milante from the World Bank agreed, noting that "fragile states" that are prone to social and economic distress often choose between addressing chronic violence or other obstacles to development, such as poverty, insecurity, or lack of healthcare infrastructure. The inability to address stressors because of lack of resources puts these same fragile states at risk of future violence. Arturo Cervantes of the Mexican Ministry of Health made a similar statement, pointing out that in Ciudad Juàrez, funds could be used to strengthen social development, but instead are needed to combat narcotics- and firearms-related violence. In a similar vein, a number of speakers highlighted the impact of violence on the Millennium Development Goals (MDGs). Speakers Juma Assiago and Elizabeth Ward mentioned that violence is impeding the achievement of MDGs, while Forum chair Jacquelyn Campbell and speaker Aslihan Kes specifically mentioned that intimate partner violence is an obstacle to the achievement of MDGs 3 (gender equality and women's empowerment) and 5 (maternal health).

Ms. Kes also addressed this issue of opportunity costs, particularly in light of the burden on women and the difficulty of enumerating the cost of violence against women. Because women tend to perform household or intermittent work, it is difficult to measure lost productivity. However, the cost of seeking care, addressing injuries, and other outcomes of intimate partner violence can be quite significant in terms of lost household productivity. Also, if a woman is the sole earner in the home, the costs are even more significant when she cannot work. Speaker Michael Wells of the U.S. Department of Education's Office of Safe and Drug-Free Schools shared similar concerns about opportunity costs related to school violence. Educational systems often have to divert costs to dealing with violence, such as

fixing damage and covering increased insurance costs. In turn, this means that fewer funds are allocated toward educational essentials (counselors, textbooks, or other needs) and high-quality staff is more difficult to retain. In addition, indicators of educational achievement fall, as students are distracted from studying or fear attending school.

Dr. Hemenway also referenced another category of estimated costs—avoidance or protection costs. He listed a number of examples, including changing work and going-out habits, not allowing children to play outside, moving businesses to safer neighborhoods, and utilizing "target hardening" measures, such as metal detectors in schools or the individual purchase of concealed firearms (which can increase the fragility of a community). These costs have further implications for neighborhood deterioration: businesses and wealthier individuals flee for safer neighborhoods, often in suburbs; loss of social capital, as young men are incarcerated; and increased unemployment, as businesses fail to invest (see Chapter 6 for more information). Dr. Cervantes highlighted an excellent example of this, stating that Juàrez, Mexico, has the highest perception of insecurity in the world: 90 percent of residents, as citizens, lack trust in the social institutions designed to protect them. Speaker Juma Assiago of UN Habitat reiterated this, pointing out that violence often stigmatizes neighborhoods, creates silos within cities, particularly in the development of "gated" neighborhoods, and increases extrajudicial response.

Speakers also discussed the impact of immediate and long-term costs on the community. Speaker Rachel Davis of the Prevention Institute noted that fear of violence affected behavior because people are afraid to go outside or let their children play outside. Businesses, such as grocery stores, fail to invest in violent neighborhoods, denying residents access to healthy food. Such an environment creates unhealthy eating and exercise habits, resulting in future costs down the line as residents are at high risk of diet- and activity-related health outcomes. Dr. Milante stated that violence has a persistent and often multiplying effect, disrupting social and economic development and continuing downward spirals. Evidence in fragile states points to an enormously high burden on vulnerable populations such as children, who are two times as likely to be undernourished and three times as likely to not attend school than children in stable states.

NEUROBIOLOGICAL EFFECTS AND LONG-TERM OUTCOMES OF VIOLENCE

Several speakers discussed the neurobiology of violence and its long-term physical and mental effects. Speakers noted that emerging evidence from the field of neuroscience suggests that violence, with its associated

trauma and toxic stress, changes the physiology and response mechanisms of the brain and body.

Speaker and Forum member Rowell Huesmann explored this concept in discussing the contagious nature of violence, or how violence can spread from person-to-person or community-to-community. He noted that individuals living in violent environments are socialized toward violence as a "normal" response, changing social structures and interpersonal relationships. Violence also increases aggression and aggressive behavior, which reinforces itself in a positive feedback loop, a concept both Drs. Milante and Hemenway identified at the community and societal levels as well. In particular, Dr. Huesmann referenced a longitudinal study from Columbia County, New York, which has been ongoing since 1960, and shows evidence of increased aggression in later life in children exposed to violence (particularly television violence). Dr. Huesmann also referenced his work in Israel and Palestine on aggressive behavior of youth in both places; the experience of living in a violence environment shows impact on aggression toward peers in each group. Further details can be found in Chapter 6.

Dr. Shonkoff explored some of the evidence of the neurobiological transformation that occurs as a result of violence (see Chapter 6 for more details). He described the natural physiological response to stress as evolutionary adaptation. For example, increased heart rate, shorter breathing pattern, high alert to external stimuli, and other processes are a result of the activation of the sympathetic nervous system to the perception of hazard in the external environment. When a person is exposed to high levels of stress for extended periods of time in childhood, the body learns to adapt and accepts the high level of arousal as typical. Over time, this becomes detrimental because the body wants to maintain these high arousal levels when they are no longer necessary. This biological embedding results in individuals who are more likely to aggress or to see aggression where there is none, to respond to nonstressful situations with violence or anger, and to experience adverse outcomes of chronic stress throughout life. In short, cumulative well-being for such individuals is less (Figure 4-1). As Dr. Shonkoff stated, "What was biologically adaptive becomes socially maladaptive." Dr. Shonkoff also noted two pathways that may occur simultaneously and can result in adverse health outcomes later in life—the first is that adversity in childhood can have behavioral effects that result in risk taking, and the second is that such adversity also has physiological effects that result in psychological disruption.

Dr. Shonkoff cited two studies showing long-term physiological effects related to child maltreatment. The first, the Adverse Childhood Experiences (ACE) study, is an ongoing study of a large cohort who self-reported abuse and neglect in childhood, which correlates to chronic health outcomes experienced in adulthood (Felitti et al., 1998). The second is a study from

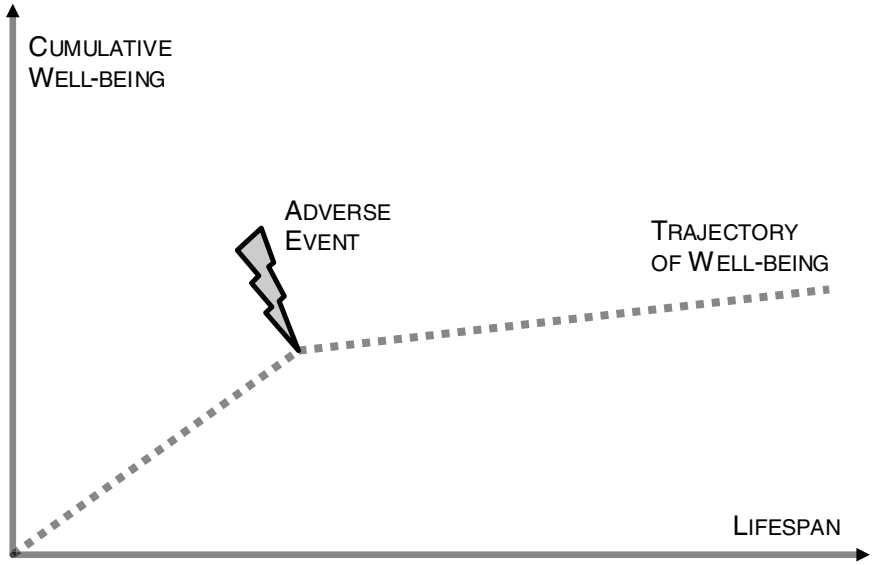

FIGURE 4-1 The effect of an adverse event on cumulative well-being over the life span.

Dunedin, New Zealand, which takes a life-course perspective on childhood events and later impact in life. One particular outcome, measurement of C-reactive protein, an inflammatory marker of heart disease, is increased in study participants who report child maltreatment earlier in life (Danese et al., 2007). This indicates the potential for inappropriate activation of the stress response to cause physiological changes in the body that can have effects decades later.

REFERENCES

Corso, P., J. Mercy, T. Simon, E. Finkelstein, and T. Miller. 2007. Medical costs and productivity losses due to interpersonal and self-directed violence in the United States. *American Journal of Preventive Medicine* 32(6):474-482.

Danese, A., C. M. Pariante, A. Caspi, A. Taylor, and R. Poulton. 2007. Childhood maltreatment predicts adult inflammation in a life-course study. *Proceedings of the National Academy of Sciences* 104(4):1319-1324.

Felitti, V. J., R. F. Anda, D. Nordenberg, D. F. Williamson, A. M. Spitz, V. Edwards, M. P. Koss, and J. S. Marks. 1998. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults—The Adverse Childhood Experiences (ACE) study. *American Journal of Preventive Medicine* 14(4):245-258.

Geneva Declaration Secretariat. 2008. *The global burden of armed violence*.

Rivara, F. P., M. L. Anderson, P. Fishman, A. E. Bonomi, R. J. Reid, D. Carrell, and R. S. Thompson. 2007. Intimate partner violence and health care costs and utilization for children living in the home. *Pediatrics* 120(6):1270-1277.

5

The Promise of Investing in Violence Prevention

Estimating the costs of violence serves two purposes: demonstrating the significant burden of violence on health and development, and highlighting the importance of early investment in preventive interventions that cost less to implement. Speakers highlighted a number of cost-benefit comparisons, as well as demonstrations of the value of prevention not only in averting costs but also in providing future benefit.

Interventions that prevent violence also prevent the realization of the costs of violence. Such primary interventions can be addressed to specific types or occurrences of violence, or they can strengthen prosocial behavior and community resiliency to prevent potential violence. Interventions can mitigate the impact of violence, prevent the recurrence of violence, or prevent long-term outcomes due to violence. These secondary and tertiary preventive interventions can yield enormous financial benefit. Interventions also have the unintended positive consequence of driving productivity and economic growth, thus providing even more benefit by increasing health and well-being.

Several speakers pointed out the importance of assessing the cost-effectiveness of interventions. Speaker Phaedra Corso of the University of Georgia emphasized the need to integrate cost-effectiveness into evaluations of programs. Speaker and Forum member David Hemenway of Harvard University highlighted the importance of collecting robust data to show where investment is cost-effective and why certain interventions are necessary even if they are not popular. Speaker Hugh Waters of the RAND Corporation noted evidence showing that interventions that address proximal factors are more cost-effective than those that address distal factors.

Speaker David Hawkins of the University of Washington gave an example of the State of Washington deciding to cut funding for a new prison from its budget upon reviewing cost-benefit analysis for prevention and instead putting additional funds toward violence and crime prevention.

Speakers addressed the importance of interventions that emphasized prosocial behavior and resiliency as a means of providing coping mechanisms in the face of everyday stress, adversity, or violence. Speaker Theresa Betancourt of Harvard University discussed her ongoing work with war-affected youth in Sierra Leone (further information can be found in Chapter 7), noting that children formerly associated with armed groups who underwent formal reintegration adapted better to post-conflict community life. She stressed the importance of a "safe place," a sentiment that speaker Mindy Fullilove of Columbia University also expressed. The formal demilitarization process in Sierra Leone provided such a space via interim care centers, before youth were reunited with their families. This process was intended to help facilitate healthy reconnection with family and community members. Dr. Betancourt emphasized that one of the most critical findings of the study was that the long-term mental health of war-involved youth was influenced not only by past war experiences, but also by ongoing stressors in the post-conflict environment, again underscoring the importance of "place" and the larger social ecology. For instance, exposure to toxic violence (such as rape or being forced to injure/kill others) was associated with increased hostility over time and deficits in interpersonal functioning, but these deficits were further compounded by community stigma. Furthermore, loss of a caregiver during war was associated with increases in internalizing problems (e.g., depression and anxiety) over time, but further exacerbated by family abuse and neglect and daily hardships such as food and housing insecurity. The research also identified several malleable protective factors, such as access to school, community acceptance, and adequate social support all of which have the potential to serve as key leverage points for intervention. Again, underscoring the importance of "place," community acceptance was observed to have beneficial effects on all mental health outcomes investigated (see Box 5-1).

Speaker and Forum member Elizabeth Ward of the Violence Prevention Alliance in Jamaica also spoke to the importance of enforcing prosocial behavior and messaging. Unattached youth in Jamaica—those who are not employed, are not in school or training, and face high rates of violence—fare better and are more empowered if they have received prosocial messaging at home or at school than those who did not. Dr. Ward pointed out that keeping youth in school prevents them from joining gangs, and learning to read reduces aggression. The cost of after-school programs in Jamaica is approximately 45,000 Jamaican dollars per year, while a specific literacy program costs about 3,000 Jamaican dollars. On the other hand, caring for a

BOX 5-1
Impact of Prosocial and Resiliency Factors: The Stories of Sahr and Amina

In 1991-2002, Sierra Leone experienced a civil war that displaced up to 75 percent of the population. An estimated 20,000 youth were associated with armed groups, many with the Revolutionary United Front (RUF), but only 7,000 underwent formal Disarmament, Demobilization, and Reintegration (DDR). DDR provided interim care centers that offered care and support, community sensitization, preparation for reintegration, and follow-up.

Sahr was abducted by the RUF at age 7; he is now 17. For 4 years, he was forced to spy and gather information and was force-fed drug-laden food. He witnessed massacres, rapes, bombings, and amputations. After the war ended, Sahr lived with a foster mother for 2 years (but not through DDR) before reuniting with his grandmother, uncle, and mother, who experienced depression. He had trouble reintegrating into the community and was considered "troublesome" by his uncle. The community ridiculed and harassed him, and individuals administered beatings as discipline. Sahr had difficulty coping with everyday stress and dropped out of school. He was prone to aggression against others, sometimes threatening with a knife. His mother does not know his current whereabouts.

Amina was 10 years old when abducted by the RUF; she is now 23. She served as a supply carrier and cook, was beaten frequently, and now has a deformity. She was forced to take drugs and participated in amputations. After the war, she participated formally in DDR and reunited with her mother and grandmother; she has a child but no partner. Her mother was a teacher and provided a tremendous amount of support. Amina initially had difficulty reintegrating, but her mother stood as a strong advocate. She now reports no problems within the community, succeeds in school, and feels good about the future.

SOURCE: Vignettes presented by Theresa Betancourt, Harvard University.

gunshot wound in a hospital costs half a million Jamaican dollars; keeping a child in a foster home costs more than 1 million dollars; and the cost of incarcerating a male young person is 800,000 Jamaican dollars. Education, job training, and other skill building are relatively cheaper to implement than the cost of addressing violence after it occurs (further details can be found in Chapter 7). Such interventions also yield potential financial benefit in their own right—providing skilled workers for the workforce and driving economic growth. Speaker Ivan Juzang of MEE Productions agreed with the importance of highlighting prosocial messaging as well as developing coping strategies at both the individual and the community levels. He noted that his programs emphasize the development of a "plan," because having goals and objectives can make a violent event seem less traumatic. Speaker and Forum member Rodrigo Guerrero also highlighted the importance of

prosocial messaging, particularly at the community and family levels. In an intervention conducted in Colombia, the use of media to display messages about parenting and interpersonal relationships showed a reduction in the rates of self-reported child maltreatment, including physical and verbal abuse.

Speaker David Hawkins of the University of Washington noted the importance of empowering the community in preventing violence. He described the program Communities That Care (CTC) and explored its successes in terms of community involvement. CTC points to two important actions that ensure success. The first is assessment to determine whether a community has the motivation and resources to implement the program (and what might be needed to do so). The second is a focus on applying evidence-based intervention models that match the community's assessed needs. Thus, the integration of community involvement and evidence-based prevention ensures more dramatic results. Dr. Hawkins shared results showing up to 25 percent reduction of juvenile delinquency in communities that had implemented the program. He mentioned that one factor for success was the ability to address the violence component, thereby allowing youth to focus on skill building, developing healthy relationships, and increasing educational achievement. Dr. Hawkins also shared the financial benefit of CTC, including an estimated return on investment of $5 per child (which includes reductions not just in violence but also in smoking and other risky behaviors) and an estimated benefit of $5,000 per child over 10-15 years by reducing delinquency. Further information about CTC can be found in Chapter 8.

Speaker Rachel Davis highlighted several points of evidence showing the reduction in costs by investing in violence prevention. She cited a preschool program estimated to show a return of $16 per dollar invested; participants also had significantly fewer encounters with the legal system than nonparticipants. Ms. Davis stated that violence prevention was the single most effective way to promote economic development in communities, showing a multiplier effect of prevention—averting costs and providing additional benefits. She further detailed this multiplier effect by explaining that investment in preventing violence resulted in reduction of severity not only of the targeted outcome, but also of associated outcomes. Further information on assessing value in prevention can be found in Chapter 8.

The importance of investment in early intervention was also highlighted by speakers who discussed the neurobiology of trauma. Speaker Jack Shonkoff of Harvard University emphasized the importance of addressing the biological embedding of the stress response to violence at sensitive periods. He noted that while chronic stress can have a long-term impact, certain stages in neurodevelopment are more vulnerable to impact than others, and identifying and protecting these moments could provide resilience or reduce

the longer-term impact of stress. He also pointed out that the physiological changes and psychological disruption that occurs due to violence cannot be addressed by behavior change interventions later in life without significant cost; at best, they will only have limited success. Gary Milante of the World Bank noted that this biological developmental mechanism was similar to a social developmental one, in which strong institutions in countries served as protective factors, much like a relationship or a social support system. Mindy Fullilove made a similar comparison, saying that a city affected by violence deteriorates, leading to future violence and a collective decision-making paralysis. Juma Assiago noted that this highlights the importance of framing public safety as a common good.

Part II

Papers and Commentary from Workshop Speakers

6

Direct and Indirect Costs of Violence

While no methodology exists to enumerate the full extent of the impact of violence, some costs can be estimated. These costs are roughly divided into direct costs, or those arising immediately or proximally to the violent event, and indirect costs, or those that result as a consequence, externality, or loss of opportunity. Direct costs are more readily quantifiable and tend to fall into traditional categories of medical and nonmedical costs and productivity costs. Indirect costs indicate impact beyond direct victims and perpetrators and also include indirect victims and often society at large. However, some costs can be categorized in either way, suggesting that a definitive line between the two does not truly exist.

The first paper is an overview of the costs of interpersonal violence around the world. This represents a comprehensive survey that includes a large number of data sources. It attempts to place the costs within a context by which comparisons across regions can be made.

The second paper discusses the costs and implications of elder abuse, an often-overlooked type of violence. Elder abuse, which can encompass more than just physical and psychological violence, is poised to have enormous impact as populations around the world age.

The third paper looks at a major risk factor for violence—firearms. The impact of gun-related violence extends beyond the home and immediate victims, but affects the neighborhood and community as well. This paper examines the indirect and more diffuse costs of such violence.

The fourth paper explores a similar concept of social costs by examining the contagious nature of violence. Violence does not occur in a vacuum, and often the undercurrent or environment of violence normalizes violent

response in other settings. As well, witnessing or being a victim of violence can increase the risk of future violence.

The final paper lays out the significant impact of violence at early stages of child development, by examining violence and its effects along the life span. Violence, resulting in traumatic stress, can have psychological and physiological effects on the brain and body, some of which can manifest much later in life. Mitigating these effects requires early intervention.

THE COSTS OF INTERPERSONAL VIOLENCE—AN INTERNATIONAL REVIEW[1]

Hugh Richard Waters, Ph.D.
Johns Hopkins Bloomberg School of Public Health
Adnan Ali Hyder, M.D., M.P.H., Ph.D.
Johns Hopkins Bloomberg School of Public Health
Yogesh Rajkoti, Ph.D., M.Sc.
Johns Hopkins Bloomberg School of Public Health
Suprotik Basu, M.H.S.
The World Bank
Alexander Butchart, Ph.D., M.A.
World Health Organization

Abstract

This article reviews evidence of the economic impact of interpersonal violence internationally. In the United States, estimates of the costs of interpersonal violence reach 3.3 percent of the gross domestic product (GDP). The public sector—and thus society in general—bears the majority of these costs. Interpersonal violence is defined to include violence between family members and intimate partners, as well as violence between acquaintances and strangers that is not intended to further the aims of any formally defined group or cause. Although these types of violence disproportionately affect poorer countries, there is a scarcity of studies of their economic impact in those countries. International comparisons are complicated by the calculation of economic losses based on forgone wages and income, thus undervaluing economic losses in poorer countries.

[1] Reprinted from Waters, H. R., A. A. Hyder, Y. Rajkotia, S. Basu, and A. Butchart. 2005. The costs of interpersonal violence—An international review. *Health Policy* 73(3):303-315.

Introduction and Methods

This article systematically reviews peer-reviewed literature related to the economic consequences of interpersonal violence internationally. Although much of the available literature concerns high-income countries, violence disproportionately affects low- and middle-income countries, where an estimated 90 percent of all violence-related deaths occur (Krug et al., 2002).[2] As a result, the economic effects of violence are also likely to be proportionally more severe in poorer countries.

This article defines interpersonal violence as violence between family members and intimates and violence between acquaintances and strangers that is not intended to further the aims of any formally defined group or cause. Self-directed violence, war, state-sponsored violence, and other collective violence are specifically excluded from these definitions.

We conducted a comprehensive literature search to identify published estimates of the cost of interpersonal violence, using electronic databases, governmental and nongovernmental websites, and contacts with knowledgeable individuals working in the fields of violence prevention and economic evaluation. After initial electronic searches, additional sources were identified through the reference lists of collected articles and reports. The details of this search—including keywords used for electronic searching and experts consulted—are provided in the acknowledgments. The search was conducted without restrictions on the language of publication and included publication dates from January 1980 to September 2004.

To categorize studies by type of interpersonal violence, we adapted the definitions of the most prevalent categories of interpersonal violence described in the 2002 World Report on Violence and Health, as shown in Table 6-1.

Studies documenting the economic effects of interpersonal violence have used a broad range of categories of costs. We have divided cost categories broadly into "direct" costs and benefits—those resulting directly from acts of violence or attempts to prevent them—and "indirect" costs and benefits. The most commonly cited direct costs are medical care and the costs of the judicial and penal systems (policing and incarceration). Indirect costs include the long-term effects of acts of violence on perpetrators and victims, such as lost wages and psychological costs, also referred to as pain and suffering (Hornick et al., 2002).

We converted all monetary results to 2003 U.S. dollars to enable comparisons and to adjust for inflation and varying exchange rates. Values

[2] Countries are classified by income level using the following categories from the *2004 World Development Report* (World Bank, 2004): low-income = $745 per capita or less; lower middle-income = $746 to $2,975; upper middle-income = $2,976 to $9,205; high-income = $9,206 or more.

TABLE 6-1 Types of Interpersonal Violence

Child abuse and neglect	Child abuse or maltreatment constitutes all forms of physical and/or emotional ill-treatment, sexual abuse, neglect or negligent treatment, or commercial or other exploitation, resulting in actual or potential harm to the child's health, survival, development, or dignity in the context of a relationship of responsibility, trust, or power
Intimate partner violence	Any behavior within an intimate relationship that causes physical, psychological, or sexual harm to those in the relationship
Abuse of the elderly	Act of commission or of omission, intentional or unintentional, of a physical nature; it may be psychological (involving emotional or verbal aggression), or it may involve financial or other material maltreatment Regardless of the type of abuse, it will certainly result in unnecessary suffering, injury, or pain; the loss or violation of human rights; and a decreased quality of life for the older person
Sexual violence	Any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic, or otherwise directed, against a person's sexuality using coercion, by any persons regardless of their relationship to the victim, in any setting, including but not limited to home and work
Youth violence	Violence committed by or against people between the ages of 10 and 29 years
Workplace violence	Physical or psychological behavior directed against coworkers, including bullying, sexual harassment, threats, and intimidation

SOURCE: Adapted from Krug et al., 2002.

expressed in other currencies in original documents, and U.S. dollar values from previous years, have been converted to 2003 U.S. dollars using the U.S. consumer price index and applicable international exchange rates from the year of the original estimates. Costs expressed as a percentage of the GDP were calculated using the GDP from the year the costs were reported.

Findings

There are widely varying estimates of the cost of violence internationally, depending on the definitions used, the types of costs included, and the methodologies used. The U.S. Department of Justice (1994) reported estimated direct costs of violent crime to victims resulting from short-term medical expenses and work loss. These estimates were based on responses to the National Crime Victimization Survey (NCVS), an annual survey based on 100,000 interviews with crime victims. These costs amounted to

$1.8 billion, 0.02 percent, of the U.S. GDP in 1994. When indirect costs are included, estimates of the costs of violence in the United States are substantially higher. Miller et al. (1993) estimated an annual cost of intentional injuries of $84.1 billion in the United States for 1987-1990. Throughout the literature on the costs of violence, psychological costs greatly outweighed the direct costs of violence—partially explaining the wide variance in the estimates that are available.

Miller et al. (2001) estimated that lost earnings, psychological costs, and the opportunity cost of victims' time, in addition to the costs of policing, incarceration, and life insurance in the State of Pennsylvania, equaled $14.2 billion. Separately, Miller et al. (1996) estimate a total annual cost to victims of personal crime in the United States—including domestic violence, sexual assault, rape, and child abuse—of $507 billion. This estimate, which includes psychological costs of pain and suffering, is equivalent to 6.5 percent of GDP, or $1,100 per person in the United States. Brand and Price (2000) estimated total costs from crime of $63.8 billion in England and Wales. Sixty-three percent of this amount was attributable to violence—including homicide, wounding, and sexual assault. This tally includes both direct costs such as police and judicial system costs and indirect costs that included forgone output and physical and emotional costs.

Estimates from other high-income countries are more conservative. The Australian Institute of Criminology (2003) reported national annual costs for assault of $159 million, an estimate that did not include indirect costs and was based largely on the costs of incarcerating offenders. Similarly, the cost of homicide in Australia was calculated at $194 million per year, based on a cost per homicide of $602,000 (Walker, 1997). Fanslow et al. (1997) calculated the economic cost from homicide in New Zealand: when lost earnings, legal fees, incarceration, and policing were included, the cost per homicide was $829,000 for a total of $67.9 million.

There are few documented estimates of the costs of violence in low- and medium-income countries. Additionally, comparisons with high-income countries are complicated by the fact that economic losses related to productivity tended to be undervalued in lower-income countries since these losses were typically based on forgone wages and income. For example, Phillips (1998) calculated the cost of homicides in the Western Cape Metropolitan Area in South Africa. Using a 4 percent rate to discount future productivity and opportunity costs, he calculated a cost averaging $15,319 per homicide, sharply lower than the United States, United Kingdom, Australian, and New Zealand estimates above.

The Inter-American Development Bank (IDB) has spearheaded efforts to systematically document the costs of both interpersonal and collective violence in the Americas. Central America has been particularly affected. In 1995, El Salvador spent 6 percent of the gross national product (GNP) to

TABLE 6-2 Costs of Social Violence in Latin America

Country	1997 GDP Lost Due to Social Violence (%)
Brazil	10.5
Colombia	24.7
El Salvador	24.9
Mexico	12.3
Peru	5.1
Venezuela	11.8

NOTE: Definition of violence includes collective violence (Buvinic et al., 1999). GDP = gross domestic product.

control violence (Buvinic and Morrison, 1999). As part of the IDB's work, Buvinic et al. (1999) reported estimates of economic losses due to social violence—including collective violence—in a variety of countries (see Table 6-2). These losses ranged from 5.1 percent of GDP in Peru to 24.9 percent in El Salvador, which was still in the throes of guerrilla war in the mid-1990s when the data were generated. The estimates included lost earnings, the opportunity cost of time, policing, incarceration, judicial costs, forgone investments in human capital, and effects on investment.

Child Abuse and Neglect

The extent of child abuse and neglect is difficult to gauge since much if not most of it is unreported. The 2002 *World Report on Violence and Health* (WHO, 2002) estimates that the rates of homicide of children under 5 years of age were 2.2 per 100,000 for boys and 1.8 per 100,000 for girls in high-income countries. In low- and middle-income countries, the corresponding rates are 6.1 and 5.1 per 100,000, respectively, for boys and girls. In Africa, the rates are 17.9 per 100,000 for boys and 12.7 per 100,000 for girls (Krug et al., 2002). Many of the estimates of the costs of child abuse available in the literature are from the United States (see Table 6-3).

The cost of child abuse ranges widely and depends on the mix of direct and indirect costs used to calculate it. Courtney (1999) calculated a figure of $14 billion for direct costs, including counseling and child welfare services resulting from child abuse in the United States. The U.S. Department of Health and Human Services (2001) calculated the costs of child abuse and maltreatment in Colorado to be $468 million—of which indirect costs represent 53 percent.

There is a considerable range of estimates of individual-level treatment costs for child abuse, depending on the types of costs included. On

TABLE 6-3 Costs of Child Abuse

Study	Study Location and Population	Cost Categories Included (indirect costs in italics)	Total Annual Costs (2001 US$)
Courtney, 1999	United States, maltreated children and their families	Direct medical (including counseling)	$14.0 billion
Evasovich et al., 1998	United States, Ohio (4 counties), children referred to social services for suspected child abuse (n = 104)	Direct medical, legal fees (court costs, fines)	$0.3 million; $2,884 per child
Forjuoh, 2000	United States, Pennsylvania, 1995, hospital discharge data (n = 348 children)	Direct medical	$6.3 million; $18,103 per child
HHS, 2001	United States, Colorado, 1995	Direct medical, legal services, incarceration, workers' productivity, lost earnings, and opportunity cost of lost time	$17.4 million
Irazuzta et al., 1997	United States, West Virginia, 1991-1994, pediatric ICU admissions (n = 13)	Direct medical	$0.6 million; $42,518 per child
Libby et al., 2003	Head trauma patients from Colorado hospital discharge database, 1993-2000	Direct medical	Mean charges of $4,232 more than those with unintentional head trauma
New and Berliner, 2000	United States, Washington State, 1994, mental health treatment costs compensated by crime victims compensation program (n = 608 children)	Direct medical	$1.2 million; $1,891 per child
Rovi et al., 2004	United States, national sample of inpatients through the healthcare costs and utilization project, 1999	Direct medical	Mean charges of $19,266 compared to $9,513 for other hospitalized children
Summers and Molyneux, 1992	United Kingdom, 1990, children hospitalized (n = 181)	Direct medical examinations only	1990 GB£63,500
Yodanis et al., 2000	United States, Washington State, randomly selected sample of women (n = 1,225) enrolled in an HMO; 42.8 percent maltreated as children	Direct medical	$9.1 million; $17,356 per child

NOTE: HMO = health maintenance organization; ICU = intensive care unit.

the high end, Irazuzta et al. (1997) calculated treatment costs per child of $42,518 based on daily hospital charges of $6,317 in a pediatric intensive care unit in Charlestown, West Virginia. Forjuoh (2000), working with discharge data from acute care hospitals in Pennsylvania, calculated a mean hospitalization cost of $18,103 per child abuse victim—comparable to a cost $19,266 per discharge found by Rovi (2004), working from a national survey of inpatients. Plontnick and Deppman (1999) calculated an average cost of $12,028 for hospitalizing an abused child for one week.

Evasovich and Klein (1998) studied the costs of medical care and related legal fees for children admitted to the burns unit at the Children's Hospital Medical Center in Akron, Ohio, and found costs totaling $13,781 per child. Public funds paid for 65 percent of these costs. New and Berliner (2000) examined claims paid by the Crime Victims Compensation program in Washington State and calculated mental health treatment costs of $2,921 per child, with counseling services costing between $70 and $90 per hour, exclusive of hospitalization or other healthcare costs. There are few estimates available of the cost of child abuse internationally. Mendonca et al. (2002) measured hospital costs due to violence against children and adolescents in Pernambuco State, Brazil. The mean cost of hospitalization for children and adolescents was $184. Violence against children and adolescents in greater metropolitan Recife, the principal city in the state, accounted for 65.1 percent of hospital admissions and 77.9 percent of hospital costs.

Intimate Partner Violence

The true extent of intimate partner violence is unknown. Surveys suggest a wide range in prevalence, but the results are difficult to compare given cultural differences and social taboos in responding to questions (see Table 6-4). In Paraguay and the Philippines, 10 percent of women surveyed reported being assaulted by an intimate partner (Heise et al., 1999), compared to 22 percent in the United States (Tjaden and Thoennes, 2000), 29 percent in Canada, and 34 percent in Egypt (El-Zanaty, 1996). Other studies have shown that 3 percent or less of women in Australia, the United States, and Canada had been assaulted by a partner in the previous 12 months, compared to 27 percent of ever-partnered women in South Korea and 53 percent of currently married women in the West Bank and Gaza (Krug et al., 2002).

There are complex methodological issues involved in measuring the economic impact of intimate partner violence. Many, if not most, incidents of intimate partner violence go unreported, and the effects of such abuse on investments in human capital and productivity inside and outside the home are difficult to estimate (El-Zanaty, 1996). Studies have documented

TABLE 6-4 Costs of Intimate Partner Violence

Study	Study Location and Population	Cost Categories Included (indirect costs in italics)	Total Annual Costs (2001 US$)
Coker et al., 2004	United States, Medicaid-eligible women in Houston	Direct medical costs (physician, drug, and hospital)	Mean difference between high-IPV and no-IPV women of $1,064
Day, 1995	Canada, data drawn from surveys	Direct medical costs (dental costs also), lost earnings and opportunity cost of time, other monetary costs, psychological costs	$1.2 billion
Mansingh and Ramphal, 1993	Jamaica, Kingston public hospital, 1991	Costs for treating victims of intimate partner violence, direct medical costs	$454,000
New and Berliner, 2000	United States, Washington State, 1994, 318 women; victims compensated by the crime victims compensation program	Direct medical costs (mental health treatment costs)	$3,087 per patient (median 15 sessions)
Snively, 1994	New Zealand	Direct medical costs, welfare, legal, policing	$3,087 per patient (median 15 sessions)
Stanko et al., 1998	United Kingdom, borough of Hackney, 1996	Public services only, policing, legal, medical costs, other monetary costs (housing, refuge, social services)	$717,000
Wisner et al., 1999	United States, Minnesota, 1992-1994, 126 victims of intimate partner violence in a large health plan	Direct medical costs	$4,341 per patient

NOTE: IPV = intimate partner violence.

per-case direct treatment costs for intimate partner violence, but this type of study is only possible for those victims who have contact with the healthcare system. New and Berliner (2000) found that women who were compensated through the Crime Victims Compensation Program

in Washington State averaged $3,087 for mental health treatment and counseling costs.

Day (1995) comprehensively calculated the aggregate costs of violence against women in Canada. Including healthcare costs, policing, legal fees, incarceration, lost earnings, and psychological costs, violence against women cost an estimated $1.2 billion. In these calculations, medical and dental visits are assigned a value of $67, a probable underestimate—so the total costs are likely to be higher than reported.

As a percentage of GDP, estimates of the costs of intimate partner violence are considerably higher in low- and middle-income countries than in high-income countries. Morrison and Orlando (1999) calculated the costs of domestic violence against women based on stratified random samples of women in Chile and Nicaragua. Based only on the lost productive capacity of these women, they extrapolated total costs of $1.73 billion in Chile and $32.7 million in Nicaragua—equivalent to 1.6 percent of GDP in Nicaragua and 2 percent of GDP in Chile.

Stanko et al. (1998) counted the costs of public services—including policing, court costs, medical care, and refuge—spent in the year 1996 on responses to domestic violence against women in the borough of Hackney in the United Kingdom. They estimated these costs to be $13.3 million for the borough, averaging $159 per household.

Sexual Violence

As with intimate partner violence, the costs of sexual assault are difficult to document systematically—given that many such assaults go unreported. As a result, most documented calculations are likely to be underestimates. Many of the published studies are based in the United States (see Table 6-5). The estimates vary widely, depending on the cost categories included and methods used. For example, Cohen (1988), using pain and suffering awards from more than 100,000 jury decisions in the United States, calculated that the annual aggregate direct and indirect costs of rape were $14.9 billion—equivalent to 0.2 percent of GDP.

In contrast, the U.S. Department of Justice (1994) calculated the economic losses of rape as $33 million, based on reported direct medical costs and lost earnings, though this estimate did not include psychological costs. For costs at the level of individual rape victims, Miller et al. (1993) used the NCVS to calculate a total cost of $85,000 per rape.

Workplace Violence

Violence at or related to the workplace extracts a significant economic toll (see Table 6-6), but studies of its magnitude are not well developed

TABLE 6-5 Costs of Sexual Violence

Study	Study Location and Population	Cost Categories Included	Total Annual Costs (2001 US$)
Cohen, 1988	United States, pain and suffering data from more than 100,000 jury decisions	Direct medical costs, lost earnings and opportunity costs of time, psychological costs, other nonmonetary costs	Cost of rape, $14.9 billion
Miller et al., 1993	United States, NCVS, all victims of non-fatal physical and psychological injury, 1987-1990	Direct medical costs, life insurance costs, victim compensation costs (jury awards), employment and workers' productivity, psychological costs, lost earnings, and opportunity costs of time	Costs per rape, $85,000
U.S. Department of Justice, 1994	United States, NCVS	Direct medical costs, lost earnings, and opportunity cost of time	Cost of rape, $33 million

and are hampered by measurement difficulties and nonstandardized methodologies. McCall and Horwitz (2004) found that in Oregon the rate of reported incidents of workplace violence was 1.86 per 10,000 employees annually, with female workers and those under age 35 experiencing the most violence.

There is a wide range of estimates of how much interpersonal violence-related absenteeism, together with related medical care and productivity losses, costs employers and society in general. Internationally, a non-peer-reviewed report commissioned by the International Labor Organization (ILO) on the costs of violence and stress in work environments estimates that losses from stress and violence at work represent from 1 to 3.5 percent of GDP over a range of countries (Hoel et al., 2001).

Biddle and Hartley (2002) studied the costs of homicides in the workplace in the United States and calculated an annual cost of approximately $970 million. This estimate included the lost earnings of victims extrapolated to the age of 67. Hashemi and Webster (1998) reviewed a random sample of nonfatal workplace violence claims filed with a large workers' compensation insurance carrier. They calculated $26.5 million in annual costs to the insurer, based on 7,173 compensated claims, or $3,694 per

TABLE 6-6 Costs of Workplace Violence

Study	Study Location and Population	Cost Categories Included	Total Annual Costs (2001 US$)
Biddle and Hartley, 2002	United States, all occupational homicide deaths from national traumatic occupational fatalities (NTOF) surveillance system 1980-1997	Direct medical costs, lost earnings, and opportunity costs of time	Cost of workplace homicides, $970 million
Hashemi and Webster, 1998	United States, 600 nonfatal workplace violence claims, randomly selected	Direct medical costs, lost earnings and opportunity cost of time employment and workers' productivity psychological costs, other nonmonetary costs	Costs per workplace compensation claim, $3,694
McCall and Horwitz, 2004	United States, 2,028 workers' claims of workplace violence in Oregon 1990-1997	Direct medical costs, lost earnings and opportunity cost of time, employment and workers' productivity	$6,200 average per claim

claim. McCall and Horwitz (2004) found a cost to insurers of $6,200 average per claim in Oregon.

Youth Violence

Youth violence is defined as violence committed by or against individuals between the ages of 10 and 29. In 2000, an estimated 199,000 youth homicides were committed globally—9.2 per 100,000 people. This rate varied from 0.9 per 100,000 in high-income countries to 17.6 in Africa and 36.4 in Latin America. Based on studies of nonfatal violence, it was further estimated that for every youth homicide there are 20-40 victims of nonfatal youth violence receiving hospital treatment (Krug et al., 2002).

Miller et al. (2001) analyzed violent crimes committed in Pennsylvania in 1993, finding that juvenile violence accounted for 24.7 percent of all violent crimes and 46.6 percent of the total victim costs from violent crime. Juvenile crime resulted in $6.6 billion in costs to victims—including quality-of-life and productivity losses. Cohen (1998) reviewed the costs of crimes committed by juveniles. He estimated that a typical crime committed by a juvenile resulted in $16,600 to $17,700 in costs to the victim, plus $44,000

in costs to the criminal justice system. Adding these costs to the forgone economic contributions of incarcerated criminals, he calculated that the total cost to society of one youth reverting to a life of crime ranged from $1.9 million to $2.6 million—based on 68-80 crimes committed. Interventions to prevent high-risk youth from becoming career criminals are therefore likely to be highly cost-effective (see Table 6-7).

Violence Facilitators: Guns, Alcohol, Drugs, and Gangs

Guns, gangs, alcohol, and drugs all show up in the literature as major facilitators for interpersonal violence. Access to guns is without question a leading facilitating factor. Most estimates of the economic impact of gun violence include suicide. In the United States, there is clear evidence to show that the overall toll of gun violence is very high. More than 30,000 people die annually from firearms injuries in the United States; these injuries are the second leading cause of death for individuals aged 15-34 (Gunderson, 1999).

Max and Rice (1993) calculated the annual costs of firearm injuries in the United States at $27.3 billion, including direct medical care and lost productivity with a 6 percent discount rate; 85 percent of this amount was due to lost productivity. They based their estimates on a variety of sources, including the National Mortality Detail File and the National Medical Care

TABLE 6-7 Costs of Youth Violence

Study	Study Location and Population	Cost Categories Included	Total Annual Costs (2001 US$)
Cohen, 1998	United States, youth criminals (data from other studies)	Costs of incarceration, direct medical costs, lost earnings and opportunity costs of time, employment and workers' productivity, psychological costs	Cost per youth resorting to life of crime, $1.9 million to $2.6 million
Miller et al., 2001	United States, violent juvenile crimes committed in Pennsylvania in 1993 (n = 93,000)	Direct medical costs, lost earnings and opportunity cost of time, employment and workers' productivity, psychological costs, other nonmonetary costs	Costs per workplace compensation claim, $3,694

Utilization and Expenditure Survey. Miller and Cohen (1997) included psychological costs and the value of quality of life and arrived at a significantly higher estimate for the toll of gun-related violence in the United States—$155 billion, or 2.3 percent of GDP. They also calculated that, on a per capita basis, the costs of gun violence in Canada were 36 percent of the U.S. figure. Using individuals' expressed willingness to pay for decreases in gun violence, Ludwig and Cook (2000) calculate that gun violence cost $100 billion a year, including indirect costs such as increased security and psychological effects.

Hospital-based studies have also found a heavy economic toll related to gun violence. In a study of 9,562 patients discharged from California acute care hospitals after treatment for firearm-related injuries, Vassar and Kizer (1996) found mean hospital charges of $23,187 per patient; 56 percent of the patients were paid for through publicly financed insurance. Cook et al. (1999) studied 800 cases of gunshot injuries treated in emergency rooms across the United States. Using discharge information they calculated average medical costs of $20,304 per gunshot victim. With a 3 percent discount rate, lifetime medical treatment costs per person amount to $37,000-$42,000.

Mock et al. (1994) studied gunshot wounds at a regional hospital in Seattle, Washington, from 1986 to 1992. They found direct average hospital charges of $17,367 for gunshot victims, compared to $7,699 for stab victims (2001 dollars). They argued that if guns were eliminated—even with the same level of violence occurring through stab wounds—$1.5 million would be saved annually at that hospital alone. Seventy-six percent of these savings would be of public sector funds. There are few estimates of the costs of gun violence outside of the United States and Canada. A study at the Groote Schurr Hospital in Cape Town, South Africa, found that direct medical costs averaged 30,628 rand—$10,308 in 2003 U.S. dollars—per gunshot victim (Peden and Van der Spuy, 1998).

Alcohol and drugs are also leading contributors to violence and its costs. Based on the NCVS and Survey of State Prison Inmates, alcohol use was a factor in 25 percent of assaults for victims hospitalized in Vermont, with average hospital charges of $420—19 percent of which was paid by public sources and 54 percent of which was unpaid. Crime committed under the influence of drugs, or to obtain money to purchase drugs, amounted to $103.6 million, or 25.7 percent of the total for violent crime. The National Crime Prevention Council (1999) estimated that the cost of all drug-related crime, including productivity costs, amounted to $60 billion to $100 billion annually in the United States. Violent crime accounted for approximately 10 percent of this figure.

Gangs are described as significant violence facilitators in several studies of the costs of violence (Tellez et al., 1995). Song et al. (1996) systematically

categorized patients suffering from gang-related violence in the University of California, Los Angeles (UCLA) Medical Center. They found 272 cases of gang-related gunshot injuries over a 29-month period from 1992 to 1994. These injuries resulted in an average of $21,200 in direct medical charges. For 58 percent of these charges, there was no available insurance or third-party reimbursement to pay the bill.

Discussion

Methodological Variation Across Studies

This review shows clearly that a wide range of methodologies is used to calculate the costs of violence and that researchers' choice of methodologies and approaches can have an important effect on their ultimate results. The most evident methodological difference among studies of the economic effects of interpersonal violence is the broad range of categories of costs employed. Many of the differences in economic estimates are due to the inclusion or exclusion of specific categories of costs, rather than to different approaches toward counting costs.

Another significant difference among studies is the perspective from which costs are calculated. The majority of studies use a societal perspective—in principle including all costs and benefits. Several studies, however, included only costs to the victims, without counting the social costs of prevention, law enforcement, incarceration, and lost productivity. Most of the cost estimates of the aggregate economic losses caused by violence are for a 1-year period, but the time frame used varies across studies, complicating direct comparisons. Nearly all studies that do calculate costs and benefits beyond a 1-year time frame use some kind of discount rate to discount future costs and benefits—based on the principle that humans value consumption and quality of life in the present more than they do an equivalent amount of consumption in the future. The discount rates used in the studies reviewed here range from 2 to 10 percent.[3]

An important difference across studies lies in the values assigned to human life, lost productive time, and psychological distress. The value of life has been calculated using lost wages, estimates of the quality of life, wage premiums for risky jobs, willingness to pay for safety measures, and individual behaviors related to safety measures. The values used among

[3] The U.S. Panel on Cost-Effectiveness in Health and Medicine has recommended using a real rate of 3 percent for cost evaluations in health care (Gold, 1996). This rate reflects a wide range of studies documenting individuals' preferences for present consumption compared to future consumption and interest rates for private investment. In theory, both of these factors influence the discount rate for future costs and benefits in the context of financial and health-related gains and losses.

studies based in the United States ranged from $3.1 million to $6.8 million. These estimates are in line with those generally used in the economic evaluation literature.[4]

Costs Paid by Public Sources

A considerable portion of the costs of violence are paid by public sources and thus represent a cost to society in general. A study at the University of Southern California Medical Center found that 87 percent of the costs of treating gunshot wounds of the trunk were paid with public funds—with average hospital stays of 6.8 days and costs of $10,600 per patient (Payne et al., 1993). Similarly, 80 percent of the direct medical costs for gunshot wounds, stab wounds, and injuries from assault at the San Francisco General Hospital in the mid-1980s were paid for with public funds (Sumner et al., 1987).

Sixty-five percent of the costs of medical care and legal fees for burns suffered by child abuse victims were paid with public funds in a study in Ohio (Evasovich et al., 1998). Clancy et al. (1994) found that 70 percent of hospital charges for patients with assault-related penetrating injuries at a major medical centre in North Carolina were not reimbursed. Gunderson (1999) reported that 85 percent of the costs for medical care of victims of gun violence in the United States were paid from public sources. In low- and middle-income countries, it is also probable that society in general absorbs much of the costs of violence. A study in Jamaica found that 90 percent of the cost of treating victims of violence at the Kingston Public Hospital—including materials, drugs, and doctors' fees—was paid by the government (Mansingh and Ramphal, 1993).

Conclusion

Given the wide range of methodological differences and extensive gaps in the existing literature on the economics of interpersonal violence, there is a clear need for systematic future research into the costs of violence. Such research should follow rigorous methodological guidelines, include both direct and indirect cost categories, and perhaps most importantly, permit comparisons across countries and settings. There is also a need for standardized research on the indirect costs of violence. Beyond the individual

[4] Miller (1989) reviewed 29 cost-benefit studies and found that the mean value given to a human life in these studies was $4.2 million. Fisher et al. (1989) reviewed 21 studies and found a range of $2.6 million to $13.7 million. Walker used a figure of $1 million Australian dollars (equivalent to US$602,000 in 2001), but this does not include the costs of the judicial system or psychological costs.

consequences of opportunity cost and pain and suffering, interpersonal violence has a series of economic effects at the population level, including reduced foreign investment and lowered confidence in society's economic, legal, and social structures. There are very few estimates of the extent of these costs, which if quantified are likely to be several times the value of the direct costs of violence.

Likewise, an important future step is to document the costs and benefits of potential interventions to reduce interpersonal violence. This paper shows that an economic approach can demonstrate the magnitude of the damage caused by interpersonal violence—a first step toward a unified agenda to reduce the human toll caused by unnecessary violence.

Acknowledgments

This research was funded by the World Health Organization. The literature search was conducted without restrictions on the language of publication and included publication dates from January 1980 to September 2004. We used the following keywords, representing types of violent behavior and factors associated with violent behavior combined with economic variables:

- Violence: interpersonal violence, family violence, partner violence, domestic violence
- Abuse: child abuse, domestic abuse, partner abuse, girl abuse
- Assault benefits
- Homicide investments
- Injury and intentional injury
- Human capital
- Firearms expenses
- Costs: cost-effectiveness, cost-benefit
- Economics: economic policy

The following databases and websites were searched:

- Australian Institute of Criminology
- CIAO—Columbia International Affairs Online
- CINAHL—Cumulative Index to Nursing and Allied Health Literature
- Cochrane Library
- Contemporary Women's Issues
- EconLit
- General Sciences database
- Gun Control Alliance (South Africa)
- Health Canada

- Illinois Coalition Against Sexual Assault
- Index to United Nations Documents and Publications
- Inter-American Development Bank
- International Labor Organization
- National Clearinghouse on Child Abuse and Neglect Information
- National Crime Prevention Council (USA)
- New Zealand Ministry of Justice
- PAIS
- Physicians for Social Responsibility
- Popline
- Prevent Child Abuse America—www.preventchildabuse.org
- Pubmed
- Social Sciences Abstracts
- Social Sciences Citation Index
- Sociological Abstracts
- SourceOECD
- U.S. Department of Justice
- Womankind Worldwide
- Women's Advocates Inc. (USA)
- World Bank
- World Health Organization

After the initial database and Internet literature searches, additional sources were identified through the reference lists of collected articles and through consultation with the following resource experts, gratefully acknowledged below:

- David Ball, Middlesex University, United Kingdom
- David Bishai, Johns Hopkins Bloomberg School of Public Health
- Nancy Cardia, Centre for the Study of Violence, University of São Paulo, Brazil
- Phillip Cook, Duke University
- Phaedro Corso, Centers for Disease Control and Prevention
- Elizabeth Eckermann, Deakin University, Australia
- Rune Elvik, Norwegian Center for Transport Research
- Adam Graycar, Australian Institute of Criminology
- Rodney Hammond, Centers for Disease Control and Prevention
- Patricia Hernandez, World Health Organization
- Michael Koenig, Johns Hopkins Bloomberg School of Public Health
- Daniel Lederman, The World Bank
- Pat Mayhew, Australian Institute of Criminology
- Katherine McKenna, Centre for Women's Studies and Feminist Research, University of Western Ontario

- James Mercy, Centers for Disease Control and Prevention
- Ted Miller, Pacific Institute for Research and Evaluation
- Andrew Morrison, Inter-American Development Bank
- Gregory Pappas, Macro International
- Ann Dryden Witte, Wellesley College
- Carrie Yodanis, University of Fribourg

CONSEQUENCES OF ELDER ABUSE: THE NEEDS FOR SOCIAL JUSTICE AND POLICY IMPLICATIONS

XinQi Dong, M.D., M.P.H.
Rush University Medical Center

Introduction

The dramatic growth of the American elderly population has great implications for our healthcare, social welfare, justice, and financial systems. There are approximately 40 million people over the age of 65, and by 2030, there will be more than 72 million older adults, more than twice the number in 2000, of whom those over the age of 85 are the fastest-growing segment of the elderly population (Administration on Aging, 2011). Elder abuse is a substantial global public health and human rights problem. The World Health Organization (2002) has declared that elder abuse is a violation of one of a human being's most basic fundamental rights, to be safe and free of violence. Elder abuse includes physical abuse, sexual abuse, emotional abuse, neglect (both caregiver and self-neglect), and financial abuse. Available prevalence data suggest that at least 10 percent (or 5 million) of the U.S. elderly persons experience abuse each year, and many of them experience it in multiple forms (Acierno et al., 2010; Beach et al., 2010). In addition, data from U.S. Adult Protective Services Agencies depict an increasing trend in the reporting of elder abuse (Teaster et al., 2004). This trend is particularly alarming as the literature suggests that elder abuse is associated with increased risk of morbidity and mortality (Dong, 2005, 2011; Dong et al., 2009b, 2010, 2011b; Lachs et al., 1997, 1998, 2002).

The notion of "granny-battering" was initially introduced as a letter to the editor in the *British Medical Journal* in 1975 containing multiple descriptions of elder abuse and neglect perpetrated by family members (Burston, 1975). Despite the accessibility of adult protective services and nursing home regulations in all 50 states, as well as mandatory reporting laws for elder abuse and neglect in most states, an overwhelming number of abused and neglected elderly pass through our healthcare system undetected and untreated. Many cases involve only subtle signs such as poor hygiene or dehydration and can easily be missed. It is estimated that only 1 in 14

cases of elder abuse and neglect comes to the attention of authorities (NRC, 2003). The direct medical costs associated with these violent injuries are estimated to add more than $5.3 billion to the nation's annual health expenditures (Mouton et al., 2004). Over the last few decades, the child abuse prevention movement has prompted extensive investigation and publicity, but attention to elder abuse and neglect has been relatively lacking across most disciplines. This paper discusses the medical implication of elder abuse as well as policy implication at the national level.

Quality of Life

Functional Impairment and Dependency

Functional status is the foundation of geriatric medicine and has a direct impact on elders' ability to live successfully within their environment. Older people who have difficulty performing activities of daily living are more often neglected, particularly if their problem involves eating (Homer and Gilleard, 1990; Kleinschmidt, 1997). Demented patients who cannot perform activities of daily living sustain more physical abuse (Coyne et al., 1993). Neglect most commonly affects those who have no one to turn to for help, are in poor health and function, or live alone (Podnieks, 1992). This subsequently creates a vicious cycle of progressive inability to perform daily functions as the result of mistreatment and then increases risk for additional insults of abuse and neglect.

Other studies have suggested that functional impairment leads to dependency and vulnerability in the elderly (Jones et al., 1997). Most people understand that older adults may need some assistance, but being primarily dependent on others over prolonged periods of time is looked upon negatively either by older people themselves or by those who must care for them. Such dependency is often viewed with fear, dread, disrespect, embarrassment, and disapproval. We accept dependency in children because we understand that children need their parents for survival, but children grow up and gradually become less dependent. This is not true for those elderly who become functionally dependent because of physical or mental impairments. These impairments are likely to deteriorate over time, given the nature of chronic illness. The older adult becomes gradually more dependent and therefore more defenseless to the action of abuse and neglect (Steinmetz, 1990). The type of dependencies encountered can include economic dependency, as the individual moves from being a producer to a consumer; physical dependency arising from waning physical strength and energy and diminishing ability to perform activities of daily living; social dependency, accruing if mobility becomes problematic; and emotional dependency, often a corollary of the other forms of dependency (Cantor, 1991).

Self-Rated Health and Helplessness

Poor self-reported health is strongly associated with mortality and adverse health outcomes. The abused and neglected elderly suffer many losses as well as progressively declining health status. From the Missing Voices Series, elderly in eight different countries were surveyed regarding the effect of abuse and neglect (WHO, 2002). The elderly expressed desperation because of the feeling of insecurity, loss of dignity, disrespect, and poor state of health as a result of abuse and neglect. The vulnerable elderly often quoted that "one rude word said to an old man is stronger than stabbing him with a knife" and "respect is better than food and drink." Given the expansion and modernization of many developing countries, many elderly from this series felt that family bonds are collapsing, in so much as there is less respect and more carelessness toward the elderly and their health is suffering as a result of such abuse.

Frequently the older person reacts to abuse and neglect with denial, resignation, withdrawal, fear, or depression. These reactions can subsequently result in feelings of guilt, shame, helplessness, and worthlessness. Through the multiple losses of power that can come in old age, some elders may come to feel that they are a burden to others. Some older people react by becoming more submissive, which in turn may invite more abuse and neglect by a malicious or unsympathetic caregiver. Many older people come to believe that events are beyond their control, and feelings of impotence take root. The elder, helpless to change the abusive environment, stops trying to do anything and accepts whatever treatment is presented. This phenomenon was described by Seligman (1975), who termed it "learned helplessness." Seligman postulated that helplessness produces emotional disturbances. The motivation to respond to a situation is exhausted if the elderly feel nothing can be done to affect the outcome. This is also due to an increased inability to perceive success. The elder may do something that does indeed change the situation for the better but may not be aware of the success or may not fully realize that his or her action has made a difference. Hence, even success becomes failure. Such perceived helplessness produces fear as long as the person is uncertain of being able to influence what happens, and then it produces depression.

Fear and Social Isolation

Access to the abused and neglected elderly can be difficult for healthcare providers, in part because the perpetrator may block efforts to intervene and further induce isolation of the victim. As a reaction to the abuse and neglect, most victims will react with anger, disappointment, fear, or grief. At other times, the elderly will not cooperate with the healthcare worker in providing

services to take action toward the alleged abuser because they believe that little can be done to improve their situation and fear further abuse (Bookin and Dunkle, 1985). If elderly people perceive investigation of abuse and neglect as an intrusion into their lives, they will demonstrate this through resistance to the service provided (Longres, 1994). Resistance may be demonstrated thusly: elderly clients will directly or indirectly let the elder abuse investigator know that they are uncomfortable with the service provided and that their discomfort will be reflected in the outcome of the service process. That is, there will be lower rates of substantiation, higher rates of service refusal, and a gap between the service needed and that provided.

Evidence suggests that older adult who were abused and neglected are more likely to be socially isolated (Dong and Simon, 2008, 2010; Lau and Kosberg, 1979). Among a multitude of explanations are fear of retaliation, embarrassment, unwillingness to initiate legal action, trepidation that the solution to the problem will be worse than the problem itself, beliefs that they are being "paid back" for their earlier abusive behaviors, and perceiving their dependence as the cause of the problem. Many older people are concerned about their family privacy and fear public exposure and the embarrassment and humiliation that such exposure will bring. They may worry that they will not be believed, because the alleged abuser may act differently in public. A study of black, white, and Asian subjects showed differences in perception of abuse and neglect and in help-seeking patterns (Moon and Williams, 1993). The study identified differences in formal and informal help-seeking attitudes between groups. In a recent study, Chinese Americans were less likely to seek help and further induce social isolation (Dong et al., 2011a). They did not want to reveal "family shame" to others or create conflict among their relatives, yet they were not able to get any external help in their environment and alleviate the causes of the abuse and neglect. When the alleged abuser is an adult child, the victim may feel disgraced for having raised a child who would betray him or her in any way.

The elderly and their caregivers are often caught together in emotional turmoil that they cannot comprehend and for which there are no easy solutions. There are circumstances in the lives of older persons that make the caregiver role difficult to maintain. Older persons tend to lose their roles, suffer losses that cannot be recovered, and require more services than are available to them. Linked to these feelings of shame and embarrassment is anxiety about what will happen when others find out about the abuse and neglect. They do not want to admit their vulnerabilities, betray loved ones, or report abuse and neglect to the authorities or outsiders. Victims of abuse and neglect may also fear that losing a caregiver will result in institutionalization. Their fear may be true, as reflected in a study in which 60 percent of abused and neglected victims admitted for short-term care remained institutionalized permanently (Faulkner, 1982). The older person may also

realistically fear that if the abuse and neglect is reported, the perpetrator will strike back with additional mistreatment. Alleged abusers may threaten to inflict more severe abuse; destroy property or pets; or even kill their victims, other loved ones, or themselves (Breckman, 1988).

Psychological Distress

Over the last few decades of research, stress and stressful life events have been linked to the onset of illness and other maladaptive behavior at both the individual and the societal levels. Victims of abuse and neglect suffer more than just the debilitating physical or material consequences of the acts. Becoming a victim challenges most people's basic assumptions about safety and security. Research has demonstrated that elder abuse victims have higher risk for psychological distress (Dong et al., 2008, 2009a, in press) and also begin to question themselves and to see themselves as weak, frightened, out of control, powerless, and lacking a sense of autonomy (Nahmiash, 2002). In a case-control study of elderly patients referred for abuse and neglect to a geriatric assessment clinic, the study found a higher prevalence of depression in victims of mistreatment compared to patients referred for other reasons (Dyer et al., 2000). Victims of elder abuse and neglect tend to blame themselves for abuse and harbor much guilt and low self-esteem (Podnieks, 1992).

Other studies have highlighted the individual's relative ignorance of psychological abuse in contrast to physical abuse, perhaps in part because of the difficulty in identifying observable consequences of psychological abuse (Childs et al., 2000). Neville et al. (1999) found that the most common reasons for psychiatric admission for such a population were due to behavior problems, self-neglect, psychotic symptoms, and other psychiatric illness. Sensitivity to the psychological states of elder abuse and neglect may be especially important because it may assist in the early and accurate identification of elderly persons at risk. Such persons may be more prone to depression and may engage in suicide and other self-destructive behaviors (McIntosh and Hubbard, 1988).

Morbidity and Mortality

Healthcare System Utilization

Elder abuse and neglect are recently recognized forms of family violence, but much less is known compared to child or spousal abuse, with respect to how elder abuse victims interact with the healthcare system. Mouton and Espino (1999) found that older women who experienced abuse were likely to consult medical practitioners with conditions such as

physical injuries, gynecological complaints, gastrointestinal disorders, fatigue, headache, myalgias, depression, and anxiety. Yet the true underlying abuse and neglect of the elderly remain to be discovered. Those patients often also have frequent nonspecific presentations to the outpatient settings. An effective strategy to address family violence in all its forms in the nonemergency outpatient setting would certainly improve the quality of life for those individuals and perhaps reduce healthcare cost at the same time.

Evidence suggests that abused and neglected community elders recognized through a state elderly protective services program are more likely to come to the emergency room for assessment and treatment (Dong, 2011; Lachs et al., 1997). One-fourth of emergency room visits had ICD-9 (International Classification of Diseases, ninth revision) codes consistent with injury, and 66 percent of the subjects who used emergency services had at least one emergency room visit with injury-related discharge diagnosis or chief complaint. No single injury type or chief complaint emerged as highly prevalent in this population. Jones et al. (1997) retrospectively examined medical records of elder abuse and neglect cases that were identified through the emergency room. In this study, elder neglect presented to the emergency room exceeded physical abuse, bruises, lacerations, and other injuries. Other presentations of abuse and neglect included dehydration, fractures, and failure to thrive (Jones, 1994).

The metaphor of a "frequent flyer" in the emergency room should raise caution to healthcare professionals, especially relating to the magnitude of an elderly patient's healthcare needs. Becoming aware of those repeated presentations to the emergency room should lead us to explore in greater detail the nature of the elder's health status and medical management and to express concern about the adequacy of the elder's healthcare management by caregivers and healthcare professionals. Elderly patients who have recurrent visits to the emergency room should be considered at greater risk for abuse and neglect (Fulmer et al., 2003). The high flow of a busy emergency room should be seen not as an impediment to care but as an opportunity to influence the lives of frail elderly.

Nursing Home Placement

Adult Protective Services (APS) is the official state entity charged with promoting advocacy and protecting victims of elder abuse and neglect. Elderly referred to protective services represent some of the most frail, isolated, and medically and psychiatrically ill older members of society. Nursing home placement is a drastic, restrictive, and costly intervention, and it is one of the most difficult decisions that adult protective services workers and elder abuse field workers face. One of the first papers published on outcomes of elder abuse and neglect appeared in the 1970s. The authors found that by

being referred to adult protective services, the elderly were more likely to be institutionalized (Blenkner et al., 1971). One of the troubling findings of this paper was that a system intended to protect the health and independence of the vulnerable elderly was causing institutionalization. Others have suggested that services utilization rather than adult protective services use may be the reason for increased probability of nursing home placement.

In a community-based cohort of older adults (New Haven Established Population for Epidemiologic Studies in the Elderly [EPESE]), the study team matched data with adult protective services records. The cohort had been previously linked with a long-term care data registry in the State of Connecticut, permitting the certainty of nursing home placement records for all cohort members. This study found that the number of abused and neglected elderly referred to adult protective services is a compelling predictor of nursing home placement, even after adjusting for other variables known to be associated with institutionalization in the older population (Lachs et al., 2002).

Mortality

A 10-year retrospective case review of morbidity and mortality among elders was conducted at a state medical examiner's office serving a major metropolitan region in Kentucky and Indiana (Shields et al., 2004). The study addressed medical-legal autopsies and the examination of living subjects pursuant to a clinical forensic medicine program. The authors presented 74 postmortem cases, in which 52 deaths were attributed to a homicidal act and 22 deaths were suspicious for neglect. Of the 22 living victims of elder abuse and neglect, 19 cases constituted physical and/or sexual assault and 3 individuals suffered from neglect. Furthermore, 81.8 percent of the neglect cases had physical injuries, including abrasions and contusions; 95.4 percent of the neglect cases revealed decubitus ulcers. Lachs et al. (1998) investigated the independent contribution of reported elder abuse and neglect to all-cause mortality in the EPESE cohort. At the end of the 13-year follow-up, elder abuse victims had poorer survival (9 percent) than either those seen for self-neglect (17 percent) or other non-investigated members (40 percent).

Recent data from Dong et al. (2009c) examined the relationship between elder abuse and mortality (all-cause and cause-specific) of 9,813 participants within the context of a longitudinal population-based cohort: Chicago Health and Aging Project (CHAP). The authors found that elder abuse was associated not only with increased all-cause mortality, but also with increased cardiovascular-related mortality over the 15 years of follow-up (Dong et al., 2009c). In addition, mortality associated with elder abuse was most prominent among those with the lowest levels of cognitive or

physical function and the highest levels of psychological distress and social isolation (Dong et al., 2009b, 2010). Moreover, Dong et al. (2011b) found that black older adults with self-neglect had significant higher mortality risk than white older adults in the same CHAP cohort.

Policy Implication for Elder Abuse

The field of elder abuse is estimated to be 40 years behind the field of child abuse and 20 years behind the field of domestic violence. While there have been strong national policies dealing with child abuse and violence against women, there has been a great paucity of national policy to prevent elder abuse and to protect victims of elder abuse. This paper highlights the existing elder abuse programs through two major federal laws: the Older American Act (OAA) and the Violence Against Women Act (VAWA).

The OAA is responsible for funding the National Center on Elder Abuse to provide grants to states' elder justice system and state agencies to develop and enhance programs to address elder abuse. The OAA establishes long-term care ombudsman programs to identify, investigate, and resolve complaints related to these institutions; state-based services designed to provide legal assistance and other counseling services; and programs to support locally relevant projects, supportive services, and outreach and advocacy programs. Finally, the OAA designates state agencies and area plans and develops objectives, priorities, policy, and long-term plans for elder abuse prevention and services.

The VAWA authorizes the attorney general to formulate grants to enhance training and services to end violence against and abuse of older women. This program is intended to assist law enforcement, prosecutors, and local courts on the issues of elder abuse. In addition, the VAWA authorizes the attorney general to create grants that provide or enhance services for elder abuse victims, conduct cross-training for organizations serving elder abuse victims, and create or support multidisciplinary collaborative community responses to the victims of elder abuse.

Based on a recent Government Accountability Office (GAO) report to the Department of Health and Human Services, elder abuse-related spending in 2009 included $1.1 million by the National Institutes of Health, $50,000 by the Centers for Disease Control and Prevention, $5.9 million by the Administration on Aging, $0.75 million by the Department of Justice Civic Division, and $1.2 million by the National Institute of Justice. The Office of Victims of Crimes and the Office on Violence Against Women spent $520,000 and $4.9 million, respectively. In 2009, these federal agencies spent $11.9 million for all activities related to elder abuse. This contrasts to the annual funding for violence against women programs ($649 million). Despite the well-intentioned services by these seven federal

agencies, the most basic needs are not met to protect older adults from abuse, neglect, and exploitation.

The Elder Justice Act (EJA) was passed as a part of the Affordable Healthcare Act, and for the first time, the EJA authorizes federal response to the issues of elder abuse through training, services, and demonstration programs. The Administration on Aging is responsible for the implementation of the EJA as well as formation of the Elder Justice Coordinating Council and the National Advisory Board. More specifically, the Elder Justice Coordinating Council will be required to issue reports to describe the activities, accomplishments, and challenges faced, as well as to provide legislative recommendations to congressional committees. The National Advisory Board, which will be required to submit reports and recommendations regarding elder justice activities, has already solicited nominations.

The EJA will also be responsible for issuing human subjects protections guidelines to assist researchers and for establishing elder abuse forensic centers. The EJA will provide grants and incentives for long-term care staffing and electronic medical records technology grants programs and will collect and disseminate annual data related to elder abuse from adult protective services. The EJA will also be responsible for sponsoring and supporting training, services, reporting, and the evaluation of elder justice programs in community and long-term care settings. Regrettably, compared to the previous EJA from the 109th Congress, key elements were dropped in the current bill, which include, but are not limited to, the national data collection effort; the consumer clearinghouse; and grant programs for prevention, detection, assessment, and treatment of, intervention in, investigation of, and prosecution of elder abuse.

The EJA has authorized $777 million funding over four years, and immediate appropriation is particularly important, because APS will garner significant funding to bolster direct services to victims. Recently, a survey in 30 states reported that 60 percent of APS programs have faced budget cuts on average of 14 percent, while two-thirds of the APS reported an average increase of 24 percent in elder abuse reports. A recent letter from the Leadership Council of Aging Organizations strongly urged the Senate and House Subcommittee on Labor, Health and Human Services, and Education to fully appropriate the EJA (Leadership Council of Aging Organizations, 2010).

In March 2011, the Senate Special Committee on Aging held a hearing on elder abuse: "Justice for All: Ending Elder Abuse, Neglect and Exploitation." Based on the GAO (2011) report, victims and experts highlighted the lack of research, education, training, and prevention strategies. In June 2010, the National Institute on Aging and the National Academy of Sciences hosted a state-of-science conference on elder abuse and highlighted the research progress and gaps and recommended research priorities to advance the field of elder abuse.

National representative longitudinal studies are needed to examine the incidence of elder abuse subtypes and to elucidate risk and protective factors and adverse health outcomes associated with incident cases. Unified national APS data collection could aid in examining the needs, processes, outcomes, and efficacy of the current system. Future research must be innovative, multidisciplinary, collaborative, and cost-effective in order to devise targeted prevention and intervention strategies. With the increasingly diverse U.S. population and the variations in the definition of elder abuse, cultural issues must be addressed (Dong et al., 2011a).

Education and training are critically needed for healthcare professionals, law enforcement, social services, community organizations, and others who have contact with older adults. As child abuse and domestic violence training are mandatory parts of health professional education, so should elder abuse training be. Training and resources for the APS and other frontline workforce will be critical to alleviate factors exacerbating the abusive situation and to prevent elder abuse recidivism of an already vulnerable population. This is especially critical because most APS departments are facing budget cuts and increasing demands in their daily work.

In sum, elder abuse is a pervasive public health and human rights issue, yet there are major gaps in funding, policy, research, education, and training. The full appropriation of the EJA is critically needed. National representative longitudinal research is needed to better define the incident, risk and protective factors, and consequences of elder abuse in diverse racial and ethnic populations. Collective federal, state, and community efforts are needed to support the APS services, training, and education of diverse disciplines dealing with aging issues.

Epilogue: *"For years, I suffered silently, unable to muster the courage to seek the help I knew I needed…. I felt trapped, scared, used, and frustrated. And above all, when a man feels helpless, it's terrible. And I was helpless."* **Mr. Mickey Rooney, Elder Abuse Victim, at the Hearing of the Senate Special Committee on Aging, March 2011.**

COSTS OF FIREARM VIOLENCE: HOW YOU MEASURE THINGS MATTERS

David Hemenway, Ph.D.
Harvard School of Public Health

The Centers for Disease Control and Prevention (CDC) estimates that, in 2005, the societal cost for all suicide in the United States was $26 billion, the cost of all unintended poisoning deaths was $23 billion, and the cost of all homicides was $20 billion (CDC, 2011). These cost estimates come from adding together the medical costs and the productivity losses.

These are, of course, only estimates, but they put the societal cost of suicide and poisoning deaths above that of homicide. I believe these estimates are misleading, can lead to bad policy decisions, and illustrate why the way you measure things matters.

There are many ways to categorize costs. One is to divide the cost burden into three components: (1) to the individuals directly involved, (2) to the family and friends, and (3) to the community at large. For a suicide or an unintentional poisoning death, most of the costs fall on the individual who dies and on the family and friends who suffer grief and personal loss. There is some, but not a large, cost to others in the community.

By contrast, consider the cost of a street firearm homicide (most homicides in the United States are firearm homicides that occur outside the home; by contrast, most suicides occur at home).

There are usually direct costs to two individuals and two families rather than one—not only to the victim, but probably also to the shooter, who is often caught, convicted, and incarcerated. In addition, there are the costs to the community associated with criminal law enforcement, including the costs of police, district attorneys, judges, parole officers, and prisons.

There are also large psychological costs caused by street violence. Exposure to violence (e.g., witnessing violence) increases the risk for psychiatric, emotional, behavioral, and health problems. Psychiatric problems include posttraumatic stress disorder (PTSD), depression, anxiety, intrusive thoughts, sleep problems, and personality change. Emotional problems include anger, nervousness, withdrawal, loneliness, and despair. Behavioral problems include low academic performance, risky sexual behavior, substance abuse, delinquency, and violence. Finally, exposure to violence has been linked to such health problems as asthma, heart disease, and low-birth-weight babies.

There are also high community costs of street crime that accrue when people and institutions try to avoid the shootings and protect themselves. Commercial and residential locations can be affected. Businesses do not want to locate in areas of high crime, tourists do not want to go there, and people do not want to live there. This leads to fewer jobs and to flight from the neighborhood of higher-income people who can afford to leave (e.g., "white flight"). The loss of jobs, good stores, community social capital, and positive role models leads to neighborhood deterioration.

To avoid being shot, residents also change their behavior concerning recreation, shopping, leisure, and other activities. Children are not allowed to play outside, residents are less likely to go out at night, and they are less likely to accept evening work. People live behind locked doors. Having fewer people on the street further reduces the safety of being on the street.

When people and institutions cannot avoid danger, they often try to protect themselves from it (e.g., "target hardening"). Schools use metal

detectors and police wear bulletproof vests. To protect themselves, juveniles might obtain guns and join gangs, which further increases the problem of lethal violence.

Indeed, one of the major costs of street gun violence is that it creates "positive-feedback" loops, leading to more street gun violence. Retaliation against street gun violence is common, as victims and their friends retaliate against those they perceive to be the perpetrators. Trauma to bystanders, victims, and even perpetrators increases the likelihood of even more violence, and higher levels of violence can lead to the "normalization" of violence, opening the door to still more violence. Attempts by individuals and institutions to avoid the violence can lead to neighborhood deterioration, creating a setting for additional violence. Finally, attempts by young people to protect themselves by acquiring guns and joining gangs exacerbate the problem.

Using medical costs and productivity losses to estimate the societal cost of injury is a common, if somewhat controversial, economic approach. However, for some injuries, such as street killings, this approach misses more of the total costs than it does for other injuries, such as unintentional poisonings and suicide. When a 24-year-old urban male dies from either a street killing or an unintentional poisoning, the medical and productivity costs may be similar, but the actual costs to society are far different.

If the measured costs of various injuries are going to be used to help target prevention efforts, it is important to get the relative costs correct. The current CDC approach focusing exclusively on medical and productivity losses vastly underestimates the relative costs to society of street violence.

Recommendations

The costs of firearm violence in the United States are enormous. The first step in the public health approach to reducing violence is to create a good surveillance system. The United States has such a system—the National Violent Death Reporting System, but it operates in only 20 states. *The National Violent Death Reporting System should be expanded to cover the entire United States.*

The second step in the public health approach is to determine the causes and correlates of violence. Unfortunately, funding for scientific studies of firearm violence is miniscule related to the size of the problem. Currently, for example, the CDC provides no funding for this injury issue, and only one foundation provides consistent funding for research on firearm injuries. *Funding for research on firearm violence should be expanded.*

The scientific knowledge that exists has to be disseminated, and false beliefs need to be corrected. Currently there are few respected and reliable sources providing accurate information about firearm violence and its prevention. *The Surgeon General of the United States should issue*

periodic reports about what the science tells us about firearm violence and its prevention.

THE CONTAGION OF VIOLENCE: THE EXTENT, THE PROCESSES, AND THE OUTCOMES

L. Rowell Huesmann, Ph.D.
Institute for Social Research, University of Michigan

One of best-established findings in the psychological literature on aggressive and violent behavior is that violence begets violence. This contagion of violence appears to be a universal phenomenon. The contagion of violence occurs within families. Violence between partners increases the risk of violence directed at children and increases the risk of the children behaving violently themselves. Having one violent individual in a family makes it more likely there will be others. It is true within peer groups. Violence by some peers increases the risk of violence by others. Violence by peers directed outward not only stimulates violence by others that is directed outward, but stimulates violence between peers within the group. This is true in neighborhoods and communities. Violent communities and neighborhoods breed violence in those who join the community or neighborhood. Introducing violence into a community increases the risk of greater violence throughout the community. It even appears to be true within nations and cultures, and it is true across generations. Children "catch" it from their parents, and parents can catch it from their children.

Violence is highly contagious. Not only is it spread from the perpetrators of violence to the victims, but it is spread to onlookers and observers. It is not surprising that violent victimization leads to violent retaliation within and between families, peer groups, schools, communities, ethnic groups, cultures, and countries. What may be more surprising to some is that simply the observation of violence also leads to increased violence within and between all of these groups. Violence can even be spread to faraway people who observe it at a distance. The boundaries of time and space that apply to most biological contagions do not apply to the contagion of violence.

Why is violence so contagious and how does it spread? What psychological processes are involved? How could the spread be halted? These are some of the questions addressed in this paper.

Severe violent behavior is almost always the product of predisposing individual differences and precipitating situational factors (Huesmann, 1998). One important environmental experience that contributes both to predisposing a person to behave more violently in the long run and to precipitating violent behavior in the short run is the observation of violence. Psychological theories that have emerged over the past few decades now

explain the short-term precipitating effects mostly in terms of priming, simple imitation, and excitation transfer. Priming is the neurological process through which seeing violence produces a spreading activation in the neurons of the brain that stimulates all sorts of ideas related to violence, making violence more likely. Imitation of violence in the short run occurs because human beings, from a very young age, have a wired-in tendency to mimic whatever they see. Excitation transfer means that when someone provokes us, we feel more angry if we have recently been aroused and made angry by something we observed, such as violence.

The long-term predisposing effects of observing violence, however, involve more complex processes of observational learning of cognitions and of emotional desensitization. Obviously being victimized always also includes observing violence—part of the mind of the child who is being spanked or the youth who is being beaten up is observing the interaction while another part is suffering from the interaction. Although the emotional reactions to victimization may be more intense and immediate, observation alone also produces both intense emotional and intense cognitive reactions that can have long-term effects on a person's mental health (e.g., post-traumatic stress disorder [PTSD] symptoms) and behavior problems (e.g., violent behavior). This is diagrammed in Figure 6-1.

Before elaborating on these processes for the contagion of violence in more detail, I want to present an example of the phenomenon of contagion of violence through observation. Probably no children in the world are exposed to more violence on a day-in and day-out basis than those who live in regions of war and ethnic violence. They are regularly exposed to scenes of extreme human violence at rates that would be hard to find even in America's most violent ghettos. My research team has just finished collecting data on children in one such region—Palestine (West Bank and Gaza) and Israel (Israeli Jewish and Arab communities). We interviewed 600 Palestinian, 450 Arab Israeli, and 450 Jewish Israeli children and their parents individually three times at 1-year intervals from 2007 to 2010. At the start of the interviews the children were either 8, 11, or 14 years old. Each year we asked the children and their parents to report on how much violence they had been exposed to in the past year. For example, we asked, "How often have you seen right in front of you Palestinian (or Israeli for Israeli children) buildings or buses or other property destroyed by Israelis (or Palestinians for Israeli children)?" We asked many questions of this type, including about "seeing a family member die," "seeing friends die," "seeing them injured," "seeing them held hostage or tortured," etc. The rates of observation in person were very high—for example, 55 percent of Palestinian children had seen a friend die due to the Israelis, 43 percent had seen someone tortured or held hostage, and 63 percent had seen someone crying because someone they knew had died. The rates of seeing

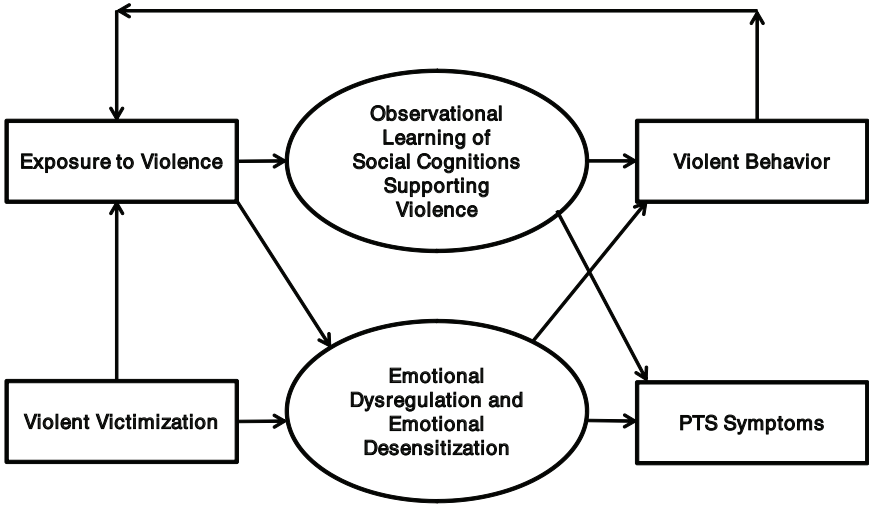

FIGURE 6-1 The psychological processes promoting the contagion of violence. SOURCE: Huesmann, 1988.

such things rose to more than 90 percent for the past year when observing in the mass media was included. The rates for Israeli Jewish children were about half as much and for Israeli Arab children half as much again, but even among them, about 1 out of every 20 children had seen someone killed or be seriously injured in front of them in the past year.

These rates are appallingly high. The question is, Does such exposure to such violence increase the aggressive and violent behavior of the children subsequently? The answer, we discovered, is clearly yes. The violence spreads like a contagious disease among them. For example, as shown in Figure 6-2, Palestinian kids and Israeli Jewish kids who fall in the top 25 percent on the amount of war violence they have seen in 1 year are 15 percent more likely to punch or beat a peer than kids who fall in the lowest 25 percent on violence exposure, and Arab Israeli youth in the highest quartile on exposure are about 30 percent more likely to punch or beat a peer during the year. These youth have not been victimized by their peers; yet they attack their peers. In fact, we found that those who are in the highest 25 percent on exposure are also significantly more likely to go beyond "punching" and to commit very serious acts of violence against their peers, including using knives or guns on them. These results cannot be explained by demographic differences, age differences, or gender differences. Differences in exposure to violence account for more of the individual differences in aggression than any other single factor.

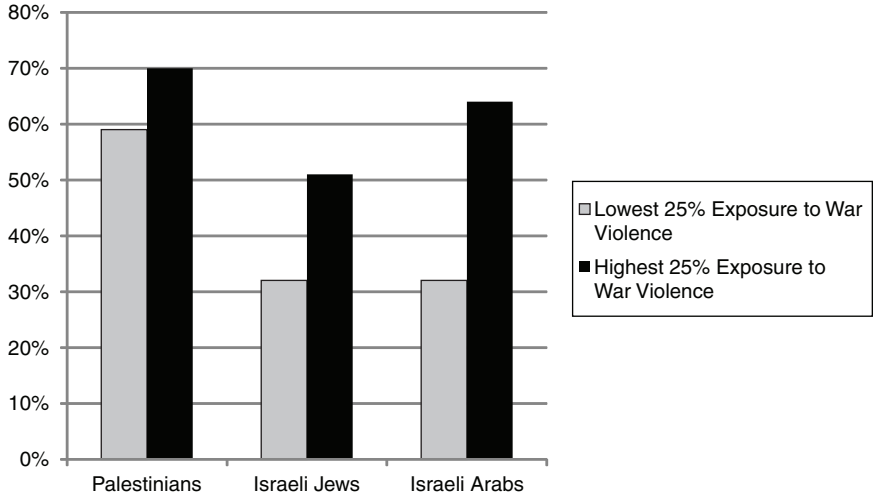

FIGURE 6-2 Children behave more violently as they see more war violence in the Middle East: Percentage that punched or beat another youth in the last year.

Because we collected the data over 3 years, we can also rule out the idea that more violent or aggressive youth expose themselves to more war violence. No, the direction of the effect is clearly that exposure to violence stimulates later increases in aggression even after we control for initial differences in aggression. For example, for 8- and 11-year-olds the causal path coefficients from exposure to violence in year 1 of the study to change in aggression from year 1 to year 3 are about .30, while the causal path coefficients from aggression in wave 1 to increases in exposure to war violence between wave 1 and wave 3 are about 0. For the oldest cohort only is there some evidence that aggression makes later exposure more likely, but it is significantly smaller than the effect that exposure has on later aggression.

What produces this kind of contagion of violence over time? The contagion is promoted by the fact that children grow up in an ecology of nested spheres of influence in which, as Bronfenbrenner (1979) and Sameroff (2010) have pointed out, macro-environments such as war settings influence micro-environments such as the family, which in turn affect the child who in turn affects the micro-environments around him or her. Children are most directly influenced by a micro-system of influences that are close to them—most notably, family and peers. However, family and peers in turn are influenced by the schools and communities in which they reside, and these in turn are influenced by more distal systems such as the ethnopolitical culture, the mass media, and the country. These ecological systems are not independent. Each influences and is influenced by the systems within which

it is nested and by the systems nested within it. Thus, violence or nonviolence in a country influences violence in communities and subcultures, which influences violence in schools and families, which influences violence in youth. This is exactly what we have found in our study of Palestinian and Israeli youth. In regions where more war violence occurs, we found more intracommunity violence and more intrafamily violence. These in turn stimulate more youth violence.

However, this ecological proximity effect does not explain why violence is so contagious that it is spread by observation alone, even if the observation is at some physical distance. The answer to this puzzle is provided by the way in which the human information processing system has evolved to make humans adaptive for survival—in particular, by evolving mechanisms for encoding cognitive scripts to imitate observed behaviors of others (observational learning) and by evolving mechanisms for adaptation to emotionally disturbing environments to reduce the stress they produce (desensitization).

We know that all social behavior is guided by encoded scripts (programs for behavior) that we all have acquired as we grew up. When confronted with a social problem, young people first make attributions about what is going on in the situation and then retrieve from their minds whatever social scripts are most easily recalled and seem most relevant. These generally are scripts that are most strongly primed by the social situation and have been most strongly learned from past experiences. Thus, a boy who has grown up observing violence around him almost every day (whether war violence, neighborhood violence, gang violence, school violence, or family violence) will believe that the world is a hostile place and will be biased toward making hostile attributions about those who annoy him. Such attributions and the repertoire of aggressive scripts the boy will have encoded over time will then make it more likely that he will use an aggressive social script for dealing with such a person. Additionally, he will be more likely to view behaving in such an aggressive manner as normative and acceptable. Equally importantly, repeated exposures to violence will blunt the negative emotional responses (anxiety and fear) that humans normally experience when they see violence or think about violence. What will remain is the angry emotional distress that, through excitation transfer, can exacerbate the young person's tendency to behave aggressively. Thus, the more a young person is exposed to war violence, the more likely he or she is to behave violently toward others, even though the others may have no connection to the war violence. This process is illustrated in Figure 6-3, which is taken from our recent study of Palestinian and Israeli youth. The numbers in this diagram show the strength we found for the causal effects represented by the arrows. The 14-year-olds in this diagram who have been exposed to the most political conflict or violence in year 1 fantasized more

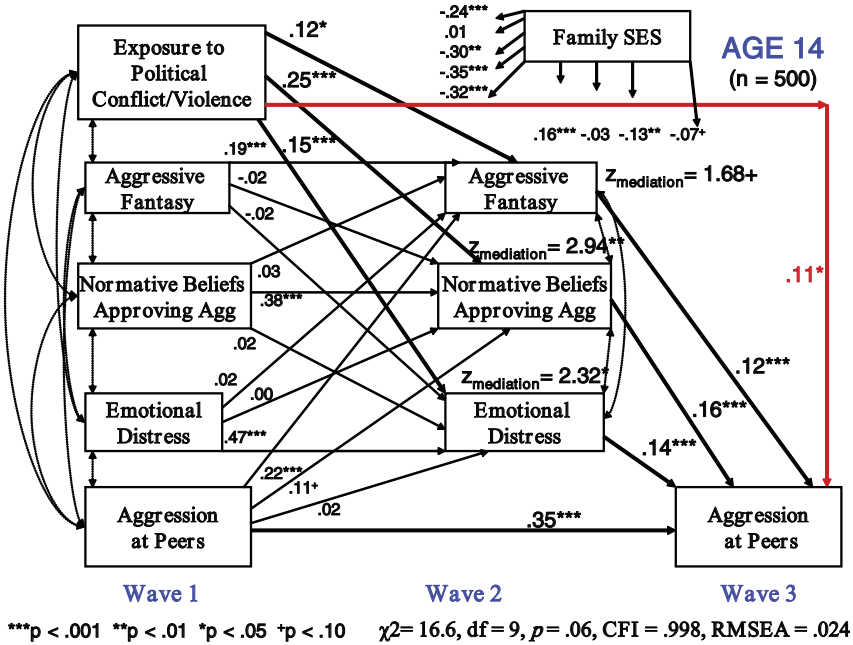

FIGURE 6-3 Exposure to violence stimulates later increases in aggression.

about behaving aggressively in year 2 (that is, they rehearse aggressive scripts more), held stronger beliefs that aggressive behavior toward others is okay in year 2, and showed higher levels of emotional distress in year 2. Each of these effects in turn stimulated them to behave more aggressively toward their peers in year 3.

Summary

Violence is clearly contagious. While being victimized by violence promotes more violence, all that is really required is viewing violence. There are now many other examples in the scientific literature, besides the one discussed above, that demonstrate how habitual observation of violence by young people leads to behaving more aggressively. Violence is contagious in multiple contexts. It is contagious in the short run and in the long run. The contagion is mediated by both changes in emotions and changes in cognitions caused by repeated exposures to violence. These neurological and psychological reactions are "wired-in" and probably evolutionarily adaptive. Consequently, it is difficult to intervene to prevent the contagion of violence other than by preventing the observation of violence. However,

the most promising additional interventions would undoubtedly be those that are directed at counteracting the changes in cognitive and emotional processing that the observation of violence engenders.

HOW PERSISTENT FEAR AND ANXIETY CAN AFFECT YOUNG CHILDREN'S LEARNING, BEHAVIOR, AND HEALTH[5]

Nathan A. Fox, Ph.D.
Department of Human Development, University of Maryland[6]
Jack P. Shonkoff, M.D.
Center on the Developing Child at Harvard University[7]

Evidence from neuroscience is increasingly helping us to understand exactly how fear and anxiety in childhood—such as that occasioned by exposure to violence in the family—shape the young child's developing brain, with lasting effects on learning and development. In this article, Professors Nathan A. Fox and Jack P. Shonkoff review the evidence and its implications for public policy.

Ensuring that young children have safe, secure environments in which to grow, learn, and develop healthy brains and bodies not only is good for the children themselves but also builds a strong foundation for a prosperous, just, and sustainable society. That said, science shows that early exposure to violence and other circumstances that produce persistent fear and chronic anxiety can have lifelong consequences by disrupting the developing architecture of the brain. While some of these experiences are one-time events and others may reoccur or persist over time, all of them have the potential to affect how children learn, solve problems, relate to others, and contribute to their community.

All children experience fears during childhood, including fear of the dark, monsters, and strangers. These fears are normal aspects of

[5] Reprinted courtesy of *Early Childhood Matters* (June 2011), Bernard van Leer Foundation. The authors wish to advise that the article was originally adapted from the following publication: National Scientific Council on the Developing Child (2010). *Persistent fear and anxiety can affect young children's learning and development*. Working Paper 9. Cambridge, MA: Center on the Developing Child at Harvard University. Available at http://www. developingchild. net (accessed April 2011).

[6] Nathan A. Fox, Ph.D., is distinguished professor at the Institute for Child Study, Department of Human Development, and director of the Child Development Laboratory, University of Maryland.

[7] Jack P. Shonkoff, M.D., is the Julius B. Richmond FAMRI Professor of Child Health and Development at the Harvard School of Public Health and Harvard Graduate School of Education; professor of pediatrics at Harvard Medical School and Children's Hospital Boston; and director of the Center on the Developing Child at Harvard University.

development and are temporary in nature. In contrast, threatening circumstances that persistently elicit fear and anxiety predict significant risk for adverse long-term outcomes from which children do not recover easily. Physical, sexual, or emotional abuse; significant maltreatment of one parent by the other; and the persistent threat of violence in the community are examples of such threatening circumstances.

Unfortunately, many children are exposed to these kinds of experiences. Child maltreatment has been shown to occur most often in families that face excessive levels of stress, such as that associated with community violence, parental drug abuse, or significant social isolation (CDC, 2009). Research also tells us that nearly half of children living in poverty in the United States witness violence or are indirectly victims of violence (Finkelhor et al., 2005). Globally, despite more limited data, the risks are as bad or worse. In 2006, the United Nations Secretary-General's Study on Violence against Children reported that more than 130 million children have witnessed intimate partner violence in the home, and more than 200 million have suffered some form of sexual abuse. For children living in such circumstances, frequent and repetitive threats create the potential for heightened fear and chronic anxiety.

Behavioral neuroscience research in animals tells us that serious, fear-triggering experiences elicit physiological responses that affect the architecture of the developing brain. Chronic activation of the body's stress response systems has been shown to disrupt the efficiency of brain circuitry and lead to both immediate and long-term problems in learning, behavior, and physical and mental health. This is especially true when stress system overload occurs during sensitive periods of early brain development. Despite this rapidly increasing knowledge base, however, significant gaps continue to exist in how societies respond to the developmental needs of children who regularly experience serious, fear-inducing events.

The Science of Fear and Anxiety

Some types of fear are normal aspects of development. Infants begin to experience feelings of fear and differentiate them from other emotions between 6 and 12 months of age (Lewis and Michalson, 1983; Nelson and DeHaan, 1996). Over the course of the early childhood period, toddlers and preschoolers typically express fear of a wide variety of events or individuals. Generally speaking, normal preschool fears do not disrupt a child's life, and they dissipate by age 7 or 8. That is, while children may express these fears at certain times (such as bedtime) or in response to certain events (for example, when confronted by a stranger), their overall behavior does not otherwise suggest that they are generally fearful or distressed.

The emergence and course of typical childhood fears are different from the fears and anxiety elicited by traumatic situations such as physical or sexual abuse or exposure to family violence. While typical fears disappear with age, the fear and anxiety elicited by maltreatment and other threatening circumstances do not. Scientific research provides an explanation for why children outgrow normative fears. Many result from the difficulty young children have in distinguishing between the real and the imaginary. As they get older, children get better at understanding what is real and what it means for something to be "make believe." They also develop the cognitive and social skills needed to better understand predictability in their environment and, therefore, gain a greater sense of control.

Early exposure to extremely fearful events affects the developing brain, particularly in areas involved in emotions and learning. A large and growing body of research, including animal studies as well as recent neuroimaging studies of human adults, has revealed groundbreaking insights into the brain circuitry that underlies how we learn to be afraid (Delgado et al., 2006; Phelps and LeDoux, 2005) and how we come to associate a specific event or experience with negative outcomes. Two extensively studied structures located deep in the brain—the amygdala and the hippocampus—are involved in fear conditioning. The amygdala detects whether a stimulus, person, or event is threatening and how persistent fear and anxiety can affect young children's learning, behavior, and health; the hippocampus links the fear response to the context in which the aversive stimulus or threatening event occurred (Kim and Fanselow, 1992; LeDoux, 2000; LeDoux and Phelps, 2008). Studies also show that both the amygdala and the hippocampus play an important role in how the body then responds to this threat. Elevated stress hormones such as cortisol have been shown to affect the growth and performance of the hippocampus and the activity of the amygdala in rodents and nonhuman primates, and early and persistent activation of the stress response system adversely affects brain architecture in these critical regions.

Beyond its impact on these two brain structures, heightened stress has also been shown in animals to impair the development of the prefrontal cortex, the brain region that, in humans, is critical for the emergence of executive functions—a cluster of abilities such as making, following, and altering plans; controlling and focusing attention; inhibiting impulsive behaviors; and developing the ability to remember and incorporate new information in decision making. These skills continue to develop and become increasingly important throughout the school years and into adulthood. Behavioral neuroscience research in animals tells us that the prefrontal cortex is highly sensitive to the detrimental effects of excessive stress exposure and that its developing architecture is vulnerable to the negative effects of chronic fear (Arnsten, 2009).

When young children experience serious fear-triggering events, they learn to associate that fear with the context and conditions that accompanied it. Very young children can actually learn to be fearful through a process called "fear conditioning," which is strongly connected to the development of later anxiety disorders (Grillon and Morgan, 1999; Pine, 1999). In the typical circumstances of early childhood, fear responses are activated quickly and then dissipate. However, when young children are chronically exposed to perceived or real threat, such as ongoing violence in the family environment, fear system activation can be prolonged. Conditioned fear is apparent when individuals come to experience and express fear within the context in which the learning occurred. For example, a child who is physically abused by an adult may become anxious in response to both the person and the place where the fear learning occurred. Over time, the fear elicited and the consequent anxiety can become generalized, and subsequent fear responses may be elicited by other people and places that bear sometimes only small resemblances to the original conditions of trauma. Consequently, for young children who perceive the world as a threatening place, a wide range of conditions can trigger anxious behaviors that then impair their ability to learn and to interact socially with others. The extent to which these problems affect physical and mental health is influenced by the frequency of the stressful exposure and/or the emotional intensity of the fear-eliciting event.

Unlearning fear is a fundamentally different process from fear learning. The process of unlearning conditioned fear is called "extinction" and actually involves physically separate and distinct areas of the brain's architecture from those into which fear responses are first incorporated. Generally speaking, the unlearning process involves activity in the prefrontal cortex, which decreases the fear response by regulating the activity of the amygdala (Phelps et al., 2004; Quirk et al., 2006). Research tells us that fears are not just passively forgotten over time, they must be actively unlearned. Studies show that fear learning can occur relatively early in life (Sullivan et al., 2000), whereas fear unlearning is only achieved later, when certain structures in the brain have matured (Carew and Rudy, 1991; Kim and Richardson, 2008). Consequently, the effects of family violence in early childhood can have a significant impact on physical and mental health that can take years to remediate—something that is extremely important to understand in designing interventions for children and families who are experiencing violence.

Chronic and intense fear early in life affects the development of the stress response system and influences the processing of emotional memories (Nemeroff, 2004; Sanchez et al., 2001). When an individual is confronted with a threat, stress systems are activated and elevate the levels of several different stress chemicals that are circulating throughout the body

(McEwen, 2007). An increase in one of those chemicals, cortisol, can have a dramatic impact on how memories are processed and stored (de Kloet et al., 2008). The production of cortisol and adrenaline (as well as noradrenaline) in the brain in a normal stress response leads to memory formation for events and places that signify danger. More specifically, elevated cortisol levels can strengthen the formation of memories of emotional events (McGaugh et al., 1996), block the ability to unlearn fear memories (Yang et al., 2007), and enhance the formation of memories of the surrounding context in which the fearful event occurred (Brinks et al., 2008). Interestingly, too much cortisol can also have the opposite effect and actually impair memory and learning in nonthreatening contexts (Roozendaal et al., 2009). Thus, the biological response to stress is intimately involved in both fear learning and fear unlearning.

Persistent fear can distort how a child perceives and responds to threat. Fear learning typically takes place in specific contexts and results in those fears' becoming associated with the places where the learning occurred. Children may also express fear in response to situations that are similar (not identical) to those initially learned or to situations that are similar to the contexts in which the original learning occurred. These are called "generalized" fear responses, and they are thought to underlie the expression of later anxiety disorders, including PTSD (Davis, 2006; Grillon, 2002; Grillon and Morgan, 1999). Indeed, children who have had chronic and intense fearful experiences often lose the capacity to differentiate between threat and safety. This impairs their ability to learn and interact with others, because they frequently perceive threat in familiar social circumstances, such as in their home or neighborhood. These responses inhibit their ability to learn and often lead to serious anxiety disorders (Grillon et al., 1998; Reeb-Sutherland et al., 2009).

Young children who have been exposed to traumatic circumstances also have difficulty identifying and responding to different expressions of emotions and, therefore, have trouble forming healthy relationships (Wismer Fries et al., 2005). These deficits lead to general problems with social interaction, such as understanding others' facial expressions and emotions. For example, children raised in physically abusive households show heightened sensitivity (compared with nonabused children) to angry faces, which negatively affects their brain function and behavior (Pollak and Kistler, 2002; Pollak et al., 2000). Learning to identify anger—quickly and successfully—in order to avoid being harmed is a highly adaptive and appropriate response to an abusive environment. However, an increased tendency to assume someone is angry when his or her facial expression is ambiguous can be inappropriate and maladaptive in a typical, nonthreatening social setting and even dangerous in unfamiliar social settings (Pollak, 2008). Thus, the extent to which children view the world as a hostile and

threatening place can be viewed as both a logical adaptation to an abusive or violent environment and a potent risk factor for behavior problems in later childhood, adolescence, and adult life.

Early exposure to intense or persistent fear-triggering events affects children's ability to learn. There is extensive and growing scientific evidence that prolonged and/or excessive exposure to fear and states of anxiety can cause levels of stress that can impair early learning and adversely affect later performance in school, the workplace, and the community. Multiple studies in humans have documented problems in cognitive control and learning as a result of toxic stress (National Scientific Council on the Developing Child, 2005; Shonkoff et al., 2009). These findings have been strengthened by research evidence from nonhuman primates and rodents that is expanding our understanding of the brain mechanisms underlying these difficulties.

The brain region in animals that appears highly vulnerable to adversity in this regard is the prefrontal cortex, which is the critical area for regulating thought, emotions, and actions as well as for keeping information readily accessible during the process of active learning. For example, researchers have found that elevations of brain chemicals such as noradrenaline, an important neurotransmitter, can impair functions that are controlled by the prefrontal region by altering the activity of neurons in that area of the brain. In a related fashion, humans experiencing chronic stress have been shown to perform poorly on tasks related to prefrontal cortex functioning (such as working memory or shifting attention) and their ability to control their emotions is typically impaired (Arnsten, 2009).

Implications for Policy and Practice

Many policy makers, educators, and even medical professionals are unaware of the potentially significant, long-term risks to children of exposure to fear-provoking circumstances—including family violence—and lack information about the prevalence of these situations in their communities. This can lead to widespread misconceptions of how children experience and respond to fear.

The scientific knowledge around fear and anxiety points to three important implications:

1. Young children can perceive threat in their environment, but unlike adults, they do not have the cognitive or physical capacities to regulate their psychological response, reduce the threat, or remove themselves from the threatening situation. As a result, serious fear-triggering events such as family violence can have significant and long-lasting impacts on the developing child, beginning in infancy.

2. Children do not naturally outgrow early learned fear responses over time. If young children are exposed to persistent fear and excessive threat during particularly sensitive periods in the developmental process, they may not develop healthy patterns of threat or stress regulation. When they occur, these disruptions do not naturally disappear.
3. Simply removing a child from a dangerous environment will not by itself undo the serious consequences or reverse the negative impacts of early fear learning. Children who have been traumatized need to be in responsive and secure environments that restore their sense of safety, control, and predictability—and supportive interventions are needed to ensure the provision of these environments.

As a result, it is important for policies and programs to take into account children's developmental needs, beginning in early infancy, particularly focusing more attention on preventing persistent fear and anxiety.

Children who live in violent homes or communities have been shown to have more behavior problems, greater evidence of PTSD, and increased physical symptoms such as headaches and stomach aches, as well as lower capacity for empathy and diminished self-esteem (Huth-Bocks et al., 2001). Programs focused on the reduction of domestic violence, substance abuse, neighborhood violence, and poverty are examples of the kinds of community-based services whose impacts could be enhanced by incorporating targeted interventions to explicitly address the emotional needs of young children living under these conditions. When delivered effectively, such interventions could have a multiplier effect into the next generation by reducing both the individual and the societal costs of the negative developmental effects of persistent fear, including mental health impairment, antisocial behavior, physical disease, and violent crime.

REFERENCES

Acierno, R., M. A. Hernandez, A. B. Amstadter, H. S. Resnick, K. Steve, W. Muzzy, and D. G. Kilpatrick. 2010. Prevalence and correlates of emotional, physical, sexual, and financial abuse and potential neglect in the United States: The national elder mistreatment study. *American Journal of Public Health* 100(2):292-297.

Administration on Aging. 2011. *Aging statistics*. http://www.aoa.gov/aoaroot/aging_statistics/index.aspx (accessed July 1, 2011).

Arnsten, A. F. T. 2009. Stress signalling pathways that impair prefrontal cortex structure and function. *Nature Reviews Neuroscience* 10(6):410-422.

Australian Institute of Criminology. 2003. *Australian crime: Facts and figures*. Canberra: The Australian Government.

Bandura, A. 1977. *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.

Bargh, J. A., and T. L. Chartrand. 1999. The unbearable automaticity of being. *American Psychologist* 54(7):462-479.

Beach, S. R., R. Schulz, N. G. Castle, and J. Rosen. 2010. Financial exploitation and psychological mistreatment among older adults: Differences between African Americans and non-African Americans in a population-based survey. *Gerontologist* 50(6): 744-757.

Berkowitz, L. 1993. *Aggression: Its causes, consequences, and control*. McGraw-Hill Series in Social Psychology. New York: McGraw-Hill.

Biddle, E., and D. Hartley. 2002. The cost of workplace homicides in the 1990-1997. In *Injury prevention and control. U.S. Sixth world conference*. Pp. 421-422.

Blenkner, M., M. Bloom, and M. Nielsen. 1971. Research and demonstration project of protective services. *Social Casework* 52(8):483-499.

Bookin, D., and R. E. Dunkle. 1985. Elder abuse—Issues for the practitioner. *Social Casework-Journal of Contemporary Social Work* 66(1):3-12.

Brand, S., and R. Price. 2000. *The economic and social costs of crime, Home Office Research Study 217*. London: Home Office.

Breckman, R. S., and R. D. Adelman 1988. *Strategies for helping victims of elder mistreatment*. Sage Human Services Guides. Newbury Park, CA: Sage Publications.

Brinks, V., E. R. de Kloet, and M. S. Oitzl. 2008. Strain specific fear behaviour and glucocorticoid response to aversive events: Modelling PTSD in mice. *Progress in Brain Research* 167:257-261.

Bronfenbrenner, U. 1979. *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

Burston, G. R. 1975. Granny-battering. *British Medical Journal* 3(5983):592.

Buvinic, M., and A. R. Morrison. 1999. *Violence as an obstacle to development*. IDB technical note 4. Washington, DC: Inter-American Development Bank (IDB).

Buvinic, M., A. R. Morrison, and M. Shifter. 1999. Violence in Latin America and the Caribbean: A framework for action. In *Too close to home: Domestic violence in the Americas*, edited by A. Morrison and B. Orlando. New York: Inter-American Development Bank. Pp. 3-34.

Cantor, M. H. 1991. Family and community—Changing roles in an aging society. *Gerontologist* 31(3):337-346.

Carew, M. B., and J. W. Rudy. 1991. Multiple functions of context during conditioning—A developmental analysis. *Developmental Psychobiology* 24(3):191-209.

CDC (Centers for Disease Control and Prevention). 2008. Adverse health conditions and health risk behaviors associated with intimate partner violence. *Morbidity and Mortality Weekly Report* 57(05):113-117.

CDC. 2009. *Understanding child maltreatment*. http://www.cdc.gov/violenceprevention/pdf/CM-FactSheet-a.pdf (accessed April 2011).

CDC. 2011. *Data & statistics (wisqars): Cost of injury reports*. http://wisqars.cdc.gov:8080/costT/ (accessed 2011).

Childs, H. W., B. Hayslip, L. M. Radika, and J. A. Reinberg. 2000. Young and middle-aged adults' perceptions of elder abuse. *Gerontologist* 40(1):75-85.

Cialdini, R. B. 2001. *Influence: Science and practice*. 4th ed. Boston, MA: Allyn and Bacon.

Clancy, T. V., L. N. Misick, and D. Covington. 1994. The financial impact of intentional violence on community hospitals. *Journal of Trauma-Injury Infection and Critical Care* 37(5):704.

Cohen, M. A. 1988. Pain, suffering, and jury awards—A study of the cost of crime to victims. *Law & Society Review* 22(3):537-555.

Cohen, M. A. 1998. The monetary value of saving a high-risk youth. *Journal of Quantitative Criminology* 14(1):5-33.

Coker, A. L., C. E. Reeder, M. K. Fadden, and P. H. Smith. 2004. Physical partner violence and Medicaid utilization and expenditures. *Public Health Reports* 119(6):557-567.

Cook, P. J., B. A. Lawrence, J. Ludwig, and T. R. Miller. 1999. The medical costs of gunshot injuries in the United States. *Journal of the American Medical Association* 282(5):447-454.
Courtney, M. E. 1999. The economics. *Child Abuse & Neglect* 23(10):975-986.
Coyne, A. C., W. E. Reichman, and L. J. Berbig. 1993. The relationship between dementia and elder abuse. *American Journal of Psychiatry* 150(4):643-646.
Davis, M. 2006. Neural systems involved in fear and anxiety measured with fear-potentiated startle. *American Psychologist* 61(8):741-756.
Day, T. 1995. *The health-related costs of violence against women in Canada: The tip of the iceberg*. Centre for Research on Violence Against Women and Children Publication Series. London, Ont.: The University of Western Ontario.
de Kloet, E. R., H. Karst, and M. Joels. 2008. Corticosteroid hormones in the central stress response: Quick-and-slow. *Frontiers in Neuroendocrinology* 29(2):268-272.
Delgado, M. R., A. Olsson, and E. A. Phelps. 2006. Extending animal models of fear conditioning to humans. *Biological Psychology* 73(1):39-48.
Dodge, K. A. 1986. A social information-processing model of social competence in children. *Minnesota Symposia on Child Psychology* 18:77-125.
Dodge, K. A., J. M. Price, J. A. Bachorowski, and J. P. Newman. 1990. Hostile attributional biases in severely aggressive adolescents. *Journal of Abnormal Psychology* 99(4): 385-392.
Dollard, J., L. W. Doob, N. E. Miller, O. H. Mowrer, and R. R. Sears. 1939. *Frustration and aggression*. New Haven, CT: Yale University Press.
Dong, X. 2005. Medical implications of elder abuse and neglect. *Clinics in Geriatric Medicine* 21(2):293.
Dong, X. 2011. Prospective study of the elder self-neglect and emergency department use in a community population. *Journal of the American Geriatrics Society* 59:S190-S191.
Dong, X., and M. A. Simon. 2008. Is greater social support a protective factor against elder mistreatment? *Gerontology* 54(6):381-388.
Dong, X., and M. A. Simon. 2010. Gender variations in the levels of social support and risk of elder mistreatment in a Chinese community population. *Journal of Applied Gerontology* 29(6):720-739.
Dong, X., M. A. Simon, R. Odwazny, and M. Gorbien. 2008. Depression and elder abuse and neglect among a community-dwelling Chinese elderly population. *Journal of Elder Abuse & Neglect* 20(1):25-41.
Dong, X., T. Beck, and M. A. Simon. 2009a. Loneliness and mistreatment of older Chinese women: Does social support matter? *Journal of Women & Aging* 21(4):293-302.
Dong, X., M. Simon, C. M. de Leon, T. Fulmer, T. Beck, L. Hebert, C. Dyer, G. Paveza, and D. Evans. 2009b. Elder self-neglect and abuse and mortality risk in a community-dwelling population. *Journal of the American Medical Association* 302(5):517-526.
Dong, X., M. Simon, C. Mendes de Leon, T. Fulmer, T. Beck, L. Hebert, C. Dyer, G. Paveza, and D. Evans. 2009c. Elder self-neglect and abuse and mortality risk in a community-dwelling population. *Journal of the American Medical Association* 302(5): 517-526.
Dong, X., M. A. Simon, T. T. Beck, C. Farran, J. J. McCann, C. F. Mendes de Leon, E. Laumann, and D. A. Evans. 2010. Elder abuse and mortality: The role of psychological and social wellbeing. *Gerontology*.
Dong, X., E. S. Chang, E. Wong, B. Wong, and M. A. Simon. 2011a. How do U.S. Chinese older adults view elder mistreatment? Findings from a community-based participatory research study. *Journal of Aging and Health* 23(2):289-312.

Dong, X., M. A. Simon, T. Fulmer, C. F. M. de Leon, L. E. Hebert, T. Beck, P. A. Scherr, and D. A. Evans. 2011b. A prospective population-based study of differences in elder self-neglect and mortality between black and white older adults. *Journals of Gerontology Series a-Biological Sciences and Medical Sciences* 66(6):695-704.

Dong, X., E. S. Chang, E. Wong, B. Wong, and M. A. Simon. In press. Association of depressive symptomology and elder mistreatment in a U.S. Chinese population: Findings from a community-based participatory research study. *Journal of Agression, Maltreatment, and Trauma*.

Dyer, C. B., V. N. Pavlik, K. P. Murphy, and D. J. Hyman. 2000. The high prevalence of depression and dementia in elder abuse or neglect. *Journal of the American Geriatrics Society* 48(2):205-208.

El-Zanaty, F. H. 1996. *Egypt demographic and health survey, 1995*. Cairo, Egypt; National Population Council, Calverton, MD; Macro International.

Evasovich, M., R. Klein, F. Muakkassa, and R. Weekley. 1998. The economic effect of child abuse in the burn unit. *International Journal of Burns* 24(7):642-645.

Fanslow, J., C. Coggan, B. Miller, and R. Norton. 1997. The economic cost of homicide in New Zealand. *Social Science & Medicine* 45(7):973-977.

Farrington, D. P. 1997. The relationship between low resting heart rate and violence. In *Biosocial bases of violence*. Vol. 292, edited by A. Raine, P. Brennan, D. P. Farrington, and S. A. Mednick. New York: Plenum Press. Pp. 89-106.

Faulkner, L. R. 1982. Mandating the reporting of suspected cases of elder abuse—An inappropriate, ineffective and ageist response to the abuse of older adults. *Family Law Quarterly* 16(1):69-91.

Finkelhor, D., R. Ormrod, H. Turner, and S. L. Hamby. 2005. The victimization of children and youth: A comprehensive, national survey. *Child Maltreatment* 10(1):5-25.

Fisher, A., L. G. Chestnut, and D. M. Violette. 1989. The value of reducing risks of death: A note on new evidence. *Journal of Policy Analysis and Management* 8(1):88-100.

Forjuoh, S. N. 2000. Child maltreatment related injuries: Incidence, hospital charges, and correlates of hospitalization. *Child Abuse & Neglect* 24(8):1019-1025.

Fulmer, T., A. Firpo, L. Guadagno, T. M. Easter, F. Kahan, and B. Paris. 2003. Themes from a grounded theory analysis of elder neglect assessment by experts. *Gerontologist* 43(5):745-752.

GAO (Government Accountability Office). 2011. *Elder justice: Stronger federal leadership could enhance national response to elder abuse*. http://aging.senate.gov/events/hr230kb2.pdf (accessed July 1, 2011).

Gold, M. R., J. E. Siegel, L. B. Russell, and M. C. Weinstein. 1996. *Cost-effectiveness in health and medicine*. New York: Oxford.

Grillon, C. 2002. Startle reactivity and anxiety disorders: Aversive conditioning, context, and neurobiology. *Biological Psychiatry* 52(10):958-975.

Grillon, C., and C. A. Morgan. 1999. Fear-potentiated startle conditioning to explicit and contextual cues in Gulf War veterans with posttraumatic stress disorder. *Journal of Abnormal Psychology* 108(1):134-142.

Grillon, C., L. Dierker, and K. R. Merikangas. 1998. Fear-potentiated startle in adolescent offspring of parents with anxiety disorders. *Biological Psychiatry* 44(10):990-997.

Guerra, N. G., L. R. Huesmann, and A. Spindler. 2003. Community violence exposure, social cognition, and aggression among urban elementary school children. *Child Development* 74(5):1561-1576.

Gunderson, L. 1999. The financial costs of gun violence. *Annals of Internal Medicine* 131(6):483-484.

Hashemi, L., and B. S. Webster. 1998. Non-fatal workplace violence workers' compensation claims (1993-1996). *Journal of Occupational and Environmental Medicine* 40(6):561-567.

Heise, L., M. Ellsberg, and M. Gottemoeller. 1999. *Ending violence against women*. Baltimore, MD: Johns Hopkins University School of Public Health, Center for Communications Programs.

HHS (U.S. Department of Health and Human Services). 2001. *Prevention pays: The costs of not preventing child abuse and neglect*. Fairfax, VA: Caliber Associates (no longer available).

Hoel, H., K. Sparks, and C. Cooper. 2001. *The cost of violence/stress at work and the benefits of a violence/stress-free working environment*. University of Manchester Institute of Science and Technology. Report commissionned by the International Labor Organization.

Homer, A. C., and C. Gilleard. 1990. Abuse of elderly people by their carers. *British Medical Journal* 301(6765):1359-1362.

Hornick, J., J. Paetsch, and L. Bertrand. 2002. *A manual on conducting economic analysis of crime prevention programs*. Ottawa, Canada: National Crime Prevention Centre.

Huesmann, L. R. 1988. An information-processing model for the development of aggression. *Aggressive Behavior* 14(1):13-24.

Huesmann, L. R. 1998. The role of social information processing and cognitive schemas in the acquisition and maintenance of habitual aggressive behavior. In *Human aggression: Theories, research, and implications for social policy*, edited by R. G. Geen and E. I. Donnerstein. New York: Academic Press. Pp. 73-109.

Huesmann, L., and N. Guerra. 1997. Children's normative beliefs about aggression and aggressive behavior. *Journal of Personality and Social Psychology* 72(2):408-419.

Huth-Bocks, A. C., A. A. Levendosky, and M. A. Semel. 2001. The direct and indirect effects of domestic violence on young children's intellectual functioning. *Journal of Family Violence* 16(3):269-290.

Irazuzta, J. E., J. E. McJunkin, K. Danadian, F. Arnold, and J. L. Zhang. 1997. Outcome and cost of child abuse. *Child Abuse & Neglect* 21(8):751-757.

Jones, J. S. 1994. Elder abuse and neglect—Responding to a national problem. *Annals of Emergency Medicine* 23(4):845-848.

Jones, J. S., C. Holstege, and H. Holstege. 1997. Elder abuse and neglect: Understanding the causes and potential risk factors. *American Journal of Emergency Medicine* 15(6):579-583.

Kim, J. H., and R. Richardson. 2008. The effect of temporary amygdala inactivation on extinction and reextinction of fear in the developing rat: Unlearning as a potential mechanism for extinction early in development. *Journal of Neuroscience* 28(6):1282-1290.

Kim, J. J., and M. S. Fanselow. 1992. Modality-specific retrograde-amnesia of fear. *Science* 256(5057):675-677.

Kleinschmidt, K. C. 1997. Elder abuse: A review. *Annals of Emergency Medicine* 30(4): 463-472.

Krug, E., L. Dahlberg, J. Mercy, A. Zwi, and R. Lozano. 2002. *World report on violence and health*. Geneva: World Health Organization.

Lachs, M. S., C. S. Williams, S. O'Brien, L. Hurst, A. Kossack, A. Siegal, and M. E. Tinetti. 1997. ED use by older victims of family violence. *Annals of Emergency Medicine* 30(4): 448-454.

Lachs, M. S., C. S. Williams, S. O'Brien, K. A. Pillemer, and M. E. Charlson. 1998. The mortality of elder mistreatment. *Journal of the American Medical Association* 280(5):428-432.

Lachs, M. S., C. S. Williams, S. O'Brien, and K. A. Pillemer. 2002. Adult protective service use and nursing home placement. *Gerontologist* 42(6):734-739.

Lau, E., and J. Kosberg. 1979. Abuse of the elderly by informal care providers. *Aging* 299: 10-15.

Leadership Council of Aging Organizations. 2010. *Letter to Chairman Harkin and ranking member Cochran-Chairman Obey and ranking member Tiahrt*. http://www.nasuad.org/documentation/policy_priorities/signed_onto_letters/elderjusticeact.pdf (accessed 2010).

LeDoux, J. E. 2000. Emotion circuits in the brain. *Annual Review of Neuroscience* 23: 155-184.

LeDoux, J. E., and E. A. Phelps. 2008. Handbook of emotions. 3rd ed, edited by M. Lewis, J. M. Haviland-Jones, and L. F. Barrett: New York: Guilford Press. Pp. 159-179.

Lewis, M., and L. Michalson. 1983. *Children's emotions and moods: Developmental theory and measurement*. New York: Plenum Press.

Libby, A. M., M. R. Sills, M. K. Thurston, and H. D. Orton. 2003. Costs of childhood physical abuse: Comparing inflicted and unintentional traumatic brain injuries. *Pediatrics* 112(1):58-65.

Longres, J. F. 1994. Self-neglect and social-control—A modest test of an issue. *Journal of Gerontological Social Work* 22(3-4):3-20.

Ludwig, J., and P. J. Cook. 2000. Homicide and suicide rates associated with implementation of the Brady handgun violence prevention act. *Journal of the American Medical Association* 284(5):585-591.

Mansingh, A., and P. Ramphal. 1993. The nature of interpersonal violence in Jamaica and its strain on the national-health system. *West Indian Medical Journal* 42(2):53-56.

Max, W., and D. P. Rice. 1993. Shooting in the dark—Estimating the cost of firearm injuries. *Health Affairs* 12(4):171-185.

McCall, B. P., and I. B. Horwitz. 2004. Workplace violence in Oregon: An analysis using workers' compensation claims from 1990-1997. *Journal of Occupational and Environmental Medicine* 46(4):357-366.

McEwen, B. S. 2007. Physiology and neurobiology of stress and adaptation: Central role of the brain. *Physiological Reviews* 87(3):873-904.

McGaugh, J. L., L. Cahill, and B. Roozendaal. 1996. Involvement of the amygdala in memory storage: Interaction with other brain systems. *Proceedings of the National Academy of Sciences USA* 93(24):13508-13514.

McIntosh, J. L., and R. W. Hubbard. 1988. Indirect self-destructive behavior among the elderly—A review with case examples. *Journal of Gerontological Social Work* 13(1-2): 37-48.

Mendonca, R. N., J. Alves, and J. Cabral Filho. 2002. Hospital costs due to violence against children and adolescents in Pernambuco State, Brazil, during 1999. *Cad Saude Publica*.

Miller, T. R. 1989. *Narrowing the plausible range around the value of life*. Washington, DC: The Urban Institute.

Miller, T. R., and M. A. Cohen. 1997. Costs of gunshot and cut/stab wounds in the United States, with some Canadian comparisons. *Accident Analysis and Prevention* 29(3):329-341.

Miller, T. R., M. A. Cohen, and S. B. Rossman. 1993. Victim costs of violent crime and resulting injuries. *Health Affairs* 12(4):186-197.

Miller, T. R., M. A. Cohen, and B. Wiersema. 1996. *Victim costs and consequences: A new look*. National Institute of Justice Research Report, U.S. Department of Justice, Office of Justice Programs.

Miller, T. R., D. A. Fisher, and M. A. Cohen. 2001. Costs of juvenile violence: Policy implications. *Pediatrics* 107(1):art. no.-e3.

Mock, C., S. Pilcher, and R. Maier. 1994. Comparison of the costs of acute treatment for gunshot and stab wounds—Further evidence of the need for firearms control. *Journal of Trauma-Injury Infection and Critical Care* 36(4):516-522.

Moon, A., and O. Williams. 1993. Perceptions of elder abuse and help-seeking patterns among African-American, caucasian American, and Korean-American elderly women. *Gerontologist* 33(3):386-395.

Morrison, A., and M. Orlando. 1999. Social and economic costs of domestic violence: Chile and Nicaragua. In *Too close to home: Domestic violence in the Americas*, edited by A. Morrison and M. Biehl. New York: Inter-American Development Bank.

Mouton, C. P., and D. V. Espino. 1999. Health screening in older women. *American Family Physician* 59(7):1835-1842.

Mouton, C. P., R. J. Rodabough, S. L. D. Rovi, J. L. Hunt, M. A. Talamantes, R. G. Brzyski, and S. K. Burge. 2004. Prevalence and 3-year incidence of abuse among postmenopausal women. *American Journal of Public Health* 94(4):605-612.

Nahmiash, D. 2002. Powerlessness and abuse and neglect of older adults. *Journal of Elder Abuse & Neglect* 14(1):21-47.

National Crime Prevention Council. 1999. *Saving money while stopping crime: A handy reference for prevention advocates*. Topics in Crime Prevention. Washington, DC.

National Scientific Council on the Developing Child. 2005. Excessive stress disrupts the architecture of the developing brain: Working paper no. 3. http://developingchild.harvard.edu/index.php/resources/reports_and_working_papers/working_papers/wp3/ (accessed April 2011).

Nelson, C. A., and M. DeHaan. 1996. Neural correlates of infants' visual responsiveness to facial expressions of emotion. *Developmental Psychobiology* 29(7):577-595.

Nemeroff, C. B. 2004. Neurobiological consequences of childhood trauma. *Journal of Clinical Psychiatry* 65(1):18-28.

Neville, P., A. Boyle, and S. Baillon. 1999. A descriptive survey of acute bed usage for dementia care in old age psychiatry. *International Journal of Geriatric Psychiatry* 14(5):348-354.

New, M., and L. Berliner. 2000. Mental health service utilization by victims of crime. *Journal of Traumatic Stress* 13(4):693-707.

NRC (National Research Council). 2003. *Elder mistreatment: Abuse, neglect, and exploitation in an aging America.* Panel to Review Risk and Prevalence of Elder Abuse and Neglect. Edited by R. J. Bonnie and R. B. Wallace. Washington, DC: The National Academies Press.

Payne, J. E., T. V. Berne, R. L. Kaufman, and R. Dubrowskij. 1993. Outcome of treatment of 686 gunshot wounds of the trunk at Los-Angeles-County-USC-Medical-Center—Implications for the community. *Journal of Trauma-Injury Infection and Critical Care* 34(2):276-281.

Peden, M., and J. Van der Spuy. 1998. The cost of treating firearm victims. *Trauma Review* 6:4-5.

Phelps, E. A., and J. E. LeDoux. 2005. Contributions of the amygdala to emotion processing: From animal models to human behavior. *Neuron* 48(2):175-187.

Phelps, E. A., M. R. Delgado, K. I. Nearing, and J. E. LeDoux. 2004. Extinction learning in humans: Role of the amygdala and vmPFC. *Neuron* 43(6):897-905.

Phillips, R. 1998. The economic cost of homicide to a South African city. University of Cape Town Graduate School of Business, Cape Town.

Pine, D. S. 1999. Pathophysiology of childhood anxiety disorders. *Biological Psychiatry* 46(11):1555-1566.

Plotnick, R. D., and L. Deppman. 1999. Using benefit-cost analysis to assess child abuse prevention and intervention programs. *Child Welfare* 78(3):381-407.

Podnieks, E. 1992. National survey on abuse of the elderly in Canada. *Journal of Elder Abuse & Neglect* 4:5-58.

Pollak, S. D. 2008. Mechanisms linking early experience and the emergence of emotions: Illustrations from the study of maltreated children. *Current Directions in Psychological Science* 17(6):370-375.

Pollak, S. D., and D. J. Kistler. 2002. Early experience is associated with the development of categorical representations for facial expressions of emotion. *Proceedings of the National Academy of Sciences USA* 99(13):9072-9076.

Pollak, S. D., D. Cicchetti, K. Hornung, and A. Reed. 2000. Recognizing emotion in faces: Developmental effects of child abuse and neglect. *Developmental Psychology* 36(5): 679-688.

Quirk, G. J., R. Garcia, and F. Gonzalez-Lima. 2006. Prefrontal mechanisms in extinction of conditioned fear. *Biological Psychiatry* 60(4):337-343.

Reeb-Sutherland, B. C., S. M. Helfinstein, K. A. Degnan, K. Perez-Edgar, H. A. Henderson, S. Lissek, A. Chronis-Tuscano, C. Grillon, D. S. Pine, and N. A. Fox. 2009. Startle response in behaviorally inhibited adolescents with a lifetime occurrence of anxiety disorders. *Journal of the American Academy of Child and Adolescent Psychiatry* 48(6):610-617.

Roozendaal, B., B. S. McEwen, and S. Chattarji. 2009. Stress, memory and the amygdala. *Nature Reviews Neuroscience* 10(6):423-433.

Rovi, S., P. H. Chen, and M. S. Johnson. 2004. The economic burden of hospitalizations associated with child abuse and neglect. *American Journal of Public Health* 94(4):586-590.

Sameroff, A. 2010. A unified theory of development: A dialectic integration of nature and nurture. *Child Development* 81(1):6-22.

Sanchez, M. M., C. O. Ladd, and P. M. Plotsky. 2001. Early adverse experience as a developmental risk factor for later psychopathology: Evidence from rodent and primate models. *Development and Psychopathology* 13(3):419-449.

Seligman, M. E. P. 1975. *Helplessness: On depression, development, and death*. San Francisco, CA: W.H. Freeman.

Shields, L. B. E., D. M. Hunsaker, and J. C. Hunsaker. 2004. Abuse and neglect: A ten-year review of mortality and morbidity in our elders in a large metropolitan area. *Journal of Forensic Sciences* 49(1):122-127.

Shonkoff, J. P., W. T. Boyce, and B. S. McEwen. 2009. Neuroscience, molecular biology, and the childhood roots of health disparities. *Journal of the American Medical Association* 301(21):2252-2259.

Snively, S. 1994. *The New Zealand economic cost of family violence*. Wellington, New Zealand: Family Violence Unit, Department of Social Welfare.

Song, D. H., G. P. Naude, D. A. Gilmore, and F. Bongard. 1996. Gang warfare: The medical repercussions. *Journal of Trauma-Injury Infection and Critical Care* 40(5):810-815.

Stanko, E. A., C. Hale, and H. Lucraft. 1998. *Counting the costs: Estimating the impact of domestic violence in the London borough of Hackney*. Crime Concern, funded by Hackney Safer Cities and the Children's Society with the co-operation of the London Borough of Hackney.

Steinmetz, S. K. 1990. Elder abuse by adult offspring: The relationship of actual vs. perceived dependency. *Journal of Health and Human Resources Administration* 12(4):434-463.

Sullivan, R. M., M. Landers, B. Yeaman, and D. A. Wilson. 2000. Neurophysiology—Good memories of bad events in infancy. *Nature* 407(6800):38-39.

Summers, C. L., and E. M. Molyneux. 1992. Suspected child-abuse—Cost in medical time and finance. *Archives of Disease in Childhood* 67(7):905-910.

Sumner, B. B., E. R. Mintz, and P. L. Brown. 1987. Injuries caused by personal violence. *Injury-International Journal of the Care of the Injured* 18(4):258-260.

Teaster, P., T. Dugar, M. Moendiondo, E. Abner, K. Cecil, and J. Otto. 2004. *The 2004 survey of adult protective services: Abuse of adults 60 years of age and older*. www.elderabusecenter.org/pdf/research/apsreport030703.pdf (accessed April 4, 2007).

Tellez, M. G., R. C. Mackersie, D. Morabito, C. Shagoury, and C. Heye. 1995. Risks, costs, and the expected complication of re-injury. *American Journal of Surgery* 170(6):660-664.

Tjaden, P., and N. Thoennes. 2000. *Full report of the prevalence, incidence, and consequences of violence against women: Findings from the National Violence Against Women Survey.* Washington, DC: National Institute of Justice, Office of Justice Programs.

U.S. Department of Justice, Bureau of Justice Statistics. 1994. *The costs of crime to victims: Crime data brief*.

Vassar, M. J., and K. W. Kizer. 1996. Hospitalizations for firearm-related injuries—A population-based study of 9562 patients. *Journal of the American Medical Association* 275(22):1734-1739.

Walker, J. R. 1997. *Estimates of the costs of crime in Australia 1996*. Trends & Issues in Crime and Criminal Justice, No. 72. Canberra, Australian Capital Territory: Australian Institute of Criminology.

WHO (World Health Organization). 2002. *World report on violence and health*. Geneva, Switzerland.

Wismer Fries, A. B., T. E. Ziegler, J. R. Kurian, S. Jacoris, and S. D. Pollak. 2005. Early experience in humans is associated with changes in neuropeptides critical for regulating social behavior. *Proceedings of the National Academy of Sciences USA* 102(47): 17237-17240.

Wisner, C. L., T. P. Gilmer, L. E. Saltzman, and T. M. Zink. 1999. Intimate partner violence against women—Do victims cost health plans more? *Journal of Family Practice* 48(6):439-443.

World Bank. 2004. *World development report: Making services work for poor people*. Washington, DC: The World Bank.

Yang, Y. L., P. K. Chao, L. S. Ro, Y. Y. P. Wo, and K. T. Lu. 2007. Glutamate NMDA receptors within the amygdala participate in the modulatory effect of glucocorticoids on extinction of conditioned fear in rats. *Neuropsychopharmacology* 32(5):1042-1051.

Yodanis, C. L., A. Godenzi, and E. A. Stanko. 2000. The benefits of studying costs: A review and agenda for studies on the eonomic costs of violence against women. *Policy Studies* 21(3):263-276.

7

Context and Place

The environment in which violence occurs affects the impact of and response to such violence. The ability to mobilize resources, support victims, address social norms, and recognize the role of early intervention differs across contexts and places. The presence of resiliency or other strong protective factors can mean less damaging impact and faster rebuilding. On the other hand, localities that are already fragile and under strain see more devastating effects of violence and often are trapped in repeated cycles of violence.

The first paper explores the role of social context in violence, particularly how certain communities are at risk of chronic violence. It defines concepts in a more general sense and is applicable in a number of settings.

The next three papers explore specific types of violence in specific settings. The second paper explores the impact of youth violence in conflict settings, particularly in Sierra Leone, and the reintegration of such youth post-conflict. The third paper examines the costs of intimate partner violence in three locations—Bangladesh, Morocco, and Uganda—and the similarities and differences between these settings. The final paper examines the intersection of youth violence and narcotics-related violence in Jamaica.

SOCIAL CONTEXTS AND VIOLENCE

Mindy Thompson Fullilove, M.D., and Rodrick Wallace, Ph.D.
New York State Psychiatric Institute at Columbia University

Abe Lincoln may have freed all men, but Sam Colt made them equal.
—Slogan of Colt Manufacturing

Violence is part of human relationships. Several lines of inquiry link violence to social context. *Structural violence* describes the ways in which standing forms of social organization limit opportunity for some members of society. Structural violence, because it is part of the social order and standing law, is often considered "right" or "natural." *Criminal violence* describes the harms that are done in violation of societal laws. Because this violence breaks the laws, it is hidden from view and punished on discovery. All societies suffer from some level of both of these kinds of violence, and the efforts at collective well-being are directed at exposing and correcting the harms that are hidden from view.

Epidemic violence refers to outbreaks of violence that are substantially in excess of the usual rates; epidemic violence might be either structural (state-sponsored genocide, for example) or criminal (as in an outbreak of drug-related violence). It is this third type, epidemic violence, that becomes problematic to the survival of society especially if the rates are elevated over long periods of time. The *2011 World Development Report* puts these issues into stark relief. The report analyzed the problems of countries that are plagued by high levels of violence persisting over many years. It noted (World Bank, 2011):

> No low-income fragile or conflict-affected country has yet achieved a single [UN Millennium Development Goal]. People in fragile and conflict-affected states are more than twice as likely to be undernourished as those in other developing countries, more than three times as likely to be unable to send their children to school, twice as likely to see their children die before age five, and more than twice as likely to lack clean water. On average, a country that experienced major violence over the period from 1981 to 2005 has a poverty rate 21 percentage points higher than a country that saw no violence.

The report also emphasized that problems in conflict-affected countries affect other parts of the country, lowering their productivity and destabilizing their social organization. Thus, the problem of chronic violence poses a serious threat to the survival of people and their societies. It emphasizes that "insecurity … has become a primary development challenge of our time" (World Bank, 2011). Yet overcoming chronic violence is difficult and takes, optimistically, a generation to accomplish. What has happened in social contexts that leads to such chronic violence and makes recovery so difficult?

Transformation of State

A modest paper by phenomenologist Eva-Maria Simms of Duquesne University in Pittsburgh, Pennsylvania, offers a useful insight into this

problem. Simms interviewed 12 people who grew up in the Hill District, an African-American working class neighborhood in Pittsburgh. She was struck by the differences in the accounts of childhood that were presented by the interviewees. She divided the responses into three eras. The first, which spanned 1930-1960, was characterized by tight social relationships in which all the adults collaboratively raised all of the children, who themselves were collaboratively engaged in exploring the many opportunities and dangers of the neighborhood. Urban renewal implemented in the late 1950s destroyed the major commercial section of the neighborhood, which had served as a connector to Pittsburgh's downtown. This caused the destruction of many homes and businesses and dispersed many of the area residents. People growing up in the Hill between 1960 and 1980 were raised in smaller, though still substantial, networks. They had less sense of security. During that period, deindustrialization eliminated many of the employment opportunities for Hill residents (Simms, 2008).

Those growing up or raising children between 1980 and 2004 described living in a very fragmented place. The networks had shrunk, often only a single mother overseeing the care of children. The young people confronted violence and danger in the neighborhood, what one respondent called "unexpectancy." The lack of predictability dictated self-protective behaviors for anyone needing to travel outside the home. This state of vigilance and self-reliance was in stark contrast to the earlier descriptions of interdependence and reliability (Simms, 2008).

The changes in social organization, interpersonal relationships, and views of the environment indicate a change of state in the place. Deborah Wallace, in discussing findings on low birth weight in another destabilized African-American community, noted (Wallace, 2011):

> Ecosystem resilience theory can help interpret the results.... Holling articulated this theory in 1973 to explain how ecosystems deal with impacts and why they suddenly without warning may shift into an entirely different structure and function … impacts become amplified … and eventually cause a "domain shift." (Holling's term)

The change of state, or domain shift, appears to be accompanied by a shift in the behavioral repertoire of the inhabitants of the place. Acker examined the incursion of crack cocaine into the Hill district. She argued that losses of business and population due to urban renewal and deindustrialization devastated the Hill. The twin attractions of a new form of cocaine and a new source of money triggered the kind of epidemic of drug use that had been seen in other cities. The attractions for young men, in particular, to affirm their identities by selling crack, were irresistible for many. Following the logic of Bourgois (1995), who studied Puerto

Rican crack dealers in New York, Acker asserted, "In this world of dealing with its imperative of violence, these young men enacted a masculine identity that was denied them in the world of legitimate employment" (Acker, 2010).

Other researchers, observing the violence epidemic that accompanied the crack cocaine epidemic, reaching a peak between 1985 and 1995, found that the violence was used to define and protect territory and ensure reliability in black market transactions. The violence pervaded community life and was part and parcel of an emerging ethos of hyperindividualism in sharp contrast to earlier communitarian values.

Rodrick Wallace and colleagues, observing the violence epidemic at its peak, were struck, as Acker, Bourgois, and others had been, by the "imperative of violence." He used mathematical models to examine the idea that violence, despite its high risk, was part of an emerging "language" that was effective under the conditions of social disintegration caused by deindustrialization and displacement (Wallace and Fullilove, 2008). Donaldson, a journalist studying minority neighborhoods in New York at that time, was able to document the "language" of violence that was being used (Donaldson, 1993).

Wallace and colleagues noted (1996):

> The use of guns in the course of violent displays is a behavior that appears to conform to traditional norms. However, the lethality of guns increases the harm that will occur and undermines the possibility that the encounter will bring men together. For example, the gun, which has been called the "great equalizer," enhances the power of the individual wielding it, without regard for the social norms for conferring power. A teenager with a gun becomes more powerful than an older man without one. The widespread adoption of guns by teenagers in inner-city communities, rather than conforming to established rules for displays of violence, has reconfigured them around gun-related dynamics. Young teenagers are clear that without a gun they feel exposed. The rate of weapon carrying has risen precipitously. As more and more young people are armed, more feel the need to be armed. With the rise of lethal weapons has come an inevitable rise in injuries and deaths.

Wallace et al. (1996) also noted, "There are, of course, possible applications to many regions of the world where 'cycles of violence' seem to have become established." In particular, the article suggests that change of social state—a domain shift—from interdependence to hyperindividualism includes a shift toward the use of violence as an essential tool of communication and social control. This, in turn, creates a negative feedback loop that further undermines the social organization through exacerbating violence, causing injury and death, and preventing social progress.

Exiting Chronic Violence

Marginalization, inequality, and lack of economic opportunity are highlighted by the authors cited here as triggering and sustaining violence. Exiting from the feedback loop of chronic violence requires restoring confidence in collective organizations and creating opportunity for social and economic engagement with the larger society. The World Bank emphasizes two facts about this: (1) the World Bank has observed societies that have exited from chronic violence; (2) it notes that succeeding in such a process requires an array of social, justice, and financial interventions over a sustained period of time (World Bank, 2011).

Such progress is constantly threatened by economic, social, and environmental perturbations that disturb the social ecology of a recovering place. Drought, recession, and social disorder can undo progress, but concerted policies of serial forced displacement, as described for the United States by Wallace and Fullilove (2008), will be particularly effective in precluding community reknitting and recovery from the cycle of violence.

Despite the fragility of the situation, a broad consensus about the direction for the future will help people remain focused on the road to peace through difficult times. Sam Colt's gun is one way of equalizing human populations: we can choose another way.

THE IMPACT OF WAR ON CHILD DEVELOPMENT AND MENTAL HEALTH: A LONGITUDINAL STUDY OF RISK AND RESILIENCE AMONG FORMER CHILD SOLDIERS IN SIERRA LEONE

Theresa S. Betancourt, Sc.D., M.A.
François-Xavier Bagnoud Center for Health and Human Rights, Harvard School of Public Health

Abstract

This paper concentrates on the psychosocial and developmental consequences of war experiences for child development and mental health using examples from a longitudinal study in Sierra Leone, West Africa. In war-affected countries, there is often an overlap of several forms of adversity commonly characterizing large proportions of developing children and their caregivers. As opposed to a simplistic view of children and violence that ascribes their long-term well-being as mainly linked to traumatic exposures or individual characteristics, a developmental and ecological lens is used to consider the many ways in which mental health and well-being are shaped by the interplay between individual, family, community, and societal

factors. The paper concludes with a series of recommendations illustrating the interplay between building the evidence base, increasing political will to make change, and improving the implementation of high-quality and sustainable services for children, youth, and families.

Understanding Children's Experience of War

The mental health of young people affected by war-related violence and loss is a topic of increasing relevance to global public health (Jacob et al., 2007; Lancet Global Mental Health Group et al., 2007; Patel et al., 2007a,b; Prince et al., 2007; Saraceno et al., 2007; Saxena et al., 2007). Today, more than 1 billion children worldwide live in areas affected by armed conflict. Of these children, 30 percent are below the age of 5 (UNICEF, 2009). Situations such as armed conflict had contributed to the displacement of an estimated 18 million children as of 2006, including 5.8 million child refugees and 8.8 million children internally displaced within their own countries (UNICEF, 2008, 2009). Additionally, conflicts over the past decade have caused an estimated 2 million child deaths and left another 6 million children disabled (UNICEF, 2006). It is estimated that 1 million children over the last decade have been orphaned or separated from their families (UNICEF, 2007a). Since 1990, an estimated 90 percent of global conflict-related deaths have been civilians, with women and children accounting for four out of five of these deaths (Otunnu, 2002). In countries recently affected by conflict, the median adjusted maternal mortality was 1,000 out of 100,000 births compared to 690 out of 100,000 in countries without recent conflict (O'Hare and Southall, 2007). The toxic influence of armed conflict on child well-being is undeniable. Out of the 10 countries with the highest rates of under-5 deaths, seven are affected by armed conflict (UNICEF, 2007a).

War-Related Violence Damages the Social Environment

War dramatically undermines the many layers of the social ecology that normally support healthy child development and growth. War often heralds increased levels of poverty, weakened community structures, insufficient social services, economic devastation, and declines in health infrastructure (Guha-Sapir et al., 2005). Because of its broad impact on many other domains of human health and well-being, armed conflict is often viewed as a rate-limiting step in development progress. For example, of the 20 lowest-achieving countries across all the Millennium Development Goals, nearly half were affected by armed conflict (UNICEF, 2009). In particular, opportunities and services for children were dramatically more limited in areas affected by armed conflict; more than two-thirds of malnourished

children under age 5 live in war-affected countries (Southall and O'Hare, 2002; UNICEF, 2009).

Involvement with Armed Groups Has Profound Effects on Psychosocial Adjustment

Much attention has been paid to the involvement of children in armed conflict. Recently, it was estimated that approximately 300,000 boys and girls under the age of 18 were involved in 17 active armed conflicts around the world (Coalition to Stop the Use of Child Soldiers, 2008; UNICEF, 2007a). Children associated with armed forces and armed groups bear witness to violence and may take part in committing atrocities. Their connections to family and support networks are severed, leaving them to develop in unsafe and frightening environments. Studies have shown that children involved with armed forces and armed groups exhibit high rates of mental health problems and that their ability to navigate reintegration in post-conflict settings is limited by community stigma and difficulties in interpersonal relationships (Bayer et al., 2007; Betancourt et al., 2010a; Derluyn et al., 2004; Kohrt et al., 2008). In 2007, the *Paris Principles: Principles and Guidelines on Children Associated with Armed Forces or Armed Conflict* laid out comprehensive guidelines for preventing the engagement of children in armed conflict and for facilitating their reintegration in post-conflict settings (UNICEF, 2007b).

Of the studies conducted on these populations, several speak specifically to the psychosocial consequences of involvement with armed groups and outline the need for more integrated, robust community services for these young people. The longitudinal study presented in this paper underscores the complexities of post-conflict reintegration for war-affected youth.

The Value of an Ecological-Developmental Perspective

An intergenerational and ecological perspective is important for understanding the risk and protective factors that shape developmental and psychosocial trajectories of war-affected youth (Bronfenbrenner, 1979). Among war-affected youth, resilience—defined as the ability to thrive and do well in spite of hardship—has most often been studied with a view toward individual qualities (Apfel and Simon, 1996). However, without considering the multiple layers of family, peer, and social influence that shape any one child's mental health and well-being, these studies often take children out of context (Betancourt, 2011). A social-ecological view of resilience applies a broader perspective, looking to interactions between individual strengths, the social ecology, and resources in a child's larger environment.

Overview of the Social Ecology

The work of Bronfenbrenner (1979) and later writings by Elbedour et al. (1993) and Betancourt and Kahn (2008) provide a foundation for considering the social ecology of child development in the context of compounded war-related violence and loss. Bronfenbrenner's theory views individual aspects of the developing child, such as age, gender, temperament, or intelligence, as nested within a number of systems, including the "microsystem," "mesosytem," "exosystem," and "macrosystem." The microsystem encompasses different contexts (home, school, neighborhood) in which the child interacts with his or her immediate environment. The mesosystem is a larger system made up of more immediate microsystems and is implicated when two or more settings of relevance interact. This could include interactions between the child's family and the school setting, such as the parent's communication with the school, or between the child's family and the extended social network, such as neighbor-to-neighbor interactions. Often, mesosystem interactions force children and adolescents to take on new roles and responsibilities; for example, a child may withdraw from school to care for younger siblings when the family is threatened by poverty or illness (Betancourt and Khan, 2008; Elbedour et al., 1993).

The exosystem is an extension of the mesosystem and includes societal structures, both formal and informal (e.g., religious and tribal bodies, government, major economic and cultural societal institutions). The exosystem pertains indirectly to the individual. For children facing adversity due to war-related violence, the exosystem may refer to the major actors who contribute to determining the conditions of aid and global economic development.

Finally, the macrosystem, or the larger cultural context including beliefs, customs, and the historical and political aspects of the social ecology, also has an important role to play. The macrosystem touches all other aspects of the social ecology and affects how different layers interact.

Applying the Social Ecology to Consider War-Affected Youth

For youth in settings of war or conflict, the importance of interactions across systems cannot be ignored. In these contexts, macrosystem-level issues such as governance and social investments take on particular importance. When applied appropriately, strong governance can exert influence on the functioning of community exosystems, including the services (e.g., schools) and protections (e.g., police) needed to enable positive child development (Aguilar and Retamal, 1998; Ungar et al., 2007). In turn, these community dynamics can bolster the family microsystems and

enable parents to best care for their children (Betancourt and Khan, 2008; Bronfenbrenner, 1979; Hobfoll et al., 1991).

Responses to the Situation of Children Affected by War

United Nations Convention on the Rights of the Child

The United Nations (UN) Convention on the Rights of the Child (CRC) provides protection at the macro level and may be applied to strengthening exo-, meso-, and microsystems. The CRC speaks to the child's right to protection from all forms of violence (Article 19) and exploitation (Articles 34-36), to life and maximum survival and development (Article 6), to an adequate standard of living (Article 27), and to health and education (Articles 24 and 28). The CRC also contains a series of special protection articles (Articles 19, 35, and 36) that address needed protections from physical or mental violence, injury, abuse or neglect, and exploitation (including sexual abuse), abduction, and trafficking. Specific to war, there are articles referring to the rights to protection for children who are refugees (Article 22), as well as those otherwise affected by armed conflict (Article 38) and a child's right to physical and psychological recovery and social reintegration (Article 39). Similar protections are upheld in the African Charter on the Rights of the Child. Recent policy initiatives, such as the optional protocol to the UN Convention on the Rights of the Child, have called on member states to end the recruitment of children under age 18 into military forces (United Nations, 1989).

Reconciling Psychosocial and Clinical Responses

True realization of the CRC's mandates, and Article 39 in particular, has been challenged by disagreement among humanitarian responders concerning appropriate treatment approaches to psychosocial and mental health issues in war-affected youth. Betancourt and Williams (2008) previously described the existence of two main approaches—psychosocial and psychiatric or clinical responses. Psychosocial approaches tend to focus on restoring the social and physical environment by reinvigorating indigenous coping mechanisms and implementing peer- and community-based activities. These interventions target a broad sample of beneficiaries rather than a population selected according to narrower diagnostic criteria. In contrast, psychiatric interventions aim to identify individuals who meet criteria for diagnosable mental disorders; these individuals are then given specific treatments targeted at reducing symptoms.

These two paradigms dominate the field but are often inappropriately set at odds with one another. In fact, population-level (psychosocial) and

individual-level (clinical) interventions can be viewed as complementary. As a first line of defense, psychosocial approaches to normalizing environment and day-to-day routines promote stability during crises and may be integrated with other exosystem health, social, and economic programs; clinical interventions then provide a second line of response to help individuals who demonstrate mental illness or profiles of risk. In an environment stabilized by psychosocial activities, these clinical practices can be better supported and more widely accepted by the community. This manner of operation is also reflective of an emerging science of prevention as underscored by a previous Institute of Medicine report (IOM, 1994).

Case Study: War-Affected Youth in Sierra Leone

The following case study examines these critical issues further. It presents a research project designed to examine how different layers of the social ecology affect child mental health and adjustment. Unique in its longitudinal design, this study followed youth across three time points as they adjusted to mesosystem interactions and macrosystem factors in a post-conflict setting. In considering the historical and political context of Sierra Leone, as well as more concrete factors that may be leveraged to improve opportunities open to youth, this study has important implications for designing holistic interventions for this and other war-affected populations.

Background: Sierra Leone

Sierra Leone's 11-year civil conflict (1991-2002) involved a number of warring groups, including the Revolutionary United Front (RUF), the Sierra Leonean Armed Forces Revolutionary Council (AFRC), the Sierra Leone Army (SLA), and other local groups such as the Civil Defense Forces (CDF). During this period, tens of thousands of civilians were killed and roughly 75 percent of the population was displaced (Medeiros, 2007; Williamson and Cripe, 2002). A wide range of human rights abuses were documented, including mass mutilations and pervasive use of children in armed conflict. Estimates are that as many as 28,000 children were conscripted into fighting forces, some as young as 7 years of age (Coalition to Stop the Use of Child Soldiers, 2008; Mazurana and Carlson, 2006; World Revolution, 2001). While many were abducted into their role as child soldiers, other children chose to become involved, in part due to an extremely limited set of opportunities resulting from a breakdown in family and community systems as well as insufficient economic and educational opportunities (Ashby, 2002). As a result of their involvement with armed forces and groups, many youth witnessed and even perpetrated acts of intense physical and sexual violence, including executions, death squad killings, torture,

rape, detention, bombings, forced displacement, destruction of homes, and massacres. Throughout this time, these children were continually deprived of their rights to the protection of their families and were denied education and many basic physical needs, such as food, water, clothing, and shelter.

A Longitudinal Mixed-Methods Study (2002, 2004, 2008)

In 2002, this author launched a collaboration with the International Rescue Committee (IRC) to conduct a three-wave (T1, T2, T3) longitudinal study of former child soldiers and other war-affected youth in Sierra Leone (Betancourt, 2010; Betancourt et al., 2008, 2010a,b,c, 2011). The overall aim of the study was to examine how social reintegration and psychosocial adjustment in these youth were shaped by risk and protective factors. In line with its ecological-developmental view, the study examined issues such as age of involvement, experiences of loss and violence, family relationships, social support, and societal stigma (Betancourt and Khan, 2008). Other macro level factors included the challenges and successes that war-affected youth experienced in securing a livelihood, completing school, avoiding high-risk behavior, and contributing to civil society.

The study used a mixed-methods design, integrating both quantitative and qualitative methods over several periods of data collection. Qualitative data on local constructs of importance informed the development and selection of core constructs of interest for the quantitative survey. In T2 and T3, additional items were included to obtain more in-depth information on economic self-sufficiency, interpersonal relationships, intimate partner relationships and violence, child rearing and parenting, social capital, stigma and discrimination, HIV-risk behavior, drug and alcohol use, civic participation, and post-conflict hardships.

The sample cohort for the survey contained three main subgroups. The core sample comprised young people first surveyed as children formerly involved with the RUF that had been referred to the IRC's Disarmament, Demobilization, and Reintegration (DDR) program in Sierra Leone's Kono District for resettlement. The sample was drawn from a master list of IRC registries of all youth assisted by their Interim Care Center (ICC), which served five districts during the most active period of demobilization (June 2001 to February 2002). A list of 309 youth was reviewed to identify those who were aged 10 to 17 at time of release and for whom contact information was available. This yielded 259 youth (11 percent female) and their caregivers who were invited and agreed to participate in the baseline assessment. At that time, the team also conducted a random door-to-door sample of 10- to 18-year-olds not served by ICCs in the Kono district where the IRC center was based. A comparison group of children (n = 136, 29 percent female) who claimed to have not been involved with the RUF was

identified by random door-to-door sampling of male and female youth of similar age to the ICC-served group. During the second wave of data collection in 2004, a third group comprising 127 self-reintegrated youth (or youth who did not receive DDR services) was added.

Surveys were conducted among war-affected youth, their caregivers, and a comparison group at three times: 2002, 2004, and 2008. Additionally, a series of in-depth interviews with a subset of youth and their caregivers was completed in 2004 (T2) and 2008 (T3). A number of focus groups were also held in major resettlement communities with community members and youth, both those involved in armed groups and those not. All surveys and focus groups were conducted in the Krio language by trained Sierra Leonean research assistants.

Findings. This research has led to several publications about how war-related and post-conflict experiences affect the longer-term mental health and psychosocial adjustment of former child soldiers (Betancourt et al., 2008, 2010a,b,c, 2011, in press). One of the critical findings of the study is that the long-term mental health of former child soldiers is influenced not only by conflict-related exposures, but also by post-conflict contextual factors at multiple ecological levels. For example, lower levels of prosocial behavior over time were associated with experiencing stigma in the post-conflict environment, as well as with particularly toxic types of past war exposures (Betancourt et al., 2010a). Increases in anxiety and depression over time were closely related to social and economic hardships.

Of importance to programming and policy, the relationships between war-related exposures and poor adjustment were fully or partly mitigated by a range of post-conflict protective factors, including social support, family acceptance, being in school, and increases in community acceptance. Overall, community acceptance—both initially and over time—had beneficial effects on all outcomes studied. Importantly, qualitative data indicated that even young people who experienced extreme trauma could reintegrate well, in most cases, if they had strong family and community support and post-conflict opportunities, such as access to education. In contrast, youth who lacked strong, effective support were found to be on a much riskier path characterized by social isolation, high-risk behavior (e.g., substance abuse), and dangerous survival strategies (e.g., transactional sex).

Implications. This research provides new insights into the long-term well-being of children exposed to some of the most extreme violence imaginable. In this study, the family and community microsystems are highlighted as critical to supporting successful post-conflict reintegration. These findings are particularly compelling for researchers, practitioners, and policy makers, since many family and community factors can be *modified* through

intervention. In particular, research from this study underscores the importance of strengthening family support, as well as the need for sustainable exosystem and macro level interventions, including policies and programs to dispel community stigma.

The integration of these services into education programs and primary health care is important. Opportunities for promoting this integration are prime in Sierra Leone, where a new free child health initiative is increasing access for vulnerable families in many rural parts of the country. However, this initiative's current focus on 0-5-year-olds will be insufficient to meet the needs of vulnerable youth and must also adapt to the evolving needs of an important population.

Addressing Consequences of War-Related Violence and Loss for Children Globally

The reality of children affected by war and communal violence is widespread and not likely to subside for some time. This reality calls on all to apply their best efforts to address health and developmental challenges at many levels. Ecological and developmental approaches are fundamental to achieving integrated and effective responses, as demonstrated through the findings of the case study presented above.

Importantly, it is clear that maintaining resilience and strength in families across the span of childrearing is an important goal and need. For too long, programming for vulnerable children and families has been fragmented and characterized by a "silo" approach whereby major sectoral responses (health, education, security, employment) operate in isolation from one another. From a public health perspective, integrated, effective, and well-implemented systems of care, both formal and nonformal, are among the social foundations required to help vulnerable children and families overcome adversity (Beardslee, 1998; Beardslee and Gladstone, 2001).

Recommendations for Improving Services

To improve services for this population, a number of considerations must be taken into account. First, we must target high-impact issues with clearly designated, measurable outcomes in terms of both the physical health and the social, emotional, and cognitive development of children at risk. Second, we must develop multisectoral campaigns that address the entire social ecology, including factors such as health, education, social services, law enforcement, and finance. Third, we must operate strategically to link the science base closely to advocacy efforts. Such collaborations may be able to more efficiently translate data on child health and development into practice. Increasingly over time, these systems should become part of the health infrastructure. Finally, to make true advances in this field, we must marshal resources large

enough and over a long enough time to achieve the desired outcomes, develop sustainable systems of care, and monitor and evaluate those outcomes.

Future Directions

This paper has presented many of the key paradigms for considering the healthy development of children and families affected by violence globally. The discussion has also presented a field-based example that highlights the need for interventions that attend to the developing child's social ecology. In conclusion, the importance of advancing a research agenda on children, youth, and families affected by violence and war cannot be stressed enough (Betancourt, 2011). By strengthening this evidence base, we may better achieve the CRC mandate to ensure the health, productivity, independence, and well-being of children through optimal rehabilitation. However, lack of financial support and mechanisms for collaboration impedes high-quality research. To ensure that such efforts are sustainable and can be scaled up over the long term, the international community and major humanitarian and scientific organizations have a tremendous role to play (MDRP, 2009; Patel et al., 2007b; Wessells, 2009a,b). Through investments in health and social services systems, the development and implementation of evidence-based services, capacity building, human resources development, and robust relationships with local initiatives and civil society, a more vigorous infrastructure to support the healthy development of all children affected by war and communal violence can be built.

INTIMATE PARTNER VIOLENCE IN LOW- AND MIDDLE-INCOME COUNTRIES: HIGH COSTS TO HOUSEHOLDS AND COMMUNITIES[1,2]

Aslihan Kes, M.S.
The International Center for Research on Women

Violence against women is globally acknowledged as a basic human rights violation and a fundamental obstacle to the achievement of gender equality. It also increasingly is seen as a development issue with severe consequences for economic growth.

[1] This summary is drawn from an earlier ICRW publication: International Center for Research on Women. 2009. *Intimate partner violence: High costs to households and communities*. Policy Brief. Washington, DC: ICRW.

[2] ICRW gratefully acknowledges the funding and support from the United Nations Population Fund (UNFPA) for this project, which was implemented by the International Center for Research on Women (ICRW); the Economic Policy Research Centre (EPRC) in Kampala, Uganda; the Bangladesh Institute of Development Studies (BIDS) in Dhaka; and Hassan II University Mohammedia-Casablanca in Morocco.

In a dynamic policy environment, strong evidence on the economic costs of violence against women is crucial to underscore the significant consequences of inaction. Though a number of studies have analyzed violence in terms of its direct and indirect costs, these analyses have been limited largely to developed countries. In developing countries, the few studies on the costs of violence have focused on the macro level, exploring costs to national governments rather than analyzing more immediate costs to individuals, households, and communities.

To fill this gap, the International Center for Research on Women (ICRW) and partners undertook a three-country study in Bangladesh, Morocco, and Uganda to estimate the costs of intimate partner violence at the household and community levels. The focus on intimate partner violence was motivated by the fact that this is the most common form of violence against women. A household and community-level analysis helps shed light on the relationship of intimate partner violence to both household economic vulnerability and the extent to which scarce public resources for essential health, security, and infrastructure services are diverted due to such violence.

Bangladesh, Morocco, and Uganda are particularly relevant countries for this study. Despite their diverse economic and social profiles, intimate partner violence is highly prevalent in all three countries. At the same time, recognizing the importance of a comprehensive response to intimate partner violence, these countries recently rolled out innovative programs, coupled with legislative initiatives, to address it.

Overall, the study suggests that intimate partner violence is pervasive and severe, most women who experience violence do not seek help, out-of-pocket costs to women and service providers are high, and indirect costs may dwarf direct costs. These findings join a growing body of evidence suggesting that violence against women is both a human rights violation and a drain on economic resources that reaches through households to communities and societies at large.

Overview of Study Methodology

The study applied an accounting methodology to estimate the direct costs of intimate partner violence at the household and community levels. Women's experience of violence was measured using an adapted version of the instrument developed by the World Health Organization (WHO) for the multicountry study on women's health and domestic violence against women. Women were asked whether they experienced physical, emotional, or sexual intimate partner violence in the 12 months prior to the study; what the outcomes of each incident were; what services, if any were used; and the amount of money they spent to access these services. This information

was used to calculate the average total out-of-pocket cost to households of using any of these services due to intimate partner violence.

The community-level costs explored in the study consisted of costs incurred by various service providers in responding to cases of intimate partner violence. In Morocco and Uganda, these costs were calculated using a "unit cost" method. In each sector, the average total cost of providing services to a victim of intimate partner violence was multiplied by the estimated average number of victims registered in the 12 months prior to the study (average cost of service provision was estimated based on personnel hours and salary information). In Uganda, the number of intimate partner violence cases handled by each type of service was obtained from the providers. In Morocco, these numbers were estimated using women's own reporting of service use due to an incident of intimate partner violence. In Bangladesh, the "proportionate" method was used, where the total cost of intimate partner violence to a provider was assumed to be proportional to the share of intimate partner violence cases received within 12 months prior to the study.

To estimate the indirect costs of intimate partner violence to households, women were asked about the work and time use related outcomes of each incident they experienced in the 12 months prior to the study. They were also asked about the impact the incident had on the spouse and others in the household. This information was intended to be used to estimate the value of productive time lost through additional use of actual or imputed wage information.

Study Sample

In each country, surveys were administered to randomly selected households and one eligible woman per household. The eligibility criteria for women was age (15+ in Morocco and Uganda; 15-49 in Bangladesh) and having been in a cohabitating relationship at the time or during the 12 months prior to the study. In cases where more than one eligible woman was in the household, one was selected randomly to be interviewed. The sample size was 2,003 in Bangladesh, 2,122 in Morocco, and 1,272 in Uganda.[3,4]

Through questionnaires and key informant interviews, data also were collected from select service providers in the health, criminal justice, social, and legal sectors (see Box 7-1).

[3] The sample of women in Uganda was lower because the survey was administered to both men and women.

[4] In Morocco and Uganda, samples were nationally representative. In Bangladesh, the sample was not.

BOX 7-1
Services Surveyed in Bangladesh, Morocco, and Uganda

Partners interviewed the following for each country study:

Bangladesh—7 health facilities, 10 police stations, 10 Salish, and 3 courts.
Morocco—2 health facilities, 2 police stations, 1 court, and 1 non-governmental organization.
Uganda—217 health facilities, 68 police stations, 54 probation offices, and 277 local councils.

Key Findings

In All Three Countries, Intimate Partner Violence Is Prevalent, Frequent, and Severe

In Uganda, about half of women report experiencing physical or sexual intimate partner violence in their lifetime and almost 30 percent have experienced both. In Bangladesh these percentages are even higher as observed in Table 7-1.

Women in all three countries report multiple incidents as well as multiple and severe forms of intimate partner violence. For example, in Morocco, about 46 percent of women who experienced physical violence report more than one incident. In Uganda, of the 1,193 incidents reported, 10 percent resulted in physical injury, including deep cuts, eye injuries, burns, and broken bones.

TABLE 7-1 Estimated Prevalence of Intimate Partner Violence (percent)[a]

	Bangladesh		Morocco		Uganda	
Type	Lifetime	Current	Lifetime	Current	Lifetime	Current
Physical	66	33	27	18	50	22
Sexual	61	38	20	15	47	28
Physical and sexual	46	18	15	11	29	12

[a] Estimated prevalence rates of intimate partner violence for Morocco reported here are revised estimates and are different from those originally reported in the Policy Brief.

The Majority of Women Who Experience Violence Do Not Seek Help

Only 17 percent of women in Morocco and 10 percent of women in Bangladesh used a health service at least once after being abused during the

12 months prior to the study; in Uganda, 11 percent of all reported violent incidents resulted in service use. Given the injuries women report, their use of health services appear to be lower than the actual need.

For a handful of women who experience violence in Bangladesh and Uganda, informal community structures are the first point of contact and recourse. In Uganda, women used the local council mechanism in 8.5 percent of all violent incidents, in contrast to 2 percent who reported using the police and 0.2 percent the formal justice system. Findings are similar in Bangladesh, where the local *Salish* works like the local councils.

Costs of Intimate Partner Violence to Households and Service Providers Are Significant

In Uganda, the average out-of-pocket expense for a violence incident is 11,337 Ugandan shillings (UGS), or $5, with police support costing nearly double that (17,904 UGS, or $10). In Morocco, use of the justice system is costliest (2,349 Moroccan dirham, or $274) followed by health (1,875 Moroccan dirham, or $211). When taken in the context of these countries' gross national income (GNI) per capita in 2007—$340 in Uganda and $2,250 in Morocco, for example—the related costs for households are high.

Costs to service providers also are significant. Health providers report average labor costs of one intimate partner violence case at $1.20 in Uganda, $5.10 in Bangladesh, and $41 in Morocco. In Uganda, 68 percent of hospital providers surveyed report seeing at least one case of physical injury due to intimate partner violence each week. When personnel and other labor costs are taken into account, the estimated costs grow to $1.2 million annually.

The Indirect Costs of Intimate Partner Violence May Dwarf Direct Costs

In Uganda, about 12.5 percent of women report losing time from household work, especially washing clothes and fetching water and fuel wood, because of intimate partner violence. Nearly 10 percent of incidents resulted in women losing paid work days, an average of 11 days annually.

In Bangladesh, more than two-thirds of the study households reported that intimate partner violence affected a member's work—both productive and reproductive. Using the average market wage rate of women with similar education, the average value of lost work per violent incident to households is estimated at about 340 Bangladeshi taka, or $5—4.5 percent (7,626 Bangladeshi taka, or $112) of the average monthly income of the households studied.

Conclusion

The direct and indirect costs of intimate partner violence are high for women, their families, communities, and nations. The cost findings from this study are especially alarming given the low rate at which women use formal, more costly services related to violence.

These findings also do not include the high costs of violence beyond immediate physical injuries. Physical and sexual violence increase women's risk for a host of other serious conditions, including chronic pain, reproductive health problems, miscarriages, depression, and sexually transmitted diseases such as HIV. Intimate partner violence is also linked to maternal mortality and murders of women, as well as poor child health and mortality. These costs to society in terms of the global burden of ill health (measured by disability-adjusted life-years [DALYs]) and human development are enormous. These immediate and sustained costs and impacts of violence against women are significant impediments to the achievement of Millennium Development Goals; thus, its elimination must be a key development goal in itself.

Initiatives such as Bangladesh's Multisectoral Program on Violence Against Women, Morocco's recent national plan to address violence against women, and Uganda's pending Domestic Violence Bill are a good start. Still more is needed. National governments and donors should provide support services for survivors of violence. Moreover, they should invest in informal dispute resolution mechanisms for women, including additional research to assess the effectiveness of these systems and ensure that they work for women.

Finally, in moving forward, potential areas of research include a more in-depth exploration of the nonmonetary impacts of intimate partner violence and the help-seeking behavior of women. It is also important that research is expanded to examine the cost-effectiveness of violence prevention programs.

YOUTH VIOLENCE IN KINGSTON, JAMAICA

Elizabeth Ward, M.B.B.S., M.Sc.
Institute of Criminal Justice and Security, and
Violence Prevention Alliance Jamaica

Damian Hutchinson, M.Sc.
Peace Management Initiative

Horace Levy, M.A.
Institute of Criminal Justice and Security

Deanna Ashley, M.B.B.S., D.M. (Paeds)
University of the West Indies at Mona

In recent years the Caribbean islands have been faced with rising homicide rates. In the Caribbean, Jamaica has the highest homicide rate at 53 per 100,000, followed by Belize at 42 per 100,000 and St. Kitts at 40 per

100,000. Trinidad's homicide rate has risen to 36 per 100,000, five times the level it was in 1999. As violent deaths reach 5 percent of all deaths in the Caribbean, the effect on these small island states is enormous and has had a major impact on the health status of its youth. While resources are being focused on crime control, the role of prevention of violence needs to be brought to the forefront (Crime in the Caribbean, 2011).

In Jamaica, the impact of criminal violence on all facets of national life has been large-scale, and the country's 2009 interim Millennium Development Goals report cites violence as a cross-cutting barrier preventing the achievement of the goals. The national response to violence still is focused on crime control, with a lackluster prevention response from all sectors. This paper addresses the impact of the epidemic of violence in Jamaica on its youth population, who bears the burden, and the costs of violence versus the benefits of investing in prevention.

Young people in Jamaica's marginalized communities have fallen through the cracks. Local and international administrations, faced with budgetary constraints, have focused on the macroeconomic issues and neglected to protect them. Young people aged 15-24 years make up 17 percent of the population, or around half a million persons. These young people experience high rates of unemployment and teenage pregnancy and are often either victims of or major perpetrators of crime. In 2009, more than 50 percent of males arrested for major crimes were in the 15-24 age group, as were 11 percent of the victims (Planning Institute of Jamaica, 2010). Homicide is the leading cause of death among these males.

The Problem

While the focus of successive political administrations in Jamaica has been to equip young people with the requisite technical and vocational training and provide them with a protective environment to make the transition needed to adulthood, a wide gap exists between those needing and those accessing the services. Inner-city youth are born into, grow up in, and contribute to violence. They are easily sucked into gang and turf wars simply because they are from a particular area or linked with a certain group. This violence dominates the communities. Surveys among adolescents have shown that 5 out of every 10 adolescents (47.6 percent) had seen a dead body other than at a funeral (Samms-Vaughan et al., 2005). Survival in violent neighborhoods is important, and by age 15, 18 percent of school children reported carrying a weapon to school (Fox and Gordon-Strachan, 2007).

In addition to community violence, family violence is widespread. Prior to age 15, nearly one of five (18 percent) Jamaicans witnessed physical abuse between their parents and two-thirds (60 percent) experienced parental physical abuse. Women are disproportionately affected by intimate

partner violence (IPV) with one of five women (17 percent) reported as being victims of IPV, 15 percent of verbal abuse, 7 percent of physical violence, and 3 percent of forced sex with an intimate partner. Corporal punishment continues to be the dominant form of discipline in homes, as well as in schools (National Family Planning Board, 2010).

Educational attainment in this group is dismal, with 27 percent not completing more than grade 9 (Ministry of Education, 2010). Young people who fail to progress in school or drop out often are those who have been either suspended or expelled. Such disciplinary actions are the common methods of dealing with student drug use, gang membership, and fighting. The majority of gang members have a history of being suspended or expelled from school.

The majority of young people associated with gang activities are exposed to poor parenting, often with harsh, erratic discipline. Frequently, they are school dropouts—therefore functionally illiterate, with limited ability to reason—and turn readily to gun violence. As early entrants into the ranks of the unemployed except for menial tasks, they are excluded from mainstream life and see themselves as rejected by society. As "failures" and "losers" and in the absence of any meaningful program, they often develop a gangster lifestyle.

While national unemployment levels were 11.6 percent in October 2010, unemployment for young males and females was 22.5 percent and 33 percent, respectively (Planning Institute of Jamaica, 2010). As such, Jamaica has more than 127,000 young people described as unattached. "Unattached" describes a person who falls within the age group 15-24, is unemployed or outside the labor force, and is not in school or in training (Fox, 2003; HEART Trust-National Training Agency, 2009). Within this group are high-risk young people who are involved in crime, violence, and other negative gang-related activities; this group usually makes up 5 percent of the total youth population (Scott, 1998).

Unattached youth experience many problems. Studies of this population have identified that more than 76 percent had no academic qualifications and probably needed remedial education (HEART Trust-National Training Agency, 2009). Most of them come from low-income families in which basic necessities, fathers, a caring supportive person, and especially love are often in short supply. They look outside the family, like most young people anywhere, to peer groups for support (Levy, 2001; Moser and van Bronkhorst, 1999).

The Cycle: Youth Violence, Wounded Community, Battered Nation

The most pressing problem in Jamaica today is the high incidence of crime, violence, and moral breakdown, which, although a country-wide

problem, is particularly concentrated in inner-city areas. Hopelessness is pervasive among inner-city adolescents and youth. Their participation in the cycle of violence is often in gang and criminal activities for young men and various forms of prostitution for young women. In the case of young women, sex for financial gain, protection, and survival tends to result in wanted or unwanted pregnancies. As such, the cycle begins anew and is further perpetuated (Levy, 2001; Moser and van Bronkhorst, 1999).

The Role of Prevention

Not all young people growing up in inner-city Jamaica become involved in violence. In examining behavior in a Jamaican urban cohort, Samms-Vaughn et al. (2005) found that aggressive and delinquent behaviors were associated with underachievement, in addition to others factors; children displaying prosocial behavior came from stable family units that displayed affection and participated in organized activities. Looking at risk and protective factors, Fox and Wilks found similar results where exposure to caring relationships with responsible adults; high expectations; and meaningful participation in the home, schools, or the community prevented adolescents and youth from becoming involved in violent or delinquent behavior (Fox, 2003; Wilks et al., 2007).

Foundation for Prevention

Youth programs need to be built on a solid early childhood foundation. Throughout the world, parenting interventions, including home visitation for young children and interventions in preschool to reduce aggressive behavior, have been shown to be a cost-effective means of preventing violent behaviour (Hawkins, 2007).

Interventions that included weekly home visits by trained community health aides, with play sessions where praise was encouraged and physical punishment discouraged, showed that adults who had received these home visits as children reported less involvement in fights or more serious violent behavior (e.g., injuring someone with a weapon, gun use, gang membership) and had higher educational attainment (McGuire, 2008; Walker, 2011).

For the 10- to 14-year age group, school-based interventions are a method of reaching the 82 percent who attend school (Planning Institute of Jamaica, 2010). An active program for school retention is needed throughout the educational system to reduce the level of school dropouts by offering alternative educational and behavioral strategies along with financial support.

Youth Transition for High Risk Youths

Key components for transition for high-risk youths are

- High-risk youth transition programs,
- Foundation (parenting, life skills, literacy, relevant education),
- National Youth Club Movement,
- Consolidated youth programs,
- Youth empowerment officers (community based),
- Mentorship,
- Youth employment,
- Budget, and
- The will to bridge the gap.

Youth Empowerment Officers (YEOs) and PMI Program Implementers should be assigned, one to each community being targeted. YEOs are highly training to engage with youth directly. In marginalized Jamaican communities, young people are at high risk for violence and need tangible on-the-ground support to drive the transition process. The need for YEOs varies within individual communities: some communities may require more than one officer, or there may be a need to address a smaller number of communities or for groups of communities to receive shared services to achieve the desired change.

The PMI program implementer role would be to stabilize the high-risk youth communities by resolving disputes and mediating conflict. They would be in charge of the program for the high-risk unattached youth outlined in Figure 7-1. The PMI Zone Officers and Program Implementers would work with high-risk youth in collaboration with the YEOs, focusing on conflict mediation and monitoring the case files of at-risk youth.

The YEO would be community based but also linked to youth information centers. The YEO should have database information on the names and addresses of the youth in the community that are unemployed and unengaged, the number of youth who have dropped out of school, teenage mothers (Planning Institute of Jamaica, 2009) in the community, and so on. YEOs should have all the information needed to drive young people out of their current high-risk situation and into positive mainstream activity. They should be qualified to deal with young people affected by substance abuse, gangs, unemployment, peer pressure, broken homes, poor family environment, and ignorance, as well as being sufficiently aware of all the positive interventions available to young people affected by these issues.

Consolidate Youth-Oriented Institutions. The YEO would work with the consolidated youth institutions and would have to collaborate with the

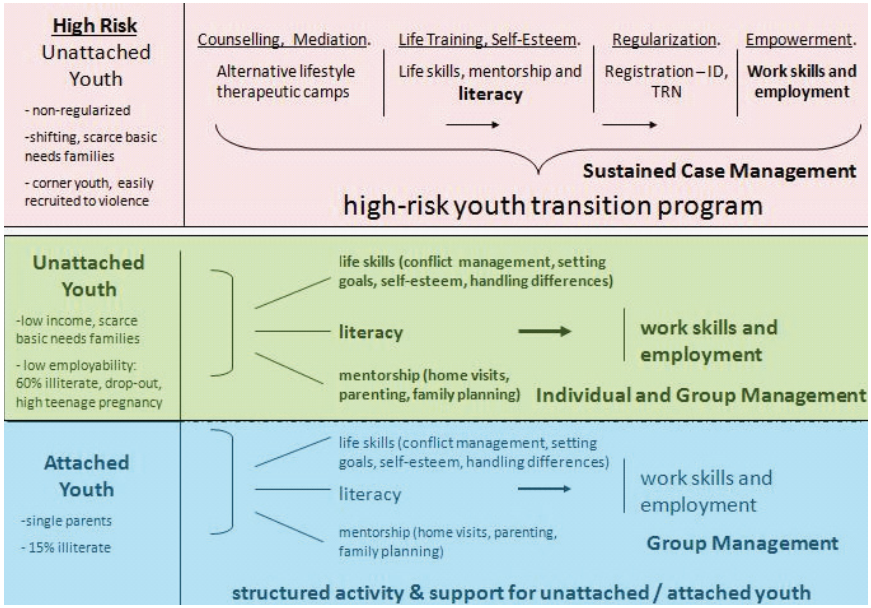

FIGURE 7-1 Youth transition model.
SOURCE: Ward et al., 2011.

representatives of other government and nongovernmental agencies such as the Social Development Commission, Jamaica Social Investment Fund, Citizen Security and Justice Program, Community Security Initiative, Dispute Resolute Foundation, Peace Management Initiative, the Restorative Justice program of the Ministry of Justice, Violence Prevention Alliance, Peace and Love in Communities, among others. The several state agencies responsible for public services, such as electricity and water, should also be included in the interventions as needed.

Similarly, all parenting programs backed by a national policy on parenting should be coordinated with the YEO's work. Budgetary and policy support is necessary for proven programs that can be scaled up to have an impact on the entire population.

Mentorship Program. This program focuses on unattached Jamaicans who fall in the 15-25-year age group and are from marginalized communities. Mentoring sessions will focus on (1) building quality relationships, (2) conflict resolution skills, (3) building leadership capabilities, (4) career or entrepreneurial exploration, and (5) promoting healthy lifestyle behaviors.

Components of these programs are already in existence, but they have to be refocused and revitalised. The size of the gap to meet the needs of the

BOX 7-2
Cost-Effectiveness of Interventions

Greenwood and others (1996) compare interventions to reduce youth crime in the United States and find that providing high school students with incentives to graduate, which costs $14,000 per program participant, is the most cost-effective intervention, resulting in an estimated 256 serious crimes prevented per $US 1 million spent. Parent training prevents an estimated 157 serious crimes per $US 1 million, compared with 72 for delinquent supervision programs and 11 for home visits and day care. All of these interventions (excluding home visits) are more cost-effective that California's "three strikes" law, which incarcerates for life those individuals convicted of three serious crimes (Rosenberg et al., 2006).

youth population and the cost of programs for national, parish, and community levels are outlined in Box 7-2.

Guiding the Way Forward

Moser and Spergel identified an increasing recognition that programs that focus on single issues have not been very successful in changing the lives of adolescents or reducing the overall levels of delinquency (Moser and van Bronkhorst, 1999; Spergel, 1995). These programs treat only the symptoms, not the underlying problems. Interventions need to be comprehensive and not run as vertical programs. Youth programs need to help adolescents out of high-risk environments and align them with positive mainstream activity. The programs must be guided by creative and effective planning delivered by highly respected and committed individuals with unrelenting dedication, based in the communities, who are truly and fiercely committed to this arduous, on-the-ground task.

Youth violence is a complex social phenomenon, but it is also a major development problem. In making the recommendations for developing interventions, it must be understand what works and what doesn't work for youth violence prevention. Youth programs must be built on a firm foundation (parenting, life skills, literacy, and relevant education). These programs must be supported by the required budgetary allocation and, more importantly, the will to bridge the gap.

Conclusion

Young people represent a tremendous untapped potential in Jamaican society. Revamping youth development interventions to meet the challenges

of this group will provide a driving force for Jamaica toward sustainable development and economic prosperity. This will require the commitment of all segments of the society to focus on community prevention in order to effect the changes needed.

REFERENCES

Acker, C. J. 2010. How crack found a niche in the American ghetto: The historical epidemiology of drug-related harm. *Biosocieties* 5(1):70-88.

Aguilar, P., and G. Retamal. 1998. *Rapid educational response in complex emergencies: A discussion document*. Geneva, Switzerland: International Bureau of Education.

Apfel, R. J., and B. Simon. 1996. Psychosocial interventions for children of war: The value of model of resiliency. *Medicine and Global Survival* 3(A2).

Ashby, P. 2002. Child combatants: A soldier's perspective. *Lancet* 360(9350):s11.

Bayer, C. P., F. Klasen, and H. Adam. 2007. Association of trauma and PTSD symptoms with openness to reconciliation and feelings of revenge among former Ugandan and Congolese child soldiers. *Journal of the American Medical Association* 298(5):555-559.

Beardslee, W. R. 1998. Prevention and the clinical encounter. *American Journal of Orthopsychiatry* 68(4):521-533.

Beardslee, W. R., and T. R. Gladstone. 2001. Prevention of childhood depression: Recent findings and future prospects. *Biological Psychiatry* 49(12):1101-1110.

Betancourt, T. S. 2010. A longitudinal study of psychosocial adjustment and community reintegration among former child soldiers in Sierra Leone. *International Psychiatry* 7(3):60-62.

Betancourt, T. S. 2011. Attending to the mental health of war-affected children: The need for longitudinal and developmental research perspectives. *Journal of the American Academy of Child & Adolescent Psychiatry* 50(4):323-325.

Betancourt, T. S., and K. T. Khan. 2008. The mental health of children affected by armed conflict: Protective processes and pathways to resilience. *International Review of Psychiatry* 20(3):317-328.

Betancourt, T. S., and T. Williams. 2008. Building an evidence base on mental health interventions for children affected by armed conflict. *Intervention: International Journal of Mental Health, Psychosocial Work and Counseling in Areas of Armed Conflict* 6(1):39-56.

Betancourt, T. S., S. Simmons, I. Borisova, S. E. Brewer, U. Iweala, and M. de la Soudiere. 2008. High hopes, grim reality: Reintegration and the education of former child soldiers in Sierra Leone. *Comparative Education Review* 52(4):565-587.

Betancourt, T. S., J. Agnew-Blais, S. E. Gilman, D. R. Williams, and B. H. Ellis. 2010a. Past horrors, present struggles: The role of stigma in the association between war experiences and psychosocial adjustment among former child soldiers in Sierra Leone. *Social Science & Medicine* 70(1):17-26.

Betancourt, T. S., I. I. Borisova, R. B. Brennan, T. P. Williams, T. H. Whitfield, M. de la Soudiere, J. Williamson, and S. E. Gilman. 2010b. Sierra Leone's former child soldiers: A follow-up study of psychosocial adjustment and community reintegration. *Child Development* 81(4):1077-1095.

Betancourt, T. S., R. T. Brennan, J. Rubin-Smith, G. M. Fitzmaurice, and S. E. Gilman. 2010c. Sierra Leone's former child soldiers: A longitudinal study of risk, protective factors, and mental health. *Journal of the American Academy of Child and Adolescent Psychiatry.* 49(6):606-615.

Betancourt, T. S., I. Borisova, M. de la Soudière, and J. Williamson. 2011. Sierra Leone's child soldiers: War exposures and mental health problems by gender. *Journal of Adolescent Health* 49(1):21-28.

Betancourt, T. S., S. E. Zaeh, A. Ettien, and L. N. Khan. In press. Psychosocial adjustment and mental health services in post-conflict Sierra Leone: Experiences of CAAFAG and war-affected youth, families and service providers. In *New series on transitional justice*, edited by S. Parmentier, J. Sarkin, and E. Weitekamp. Antwerp: Intersentia.

Bourgois, P. 1995. Workaday World, Crack Economy. *Nation* 261(19):706-711.

Bronfenbrenner, U. 1979. *The ecology of human development: Experiments by nature and design*. Cambridge, MA: The Harvard University Press.

Coalition to Stop the Use of Child Soldiers. 2008. *Child soldiers: Global report 2008*. London.

Crime in the Caribbean: In the shadow of the gallows. 2011. *Economist*, February 10.

Derluyn, I., E. Broekaert, G. Schuyten, and E. De Temmerman. 2004. Post-traumatic stress in former Ugandan child soldiers. *Lancet* 363(9412):861-863.

Donaldson, G. 1993. *The ville: Cops and kids in urban America*. New York: Ticknor & Fields.

Elbedour, S., R. Bensel, and D. T. Bastien. 1993. Ecological integrated model of children of war: Individual and social psychology. *Child Abuse and Neglect* 17(6):805-819.

Fox, K. 2003. *Mapping unattached youth in Jamaica: Report prepared for IADB*. Inter-American Development Bank.

Fox, K., and G. Gordon-Strachan. 2007. *Jamaican youth risk and resiliency behaviour survey 2005: School-based survey on risk and resiliency behaviours of 10-15 year olds*. Washington, DC: USAID.

Guha-Sapir, D., W. G. van Panhuis, O. Degomme, and V. Teran. 2005. Civil conflicts in four African countries: A five-year review of trends in nutrition and mortality. *Epidemiologic Reviews* 27(1):67-77.

Hawkins, J. D. 2007. Preventing youth violence in the US: Implications for developing countries. Washington, DC: PowerPoint presentation at Workshop on Violence Prevention in Low- and Middle-Income Countries: Finding a Place on the Global Agenda.

HEART Trust-National Training Agency. 2009. *Unattached youth in Jamaica*. Planning and Project Development Division, HEART. Kingston, Jamaica.

Hobfoll, S. E., C. D. Spielberger, S. Breznitz, C. Figley, S. Folkman, B. Lepper-Green, D. Meichenbaum, N. A. Milgram, I. Sandler, I. Sarason, et al. 1991. War-related stress. Addressing the stress of war and other traumatic events. *American Psychologist* 46(8):848-855.

IOM (Institute of Medicine). 1994. *Reducing risks for mental disorders: Frontiers for preventive intervention research*. Edited by P. J. Mrazek and R. J. Haggerty. Washington, DC: National Academy Press.

Jacob, K. S., P. Sharan, Mirza, I. M. Garrido-Cumbrera, S. Seedat, J. J. Mari, V. Sreenivas, and S. Saxena. 2007. Mental health systems in countries: Where are we now? *Lancet* 370: 1061-1077.

Kohrt, B. A., M. J. Jordans, W. A. Tol, R. A. Speckman, S. M. Maharjan, C. M. Worthman, and I. H. Komproe. 2008. Comparison of mental health between former child soldiers and children never conscripted by armed groups in Nepal. *Journal of the American Medical Association* 300(6):691-702.

Lancet Global Mental Health Group, D. Chisholm, A. J. Flisher, C. Lund, V. Patel, S. Saxena, G. Thornicroft, and M. Tomlinson. 2007. Scale up services for mental disorders: A call for action. *Lancet* 370(9594):1241-1252.

Levy, H. 2001. *They cry "respect"! Urban violence and poverty in Jamaica*. Kingston, Jamaica: Centre for Population, Community and Social Change, Department of Sociology and Social Work, University of the West Indies, Mona.

Mazurana, D., and K. Carlson. 2006. *The girl child and armed conflict: Recognizing and addressing grave violations of girls' human rights*. Florence, Italy: United Nations.

McGuire, J. 2008. A review of effective interventions for reducing aggression and violence. *Philosophical Transactions of the Royal Society B-Biological Sciences* 363(1503):2577-2597.

Medeiros, E. 2007. Integrating mental health into post-conflict rehabilitation. *Journal of Health Psychology* 12(3):498-504.

Ministry of Education. *Jamaica education statistics 2009-2010 (derived data)*. Kingston, Jamaica.

Moser, C., and B. van Bronkhorst. 1999. *Youth violence in Latin America and the Caribbean: Costs, causes, and interventions*. LCR sustainable development working paper. Washington, DC: The World Bank.

Multi-Country Demobilization and Reintregration Program (MDRP). 2009. MDRP partners meetings March 10-12.

National Family Planning Board. 2010. *Fact sheet: Childhood and intimate partner violence in Jamaica*.

O'Hare, B. A., and D. P. Southall. 2007. First do no harm: The impact of recent armed conflict on maternal and child health in sub-Saharan africa. *Journal of the Royal Society of Medicine* 100(12):564-570.

Otunnu, O. A. 2002. *"Special comment" on children and security.* Disarmament forum no. 3. Geneva: United Nations Institute for Disarmament Research.

Patel, V., R. Araya, S. Chatterjee, D. Chisholm, A. Cohen, M. De Silva, C. Hosman, H. McGuire, G. Rojas, and M. van Ommeren. 2007a. Treatment and prevention of mental disorders in low-income and middle-income countries. *Lancet* 370(9591):991-1005.

Patel, V., A. J. Flisher, S. Hetrick, and P. McGorry. 2007b. Mental health of young people: A global public-health challenge. *Lancet* 369:1302-1313.

Planning Institute of Jamaica. 2009. *National Report of Jamaica on Millennium Development Goals*. Geneva: for the UN Economic and Social Council Annual Ministerial Review.

Planning Institute of Jamaica. 2010. *Economic and social survey Jamaica*. Kingston, Jamaica: Planning Institute of Jamaica.

Prince, M., V. Patel, S. Saxena, M. Maj, J. Maselko, M. R. Phillips, and A. Rahman. 2007. No health without mental health. *Lancet* 370(9590):859-877.

Rosenberg, M. L., J. A. Mercy, V. Narasimham, and M. Marshall. 2006. Interpersonal violence. In *Disease control priorities in developing countries*. New York: Oxford University Press. Pp. 755-770.

Samms-Vaughan, M. E., M. A. Jackson, and D. E. Ashley. 2005. Urban Jamaican children's exposure to community violence. *West Indian Medical Journal* 54(1):14-21.

Saraceno, B., M. van Ommeren, R. Batniji, A. Cohen, O. Gureje, J. Mahoney, D. Sridhar, and C. Underhill. 2007. Barriers to improvement of mental health services in low-income and middle-income countries. *Lancet* 370(9593):1164-1174.

Saxena, S., G. Thornicroft, M. Knapp, and H. Whiteford. 2007. Resources for mental health: Scarcity, inequity, and inefficiency. *Lancet* 370(9590):878-889.

Scott, S. 1998. Aggressive behaviour in childhood. *British Medical Journal* 316(7126):202-206.

Simms, E.-M. 2008. Children's lived spaces in the inner city: Historical and political aspects of the psychology of place. *Humanistic Psychologist* 36(1):72-89.

Southall, D. P., and B. O'Hare. 2002. Empty arms: The effect of the arms trade on mothers and children. *British Medical Joournal* 325(7378):1457-1461.

Spergel, I. A. 1995. *The youth gang problem: A community approach*. New York: Oxford University Press.

Ungar, M., M. Brown, L. Liebenberg, R. Othman, W. M. Kwong, M. Armstrong, and J. Gilgun. 2007. Unique pathways to resilience across cultures. *Adolescence* 42(166):287-310.

UNICEF (United Nations Children's Fund). 2007a. *Child protection from violence, exploitation and abuse: Children in conflict and emergencies*. http://www.unicef.org/protection/index_armedconflict.html (accessed 2011).

UNICEF. 2007b. *The Paris principles: Principles and guidelines on children associated with armed forces or armed conflict*. Paris: UNICEF.

UNICEF. 2008. *State of the world's children 2008*. New York: UNICEF.

UNICEF. 2009. *Machel study 10-year strategic review: Children and conflict in a changing world*. New York: UNICEF.

United Nations. 1989. *United Nations convention on the rights of the child*. New York: United Nations General Assembly.

Walker, S. P., S. M. Chang, M. Vera-Hernandez, and S. Grantham-McGregor. 2011. Early childhood stimulation benefits adult competence and reduces violent behavior. *Pediatrics* 127(5):849-857.

Wallace, D. 2011. Discriminatory mass de-housing and low-weight births: Scales of geography, time, and level. *Journal of Urban Health* 88(3):454-468.

Wallace, R., and M. T. Fullilove. 2008. *Collective consciousness and its discontents: Institutional distributed cognition, racial policy, and public health in the United States*. New York: Springer.

Wallace, R., M. T. Fullilove, and A. J. Flisher. 1996. AIDS, violence and behavioral coding: Information theory, risk behavior and dynamic process on core-group sociogeographic networks. *Social Science & Medicine* 43(3):339-352.

Ward, E., D. Hutchinson, H. Levy, and N. Figueroa. 2011. Youth Transition Model. Presented by E. Ward at *Workshop on the social and economic costs of violence: The value of prevention*. Institute of Medicine, Washington, DC. April 28.

Wessells, M. 2009a. Supporting the mental health and psychosocial well-being of former child soldiers. *Journal of the American Academy of Child and Adolescent Psychiatry* 48(6):587-590.

Wessells, M. 2009b. *What are we learning about protecting children in the community? An inter-agency review of the evidence from humanitarian and development settings*. New York: Save the Children.

Wilks, R., N. Younger, S. McFarlane, D. Francis, and J. Van Den Broeck. 2007. *Jamaican youth risk and resiliency behaviour survey 2006: Community-based survey on risk and resiliency behaviours of 15-19 year olds*. Chapel Hill, NC: Measure Evaluation.

Williamson, J., and L. Cripe. 2002. *Assessment of DCOF-supported child demobilization and reintegration activities in Sierra Leone*. U.S. Agency for International Development.

World Bank. 2011. *World development report 2011: Conflict, security, and development*. Washington, DC: The International Bank for Reconstruction and Development, World Bank.

World Revolution. 2001. Child soldiers: A global problem. *Global Report on Child Soldiers 2001*. http://www.worldrevolution.org/Projects/Webguide/GuideArticle.asp?ID=9 (accessed 2011).

8

Investing in Prevention

Putting a value on the impact of violence, while often an incomplete picture, provides evidence for investing in preventive interventions. Both enumerated and estimated costs—economic and social—indicate an enormous burden on public health. In particular, violence at specific points along the life span can have a greater impact. Also, addressing violence after it occurs, in addition to preventing the recurrence of violence, can be costly.

Thus, investing in early prevention can have significant financial benefit. It can prevent violence before it begins, or it can prevent the development of longer-term outcomes of violence.

The first paper in this section examines the value of prevention, by exploring the costs of violence and the costs of intervention. It also explores different methods of assessing value to highlight the importance of a number of perspectives on prevention.

The second paper is an example of a community-based preventive intervention that builds resiliency and prosocial behavior in individuals and the community as a whole. It also demonstrates the cost-effectiveness of prevention.

THE VALUE OF PREVENTION

Rachel A. Davis, M.S.W.
Prevention Institute

Prevention has tremendous value, and there are many ways to think about its value in the context of preventing violence. Prevention is a systematic process that reduces the frequency or severity of illness or injury,

and primary prevention promotes healthy environments and behaviors to head off problems before the onset of symptoms.

Ten ways of thinking about the value of prevention are the following:

1. Direct costs of not preventing violence
2. Indirect costs of not preventing violence
3. Savings due to prevention
4. Advantages of a prevention approach
5. Partnerships and multisector collaboration
6. A good solution solves multiple problems
7. Prevention works
8. Multiplier effect
9. Efficient government
10. Prevention reduces suffering and saves lives

Direct Costs of Not Preventing Violence

One way to appreciate the value of preventing violence is to understand the costs of violence. A single violent incident is far more expensive than many realize. For example:

- Every fatal assault costs $4,906 on average, with another $1.3 million in lost productivity (Corso et al., 2007).
- Every nonfatal assault costs approximately $1,000 on average, with $2,822 in lost productivity (Corso et al., 2007).
- The economic cost of violent deaths was $47.2 billion in 2005. This includes medical treatment and lost future wages (CDC, 2011).
- The cost of sexual and domestic violence exceeded $5.8 billion—$319 million for rape, $4.2 billion for physical assault, and $1.75 billion in lost earnings and productivity (National Center for Injury Prevention and Control, 2003).

On top of the cost to the government and the taxpayer for each individual act of violence, add the expense of long-term incarceration for perpetrators:

- The American Correctional Association estimates that it costs states an average of $240.99 per day—around $88,000 a year—for every young person housed in a juvenile facility in 2008 (Justice Policy Institute, 2009).
- States spent approximately $5.7 billion to imprison 64,558 young people across the United States in 2007 (Puzzanchera and Sickmund, 2008).

These costs are incurred for every incident of violence that is not prevented. More than 650,000 young people ages 10 to 24 are treated every year in emergency departments for injuries sustained from violence, and homicide is the second leading cause of death among youth between the ages of 10 and 24 (CDC, 2010). When that many young people regularly experience violence in their neighborhood or at home, the cost can only increase.

The Advancement Project in Los Angeles attempted to account for these costs in one locale, and its analysis demonstrated that gang violence in the City of Los Angeles cost the city, the County of Los Angeles, and the State of California $1.145 billion every year in criminal justice costs alone (Vera Institute of Justice, 2011). This astronomical amount, $1.145 billion, covers only the criminal justice costs of arresting and processing gang members in a single city. Imagine how high this amount would be if the analysis included other kinds of violence, factored in costs in addition to criminal justice, and covered cities across the United States, not just Los Angeles. Multiply $1.145 billion by those factors, and this will provide an approximate idea of how expensive violence can be.

Violence is enormously costly in services after the fact, including medical care, criminal justice, social services, and law enforcement. Treating gang members' gunshot wounds in the City of Los Angeles (LA), for example, costs the government approximately $45,296,446 annually in medical care (Vera Institute of Justice, 2011). Altogether, victims of LA gang violence pay more than $1 billion in out-of-pocket and quality-of-life costs (Vera Institute of Justice, 2011).

Interventions at the first sign of trouble are unusual, so it is not atypical for one individual to have many interactions with the criminal justice system over decades. A child whose first memories are of violence is far more likely to perpetuate violence throughout life. Frequently when a child victim of violence is not cared for at the first sign of trouble, that child grows up to be an adult victim of violence and is repeatedly suspected and arrested for violent crime. Every subsequent encounter that one child has with the criminal justice, social services, and medical systems as he grows up makes violence more and more expensive for communities, taxpayers, and the larger society.

These expenses pile up when violence is not prevented, and "economic costs provide, at best, an incomplete measure of the toll of violence," according to the Centers for Disease Control and Prevention (CDC, 2007). This suggests that the true cost of violence is actually far greater than that captured by the direct costs.

Indirect Costs of Not Preventing Violence

Another way to think about the value of prevention is to consider the indirect costs when violence is not prevented. Violence reduces tourism and

neighborhood business activity, resulting in the loss of private revenues and public tax dollars. It also undermines health and can exacerbate and contribute to the onset of chronic conditions and mental health problems.

Mental Health

Those who fear violence and those who experience violence as victims, perpetrators, and witnesses also suffer emotional and mental health consequences. These enduring negative effects can span a lifetime, require extensive treatment, and in turn affect physical health. Research has identified the following mental health conditions as significantly more common among those exposed to violence, either directly or indirectly:

- Depression and risk for suicide (Campbell, 2002; Chilton and Booth, 2007; Clark et al., 2008; Curry et al., 2008; Kilpatrick et al., 2003; Latkin and Curry, 2003; Paolucci et al., 2001; Pastore et al., 1996; Veenema, 2001)
- Posttraumatic stress disorder (PTSD) (Kilpatrick et al., 2003; Paolucci et al., 2001; Veenema, 2001)
- Aggressive and/or violent behavior disorders (Campbell, 2002; Fowler et al., 2009; Paolucci et al., 2001; Veenema, 2001)

Youth with past exposure to interpersonal violence have significantly higher risk for PTSD, major depressive episodes, and substance abuse and dependence. In many U.S. neighborhoods, violence is so traumatizing that 77 percent of children exposed to a school shooting and 35 percent of urban youth exposed to community violence develop PTSD, far higher than the rate for soldiers deployed to combat areas in the last 6 years (20 percent) (Kilpatrick et al., 2003; National Center for PTSD, 2007, 2009).

Chronic Diseases

Violence can also affect changes that undermine our overall health. Violence is associated with a broad range of chronic illnesses, such as

- Asthma (Apter et al., 2010; Fujiwara, 2008; Sternthal et al., 2010; Suglia et al., 2009; Wright and Steinbach, 2001; Wright et al., 2004);
- Heart disease and hypertension (Carver et al., 2008; Felitti et al., 1998);
- Ulcers and gastrointestinal disease (Prevention Institute, 2011b);
- Diabetes (Carver et al., 2008; Felitti et al., 1998);

- Neurological and musculoskeletal diseases (Prevention Institute, 2011b); and
- Lung disease (Carver et al., 2008; Felitti et al., 1998).

Violence and fear of violence are also significant barriers to healthy eating and active living. People are less likely to use local parks or walk to school when they do not feel safe in their neighborhood, for example, and violence reduces investments in communities—for example, by grocery stores (Bennett et al., 2007; Shaffer, 2002; Zenk et al., 2005). This means that safety concerns cause people to exercise less and spend less time outdoors (Burdette et al., 2006; Carver et al., 2008; CDC, 1999; Eyler et al., 2003; Gomez et al., 2004; Harrison et al., 2007; Johnson et al., 2009; Loukaitou-Sideris, 2006; Lumeng et al., 2006; Molnar et al., 2004; Sallis et al., 2008; Weir et al., 2006; Williamson et al., 2002; Wilson et al., 2004; Yancey and Kumanvika, 2007).

Violence also alters people's purchasing patterns and limits access to healthy food (Bennett et al., 2007; Neckerman et al., 2009; Odoms-Young et al., 2009; Vasquez et al., 2007; Zenk et al., 2005). Experiencing and witnessing violence cause trauma and can decrease motivation and capability to eat healthfully and be active (Alvarez et al., 2007; Boynton-Jarrett et al., 2010; Chilton and Booth, 2007; Felitti et al., 1998; Frayne et al., 2003; Greenfield and Marks, 2009; Vest and Valadez, 2005). Violence and fear of violence diminish community cohesion, which reduces support for healthy eating and active living (Cradock et al., 2009; Harrison et al., 2007; Johnson et al., 2009; Odoms-Young et al., 2009; Rohrer et al., 2004; Vest and Valadez, 2005). Chronic illness resulting from unhealthy eating and activity account for a growing percentage of escalating costs in the healthcare system (Hogan et al., 2003; Huang et al., 2009; Prevention Institute, 2010; Prevention Institute et al., 2007; Thorpe et al., 2004).

Savings Due to Prevention

Given the expense of violence is in terms of dollars and community health, there is increased recognition that prevention is a smart investment. Prevention preempts both the direct and the indirect costs of violence and translates into huge savings.

Direct Savings

By preventing violence before it happens, investments are made now rather than paying more later to cover the outsized after-the-fact costs of violence. Investing in programs such as high-quality preschool, for example, can yield immense savings. A cost-benefit analysis of the High Scope

Perry Preschool Program showed a return of $16.14 per dollar invested (Schweinhart et al., 2005). By age 40, the African-American children who participated in the preschool program as 3- and 4-year-olds had significantly fewer arrests for violent crime, drug felonies, and violent misdemeanors and served fewer months in prison compared to nonparticipants (Schweinhart et al., 2005). Every child who grows up safe and healthy means one more person who does not encounter these institutions and systems.

Indirect Savings

Reducing violence is an effective way to stimulate economic development in affected communities (Bollinger and Ihlanfeldt, 2003; Lehrer, 2000), and preventing violence yields indirect savings by promoting health in the long run. Preventing violence would reduce demand for healthcare services by lowering these incidence and prevalence rates, which would void the associated healthcare costs for thousands of people who would otherwise have fallen ill.

Advantages of a Prevention Approach

Criminal justice has historically received most attention when it comes to violence, but effectively addressing this problem requires an approach that emphasizes prevention and also includes intervention, enforcement, and successful reentry. This prevention-oriented approach provides a methodology that extends beyond programs and has the potential to change systems and shape social norms. This additional capacity is another way to weigh the value of prevention.

According to an Institute of Medicine (IOM, 2000) report on behavior change, "It is unreasonable to expect that people will change their behavior easily when so many forces in the social, cultural, and physical environment conspire against such change." Rather than intervening after people are injured and working with one individual at a time, primary prevention means changing the larger environment before problems arise.

A complex issue such as violence requires a multifaceted, comprehensive solution. Rather than only working with one person at a time to treat the effects of violence or to increase individual knowledge and skills, prevention also addresses the underlying causes of violence at the community and societal levels. Although single programs have been shown to reduce violence, there is a continuous need for comprehensive approaches, for effectiveness and to ensure sustainability.

Partnerships and Multisector Collaboration

No sector alone can prevent violence. Cities need integrated strategic plans and coordinated efforts across multiple sectors such as education;

health and human services, including public health, substance abuse and mental health, and children and families; criminal justice; early childhood development; and labor. For example, the UNITY Assessment found that cities with more multijurisdictional coordination and communication have lower rates of violence (Weiss and Southern California Injury Prevention Research Center, 2008).

Coming together and owning the solutions across multiple sectors are key, and prevention informs and facilitates this process. To effectively address violence, multiple sectors must be at the table to develop and implement a comprehensive solution. Another way to understand the value of prevention is to appreciate how it relies on inclusive processes and creates space for all these partners to dialogue and collaborate, as well as clarifying the roles of multiple sectors, such as addressing the complex array of risk and resilience factors. Approaching violence from only a criminal justice perspective limits the types of partners involved and narrows the scope of possible solutions, whereas focusing on prevention brings multiple partners to the table.

A Good Solution Solves Multiple Problems

Addressing the risk and resilience factors of violence through prevention reduces the likelihood of other poor health and behavior outcomes, such as teen pregnancy, substance abuse, mental health problems, and school failure (Felitti, 2002; Shonkoff et al., 2009). Preventing violence is valuable because it addresses risk factors that overlap with other poor health and behavior outcomes. Efforts to prevent violence simultaneously prevent these other problems as well. Boosting the resilience factors that make violence less likely also protects a community against these other problems.

Reducing violence increases the efficacy of other health initiatives. Policies that support communities to effectively prevent violence will improve health—for example, by improving access to healthy food and safe places to be active (Odoms-Young et al., 2009; Wilson et al., 2004) and enabling economic development in underdeveloped areas.

Prevention Works

Prevention is valuable because it is effective. There is a growing evidence base, grounded in research and community practice, confirming that violence is preventable. Universal school-based programs can reduce violence by 15 percent in as little as 6 months (Hahn et al., 2007), for example, and street outreach and interruption strategies reduce shootings and killings by 40 to 70 percent (Skogan et al., 2008).

Early results from the Blueprint for Action in Minneapolis indicate that it is possible to reduce the likelihood of violence. The Minneapolis City Council unanimously passed a resolution that declared youth violence a public health issue and mandated a multifaceted long-term solution to address youth violence called the Blueprint for Action. As a result, homicides of youth decreased by 77 percent between 2006 and 2009 (City of Minneapolis, 2011). The number of youth suspects dropped by 60 percent from 2006 to 2010, and the number of youth arrested for violent crime is down by one-third of what it was 4 years ago (Rybak, 2011). In addition, high school graduation rates at Minneapolis public schools increased to nearly three out of four in 2010, up from only 55 percent in 2005 (City of Minneapolis, 2011). As a result of this remarkable early success, the Blueprint for Action expanded its programs from the 4 initial neighborhoods to 22 neighborhoods in 2009 (Prevention Institute, 2011).

Multiplier Effect

Another way of thinking about the value of prevention is in its myriad long-term benefits. The benefits of preventing violence are multiplied because preventing violence generates a ripple effect and a slew of positive outcomes. Preventing violence can initiate a cascade of improved health and savings. Investing in prevention reduces the prevalence and severity of violence and related injury and disability, as well as of associated conditions, such as chronic disease, mental illness, and poor learning. This means reduced healthcare expenditures related to violence and associated health conditions. People who would otherwise be hospitalized, sick, injured, or disabled due to violence or associated health conditions can continue to work and study, which yields savings in terms of increased attendance and productivity.

Efficient Government

Prevention is valuable because it promotes efficient government when embedded in existing efforts, policies, and practices. It can contribute to efficiencies within local, state, and federal agencies; reduce duplication of efforts; create opportunities to leverage existing resources; and allow for the alignment of resources. Partners can share information and resources and minimize "reinventing the wheel." Further, embedding efforts to prevent violence within multiple agencies and sectors (e.g., housing, economic development, public works, education) can leverage existing resources for maximum benefit.

Prevention Reduces Suffering and Saves Lives

The value of prevention can also be measured in the ways it fosters well-being and promotes healthy communities. Prevention yields all of these savings and benefits, and it also spares victims, perpetrators, and their loved ones the heartache, grief, and pain that violence causes. In addition to monetary expenses, violence incurs costs that cannot easily be calculated, such as the potential of young lives lost too soon, reduced quality of life, and neighborhoods in which people neither trust each other nor venture outside due to fear.

Summary

These are some ways to appreciate the value of prevention. Violence is extremely costly, not just in terms of lives, but also in the form of criminal justice expenses, medical costs, lost productivity, and disinvestment. Further, violence and trauma are linked to the onset of chronic diseases and mental health problems, and caring for chronic diseases represents the most costly and fastest-growing portion of healthcare costs for individuals, businesses, and government. Yet violence is preventable, and prevention is of great value by any criteria.

For many young people, violence is the most pervasive aspect of growing up in their neighborhood. Young people need connection, identity, opportunity, and hope. When these things are not provided, young people turn elsewhere for them, and too often they turn to gangs and to violence. We do know how to provide these things in communities, and we need to make this a priority. Prevention values lives.

COMMUNITIES THAT CARE: BRIDGING SCIENCE AND COMMUNITY PRACTICE TO PREVENT ADOLESCENT HEALTH AND BEHAVIOR PROBLEMS INCLUDING VIOLENCE

J. David Hawkins, Ph.D., Richard F. Catalano, Ph.D., and Margaret R. Kuklinski, Ph.D.
Social Development Research Group, University of Washington School of Social Work

Prevention science emerged in the late twentieth century as a discipline built on the integration of life course development research, community epidemiology, and preventive intervention trials. Advances in prevention science have important implications for the healthy development of adolescences. Researchers have identified longitudinal predictors, such as family conflict or early academic failure, that increase the likelihood that young

people will engage in problem behaviors associated with significant morbidity and, in some cases, mortality. Other predictors, such as strong bonds to positive adults or the development of specific competencies, are protective, associated with reducing problem behaviors and increasing favorable outcomes such as academic success, even in the presence of risk. As shown in Table 8-1, many of these risk and protective factors are common to multiple adolescent problem behaviors, which suggests that improvements in risk and protection can affect a broad set of outcomes simultaneously. Researchers have used this research base on risk and protection to design and evaluate prevention programs in controlled trials and have found a number of them effective in reducing risk factors, enhancing protective factors, and reducing problem behaviors. Over time, an evidence base of "what works" has been established, and several lists of tested and effective programs have been made available to the public. Implementing scientifically tested and effective prevention programs to address youth risk and protective factors is a viable strategy for reducing prevalent and costly problem behaviors, including adolescent substance use and delinquency.

In spite of these advances, scientifically based approaches have not been widely used in schools and communities, and effective prevention systems have not been broadly established. Reasons include a lack of knowledge about scientifically proven prevention programs, difficulty marshaling resources for science-based prevention and health promotion efforts, and failure to implement proven programs with fidelity. The Communities That Care (CTC) prevention system, which mobilizes community stakeholders to collaborate on the development and implementation of a science-based community prevention system, was developed to address these concerns (Hawkins and Catalano, 1992). CTC has been developed over more than 20 years and has improved through community and research input. Here, we describe the CTC approach to prevention, steps involved in its implementation, major findings from a randomized controlled trial, and its dissemination (Hawkins and Catalano, 1992).

Implementing Communities That Care

A major challenge for prevention scientists committed to applying research in the "real world" is to increase the use of tested and effective prevention policies and programs while recognizing that communities differ from one another and need to decide locally what policies and programs to use. Hawkins and Catalano developed CTC, a coalition-based system for preventing a wide range of adolescent problem behaviors, including substance use and delinquency, with these needs in mind.

CTC is guided by the Social Development Model, which holds that in order to develop healthy, positive behaviors, young people must be

TABLE 8-1 Many Youth Problem Behaviors Share Underlying Risks

RISK FACTORS	*Substance Abuse*	*Delinquency*	*Teen Pregnancy*	*School Drop-Out*	*Violence*	*Depression and Anxiety*
Community						
Availability of drugs	✓				✓	
Availability of firearms		✓			✓	
Community laws and norms favorable to drug use, firearms, and crime	✓	✓			✓	
Media portrayals of violence		✓			✓	
Media portrayals of substance abuse	✓					
Transitions and mobility	✓	✓		✓		✓
Low neighborhood attachment and community disorganization	✓	✓			✓	
Extreme economic deprivation	✓	✓	✓	✓	✓	
School						
Academic failure beginning in late elementary school	✓	✓	✓	✓	✓	✓
Lack of commitment to school	✓	✓	✓	✓	✓	
Family						
Family history of problem behavior	✓	✓	✓	✓	✓	✓
Family management problems	✓	✓	✓	✓	✓	✓
Family conflict	✓	✓	✓	✓	✓	✓
Favorable parental attitudes and involvement in problem behavior	✓	✓			✓	
Peer and Individual						
Early, persistent antisocial behavior	✓	✓	✓	✓	✓	✓
Rebelliousness	✓	✓		✓		
Friends engage in problem behavior	✓	✓	✓	✓	✓	
Gang involvement	✓	✓			✓	
Favorable attitudes toward problem behavior	✓	✓	✓	✓		
Early initiation of problem behavior	✓	✓	✓	✓	✓	
Constitutional factors	✓	✓			✓	✓

immersed in family, school, community, and peer environments that consistently communicate healthy beliefs and clear standards for behavior. When strong bonds exist between adolescents and prosocial individuals and groups, they are more likely to mirror prosocial beliefs and healthy behaviors. Bonds are fostered when young people are provided with *opportunities* to be involved in meaningful, developmentally appropriate activities, *skills* to be successful in those activities, and *recognition* for their efforts, achievements, and contributions to the group (Catalano et al., 1996).

CTC encourages community stakeholders to adopt the Social Development Model in their daily interactions with young people and to ensure that all young people are provided developmentally appropriate opportunities, skills, and recognition, as well as healthy standards for behavior. The Social Development Model also underlies community mobilization and training efforts. CTC creates opportunities for all interested stakeholders to participate in developing a shared vision for positive youth development based in prevention science. Diverse community representatives develop skills to work together effectively and are recognized for their efforts and contributions to positive youth development. Social bonds among coalition members enhance their commitment to implementing effective preventive interventions with fidelity.

Local control is built into CTC from the beginning. CTC guides communities to use the advances of prevention science, but community stakeholders determine which factors and outcomes to prioritize and which tested, effective programs and policies to implement to address their local concerns. Using CTC, it takes communities approximately 1 year to develop the skills and knowledge to choose and faithfully implement tested and effective prevention programs to address community priorities (see Box 8-1) (Hawkins et al., 2008b; Quinby et al., 2008). Implementation occurs

BOX 8-1
Communities That Care (CTC) Adds Value to Evidence-Based Prevention Programs

CTC provides education, skills, and tools for building community capacity to change youth outcomes:

- CTC's five-phase process provides communities with education and tools for assessing and prioritizing local risk, protection, and youth outcomes.
- CTC provides tools for assisting communities in matching prioritized risk and protective factors with tested, effective preventive interventions.
- CTC provides processes for enhancing fidelity in program implementation and engaging those targeted to receive the program.

in a series of five phases, each with specific milestones and benchmarks to be accomplished. Training and technical assistance are provided in each phase by a certified CTC trainer.

Phase 1: Get Started

In the first phase, community leaders concerned with preventing youth problem behaviors assess community readiness to adopt the CTC system, as well as local barriers to implementation. Successful implementation requires a shared belief in the utility of a preventive approach to addressing adolescent problem behaviors. Stakeholders should be willing to establish shared goals and collaborate to achieve them. If these attitudes are not present, readiness needs to be improved before implementing CTC. Other major activities include identifying one or two key leaders to champion CTC, hiring a coordinator to manage CTC activities, and obtaining school district support for conducting a youth survey that will provide local epidemiological data on risk, protection, and youth behaviors.

Phase 2: Organize, Introduce, and Involve

The major task in phase 2 is to identify and train two key groups of individuals from the community in the principles of prevention science and the CTC prevention system. The first group consists of key community leaders and influential stakeholders (mayor, police chief, school superintendent; business, faith, community, social service, and media leaders), who are introduced to CTC, prevention science principles, and the relationship between youth risk and protective factors and problem behaviors during a half-day Key Leader Orientation event. Key leaders are responsible for securing resources for preventive interventions and identifying candidates for the CTC Community Board, a demographically diverse and broad-based coalition that will carry out CTC planning and prevention activities. Board members participate in a 2-day Community Board Orientation to CTC. The board develops a vision statement to guide its prevention work and establishes work groups to perform core implementation and maintenance tasks: board maintenance, risk and protective factor assessment, resource assessment and analysis, public relations, youth involvement, and funding.

Phase 3: Develop a Community Profile

In phase 3, the CTC board develops a community profile of risk, protection, and problem behaviors among community youth; targets two to five risk and protective factors for preventive action; and identifies existing prevention resources and gaps. The first two activities are accomplished

in a 2-day Community Assessment Training. The major source of data for the community profile is the CTC Youth Survey (Arthur et al., 2007), a school-based self-report questionnaire administered to students in grades 6, 8, 10, and 12, focusing on risk and protective factors experienced by young people, as well as their involvement in problem behaviors such as substance use, delinquency, and violence. These data are supplemented by archival data (e.g., school dropout rates, teenage pregnancy statistics, arrest records). The resulting community profile provides baseline data against which change in targets can be evaluated. Following Community Resource Assessment Training, board members survey service providers to measure the extent to which high-quality, research-based prevention programs targeting local prioritized risk and protective factors are already available in the community and identify existing gaps. The community is educated about prevention resources, and parties are recognized for their contributions to positive youth development.

Phase 4: Create a Community Action Plan

In phase 4, board members use information gathered in phase 3 to develop a Community Action Plan. Two-day Community Plan Training provides tools and knowledge to select scientifically tested and effective programs, policies, and actions targeting local priorities and filling gaps in prevention services. The board chooses programs from the CTC Prevention Strategies Guide, a compendium of prevention programs (including parenting skills, school curricula, mentoring, after-school, and community-based programs) found effective in changing risk, protection, and problem behaviors in at least one high-quality controlled trial. The Community Action Plan specifies plans for implementing prevention programs, monitoring implementation quality, and assessing improvement in risk, protection, and problem behaviors.

Phase 5: Implement and Evaluate Community Action Plan

The last phase consists of implementing the Community Action Plan. Community Plan Implementation Training emphasizes the importance of adhering faithfully to the content, dosage, and manner of delivery specified in program protocols. Prevention program developers provide additional training and technical assistance. Board members and program implementers learn to track implementation progress, assess changes in participants, and make adjustments to achieve program objectives. Monitoring is accomplished through the use of program-specific implementation checklists, observations, and participant pre- and post-tests. During this phase, the

board also engages local media to educate the community about risk and protective factors for adolescent problem behavior and generate public support for the new preventive interventions.

When they complete phase 5, communities have the knowledge, tools, and skills to faithfully implement tested and effective prevention policies and programs to address locally prioritized risk, protection, and youth behaviors. However, the CTC process is ongoing. Every 2 years, the CTC Youth Survey is re-administered, and other community assessment data are updated. The CTC board reviews these data to evaluate progress and revise action plans as needed.

How Long Does It Take to Achieve Change in Risk, Protection, and Youth Outcomes?

Community-level changes in youth risk and protection are expected to occur 2 to 5 years after tested and effective prevention programs are implemented. Community-level effects on youth behaviors are expected 4 to 10 years following implementation.

CTC Works in Communities of Varied Size

A CTC "community" is a geographically specific place large enough for educational and human services to be delivered at that level. It can be an incorporated town or suburb or a neighborhood or school catchment area of a large city. The population of the area served should range from 5,000 to 50,000. In large cities, local CTC coalitions may be created to plan and implement preventive interventions for their own neighborhoods or school catchment areas.

The Community Youth Development Study: A Test of CTC

CTC has been evaluated in the Community Youth Development Study (CYDS), a multisite community-randomized trial initiated in 2003 involving 24 communities randomly assigned to receive CTC or to serve as controls in seven states across the United States. A longitudinal panel of 4,407 children has been surveyed annually from grades 5 through 10, 1 year after intervention support for CTC ended, so that the sustainability of the CTC prevention system and effects on youth outcomes could be evaluated. Effects on community prevention systems were evaluated using reports of key leaders from CTC and control communities. Effects on youth risk and problem behaviors were evaluated using the CTC Youth Survey. Major findings are summarized in Box 8-2.

BOX 8-2
Major Findings from the Community Youth Development Study (CYDS)

Sustained prevention system effects. Four years after the start of the CYDS, Communities That Care (CTC) communities were significantly more likely to have adopted a science-based approach to prevention, to have implemented evidence-based prevention programs aimed at targeted risk and protective factors, and to be monitoring the impact of these programs. These differences were sustained 1 year after the intervention phase of CYDS had ended.

Exposure to targeted risk factors increased significantly less rapidly in panel youth in CTC communities than in control communities through grade 10, and levels of exposure to targeted risk factors were significantly lower in the panel in CTC communities than in control communities in the spring of grade 10.

Sustained prevention of delinquency and substance use. By spring of grade 8, youth in the longitudinal panel from CTC communities were 33 percent less likely to have initiated cigarette use, 32 percent less likely to have initiated alcohol use, and 25 percent less likely to have initiated delinquent behavior than youth in the longitudinal panel from control communities. By spring of grade 10, they were 28 percent less likely to have initiated cigarette use, 29 percent less likely to have initiated alcohol use, and 17 percent less likely to have initiated delinquent behavior than youth in the longitudinal panel from control communities. Fewer had engaged in violence in grade 10.

Universal effects. By grade 8, CTC reduced the prevalence of substance use and delinquency equally across risk-related subgroups and gender, with minor exceptions, indicating that CTC's effects are universal.

Cost-beneficial investment. By preventing tobacco use and delinquency in grade 8, CTC returns $5.30 to society for every $1.00 invested.

Communities Can Faithfully Implement the CTC Prevention System and Prevention Programs

The CYDS evaluated community efforts to faithfully implement the core principles of the CTC prevention system and of tested and effective prevention programs with respect to content and delivery specifications. The study found that CTC communities achieved high implementation fidelity at the system and program levels when supported by training and technical assistance in CTC. Control communities did not achieve these goals.

High-Fidelity Implementation of the CTC Prevention System

At the start of the CYDS, CTC and control communities did not differ in their use of a science-based approach to prevention (Hawkins et al., 2008a,b). By the third year of the intervention, key leaders in CTC communities reported a higher stage of adoption of science-based prevention, relative to control communities (Brown et al., 2011). They also were willing to provide greater funding for prevention. The CTC Milestones and Benchmarks Survey was used to track progress in the implementation of core components of the CTC prevention system. In each year of the intervention, CTC communities enacted an average of 90 percent of the key features of the CTC prevention system, including developing a community board, prioritizing risk and protective factors, selecting tested and effective preventive interventions from the CTC Prevention Strategies Guide, carrying out selected implementation programs with fidelity, and periodically assessing risk and protective factors and child and adolescent well-being through surveys of students (Fagan et al., 2009; Quinby et al., 2008). Control communities did not make this progress over time in completing CTC milestones and benchmarks, implementing scientifically proven prevention programs, or monitoring program impacts (Arthur et al., 2010).

Faithful Implementation of Tested and Effective Prevention Programs

Over the course of the trial, the 12 CTC communities demonstrated faithful implementation of 17 different school-based, after-school, and parenting interventions (see Figure 8-1), selected from a menu of 39 possible tested and effective programs for fifth through ninth grade students contained in the *Communities That Care Prevention Strategies Guide* (Fagan et al., 2008, 2009, in review). On average, CTC communities implemented 2.75 tested and effective prevention programs per year (range: 1-5). High rates of fidelity were achieved consistently over time with respect to adherence to program objectives and core components (average = 91-94 percent per year) and dosage (number, length, and frequency of intervention sessions; average = 93-95 percent per year).

CTC Leads to Sustained Prevention of Youth Risk, Delinquency, and Substance Use

CTC communities prioritized two to five risk factors to be targeted by tested and effective prevention programs (shown in Table 8-2). Effects on youth risk and problem behaviors were first observed in grade 7, after less than 2 full years of intervention and earlier than CTC's theory of change suggested. Effects have been sustained through grade 10, 1 year after the trial's intervention phase ended.

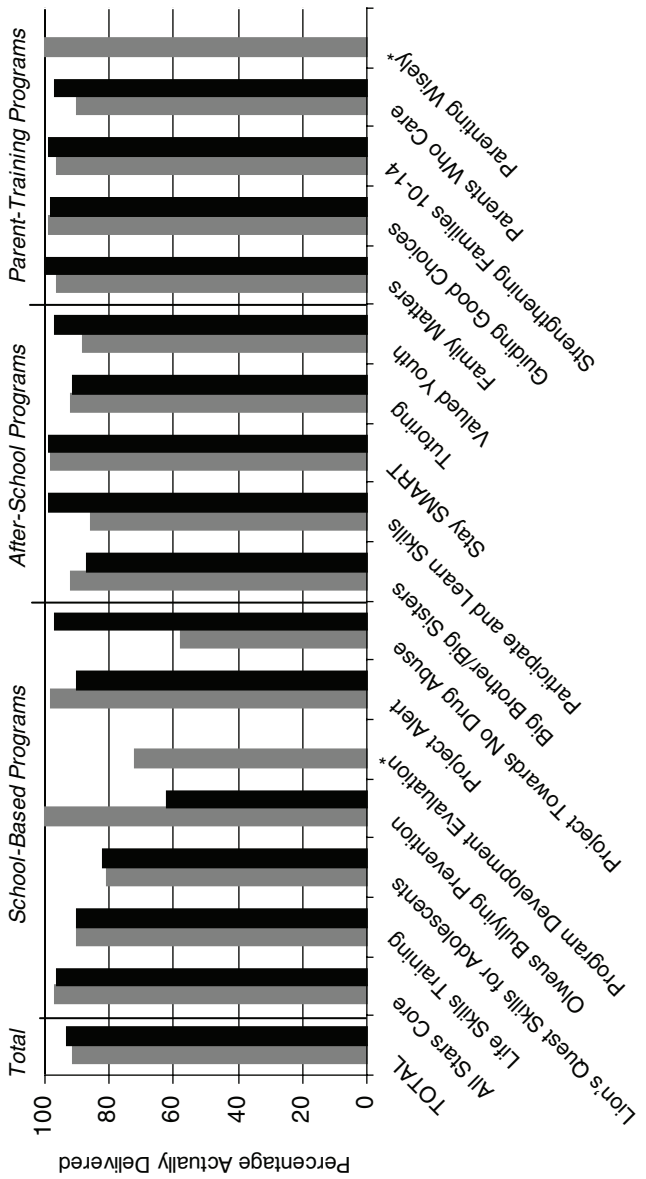

FIGURE 8-1 Adherence to prevention program design specifications in Community Youth Development Study communities averaged across all intervention years.
NOTE: * No session fidelity forms submitted.

TABLE 8-2 Risk Factors Targeted by Community Youth Development Study Communities

Domain and Risk Factor	No. of Communities
Community	
Laws and norms favorable to drug use	1
School	
Low commitment to school	9
Academic failure	5
Family	
Family conflict	3
Poor family management	4
Parental attitudes favorable to problem behavior	1
Peer	
Antisocial friends	7
Peer rewards for antisocial behavior	2
Individual	
Attitudes favorable to antisocial behavior	3
Rebelliousness	3
Low perceived risk of drug use	2

Effects on Risk Factor Exposure

The longitudinal panel youth in CTC and control communities reported similar levels of targeted risk in grade 5, when the intervention began (Hawkins et al., 2008a), but targeted risk exposure grew more slowly for adolescents in CTC communities between grades 5 and 10 (Hawkins et al., in review). Significantly lower levels of targeted risk were first reported by CTC panel youth 1.67 years into the intervention in grade 7 and have continued to be reported by CTC panel youth through grade 10.

Preventive Effects on the Initiation of Delinquency and Substance Use

Panel youth from CTC and control communities also reported similar levels of delinquency, alcohol use, and cigarette smoking at grade 5 baseline. However, between grades 5 and 10, CTC had significant effects on the initiation of these behaviors by young people. Significant differences in the initiation of delinquency were first observed in the spring of grade 7. Panel youth from CTC communities were 25 percent less likely than panel youth from control communities to initiate delinquent behavior, and they remained so in grade 8. Significantly lower delinquency initiation rates were sustained through grade 10 (Hawkins et al., in review), when panel youth

from CTC communities were 17 percent less likely to initiate delinquency than panel youth from control communities.

Preventive effects on alcohol use and cigarette use were first observed in the spring of grade 8, 2.67 years after intervention programs were implemented. Grade 8 youth from CTC communities were 32 percent less likely to initiate alcohol use and 33 percent less likely to initiate cigarette smoking than grade 8 youth from control communities (Hawkins et al., 2009). Preventive effects were again sustained through grade 10 (Hawkins et al., in review), when CTC panel youth were 29 percent less likely to initiate alcohol use and 28 percent less likely to initiate cigarette smoking than panel youth from control communities.

Differences in the initiation of delinquency, alcohol use, and cigarette smoking from grades 5 through 10 led to cumulatively lower rates of initiation over time (see Figure 8-2): 62 percent of 10th-grade youth in the panel from CTC communities had engaged in delinquent behavior compared with 70 percent of 10th-grade youth in the panel from control communities; 67 percent versus 75 percent had initiated alcohol use; and 44 percent versus 52 percent had smoked cigarettes.

Reductions in the Prevalence of Delinquency, Violence, and Substance Use

CTC also significantly reduced the prevalence of youth problem behaviors in grade 8 and grade 10. In grade 8, the prevalence of alcohol use in the past month, binge drinking (five or more drinks in a row) in the past 2 weeks, and the variety of delinquent behaviors committed in the past year were all significantly lower in CTC panel youth compared to control community panel youth (Hawkins et al., 2009). A subset of the delinquency items was used to create a measure of violent behavior in the fifth grade (attacking someone with intent to harm; range 0 to 1) and the 10th grade (attacking someone with intent to harm, carrying a gun to school, beating somebody up; range from 0 to 3). The CYDS found significant effects of CTC in reducing the prevalence of delinquent behavior and violence in the past year in the spring of grade 10 (Hawkins et al., in review). Tenth-grade students in CTC communities had 17 percent lower odds of reporting any delinquent behavior in the past year (t (9) = −2.33; p = .04; AOR [adjusted odds ratio] = .83) and 25 percent lower odds of reporting any violent behavior in the past year (t (9) = −2.51; p = .03; AOR = .75) compared to students in control communities.

CTC Is a Cost-Beneficial Intervention

A cost-benefit analysis was undertaken to determine whether CTC is a sound investment of public dollars, based on significant preventive effects

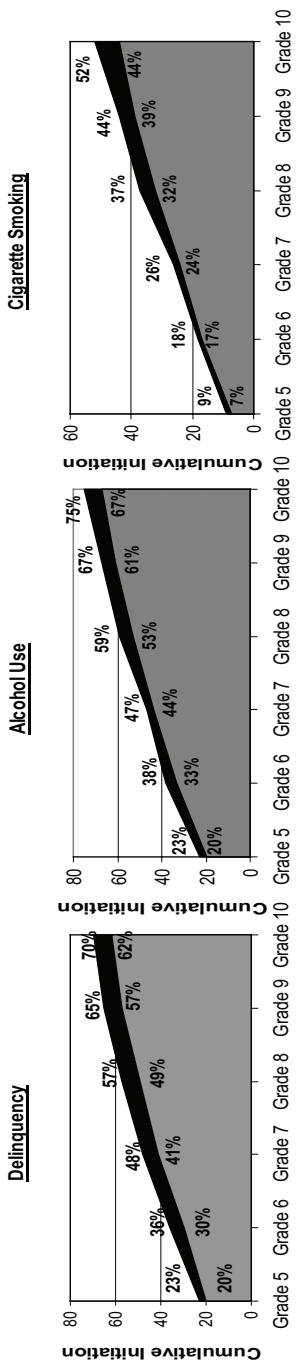

FIGURE 8-2 Communities That Care (CTC) leads to significant reductions in the cumulative initiation in delinquency and substance abuse.
NOTE: The percentage of youth initiating delinquency, alcohol use, and cigarette smoking from grade 5 to grade 10 is significantly lower in youth exposed to CTC.

on cigarette smoking and delinquency initiation found in grade 8 (Kuklinski et al., in review). CTC's long-term financial benefits from reducing initiation were compared to a very conservative CTC implementation cost of $991 per youth over 5 years. CTC was estimated to lead to $5,250 in benefits per youth, including $812 from the prevention of cigarette smoking and $4,438 from the prevention of delinquency. The benefit-cost ratio indicates a return of $5.30 per $1.00 invested, evidence that CTC is a cost-beneficial investment (Kuklinski et al., in review).

CTC is currently being implemented in more than 500 communities across the United States and in countries including Australia, Canada, Germany, the Netherlands, and the United Kingdom.

Dissemination of CTC

All manuals and materials needed to implement CTC have been placed in the public domain by the Substance Abuse and Mental Health Services Administration of the U.S. Department of Health and Human Services and can be found at http://www.communitiesthatcare.net. In addition, it is clear from the Community Youth Development Study that high-quality training and technical assistance are important to ensuring successful implementation of CTC with fidelity.

CTC Guiding Principles

- Increase the use of tested and effective prevention policies and programs, while recognizing that communities are different and need to decide locally what policies and programs to use.
- Identify and prioritize locally specific elevated risk factors, depressed protective factors, and youth problem behaviors.
- Match tested, effective prevention programs and policies to priorities, and implement them with fidelity.
- Measure progress periodically, and make any needed adjustments.

Key Youth Outcomes

A randomized controlled trial of CTC showed that grade 8 youth exposed to CTC fared significantly better than youth not exposed to CTC:

- Risk factors targeted for intervention increased less rapidly from grades 5 to 8.
- CTC youth were 33 percent less likely to start smoking cigarettes, 32 percent less likely to start drinking, and 25 percent less likely to start engaging in delinquent behavior.

- The intervention was found to be cost-effective returning $5.30 for every dollar invested.
- These improvements have been sustained through grade 10, 1 year after study support to communities ended.
- Effects on the prevalence of substance use and delinquency were generally universal, applying equally to girls and boys as well as youth who differed in risk.

REFERENCES

Alvarez, J., J. Pavao, N. Baumrind, and R. Kimerling. 2007. The relationship between child abuse and adult obesity among California women. *American Journal of Preventive Medicine* 33(1):28-33.

Apter, A. J., L. A. Garcia, R. C. Boyd, X. M. Wang, D. K. Bogen, and T. Ten Have. 2010. Exposure to community violence is associated with asthma hospitalizations and emergency department visits. *Journal of Allergy and Clinical Immunology* 126(3):552-557.

Arthur, M. W., J. S. Briney, J. D. Hawkins, R. D. Abbott, B. L. Brooke-Weiss, and R. F. Catalano. 2007. Measuring risk and protection in communities using the Communities That Care youth survey. *Evaluation and Program Planning*. Pp. 197-211.

Arthur, M. W., J. D. Hawkins, E. C. Brown, J. S. Briney, S. Oesterle, and R. D. Abbott. 2010. Implementation of the Communities That Care prevention system by coalitions in the Community Youth Development Study. *Journal of Community Psychology* 38:245-258.

Bennett, G. G., L. H. McNeill, K. Y. Wolin, D. T. Duncan, E. Puleo, and K. M. Emmons. 2007. Safe to walk? Neighborhood safety and physical activity among public housing residents. *PloS Medicine* 4(10):1599-1607.

Bollinger, C. R., and K. R. Ihlanfeldt. 2003. The intraurban spatial distribution of employment: Which government interventions make a difference? *Journal of Urban Economics* 53(3):396-412.

Boynton-Jarrett, R., J. Fargnoli, S. F. Suglia, B. Zuckerman, and R. J. Wright. 2010. Association between maternal intimate partner violence and incident obesity in preschool-aged children: Results from the fragile families and child well-being study. *Archives of Pediatrics & Adolescent Medicine* 164(6):540-546.

Brown, E. C., J. D. Hawkins, M. W. Arthur, J. S. Briney, and A. A. Fagan. 2011. Prevention service system transformation using Communities That Care. *Journal of Community Psychology* 39:183-201.

Burdette, H. L., T. A. Wadden, and R. C. Whitaker. 2006. Neighborhood safety, collective efficacy, and obesity in women with young children. *Obesity* 14(3):518-525.

Campbell, J. C. 2002. Health consequences of intimate partner violence. *Lancet* 359(9314): 1331-1336.

Carver, A., A. Timperio, and D. Crawford. 2008. Perceptions of neighborhood safety and physical activity among youth: The CLAN study. *Journal of Physical Activity & Health* 5(3):430-444.

Catalano, R. F., R. Kosterman, J. D. Hawkins, M. D. Newcomb, and R. D. Abbott. 1996. Modeling the etiology of adolescent substance use: A test of the social development model. *Journal of Drug Issues* 26(2):429-455.

CDC (Centers for Disease Control and Prevention). 1999. Neighborhood safety and the prevalence of physical inactivity—Selected states, 1996. *Morbidity and Mortality Weekly Report* 48(07):143-146.

CDC. 2007. *The cost of violence in the United States*. Atlanta, GA: Centers for Disease Control and Prevention, National Centers for Injury Prevention and Control.

CDC. 2010. *Youth violence: Facts at a glance*. http://www.cdc.gov/violenceprevention/pdf/YV-DataSheet-a.pdf (accessed 2011).

CDC. 2011. *Cost of violent deaths in the United States, 2005*. http://www.cdc.gov/violenceprevention/violentdeaths/ (accessed 2011).

Chilton, M., and S. Booth. 2007. Hunger of the body and hunger of the mind: African-American women's perceptions of food insecurity, health and violence. *Journal of Nutrition Education and Behavior* 39(3):116-125.

City of Minneapolis. 2011. *US Attorney General Holder lauds Minneapolis' youth violence prevention initiative*. http://www.ci.minneapolis.mn.us/news/20110527YthViolencePrevention_Holder.asp (accessed 2011).

Clark, C., L. Ryan, I. Kawachi, M. J. Canner, L. Berkman, and R. J. Wright. 2008. Witnessing community violence in residential neighborhoods: A mental health hazard for urban women. *Journal of Urban Health-Bulletin of the New York Academy of Medicine* 85(1):22-38.

Corso, P., J. Mercy, T. Simon, E. Finkelstein, and T. Miller. 2007. Medical costs and productivity losses due to interpersonal and self-directed violence in the United States. *American Journal of Preventive Medicine* 32(6):474-482.

Cradock, A. L., I. Kawachi, G. A. Colditz, S. L. Gortmaker, and S. L. Buka. 2009. Neighborhood social cohesion and youth participation in physical activity in Chicago. *Social Science & Medicine* 68(3):427-435.

Curry, A., C. Latkin, and M. Davey-Rothwell. 2008. Pathways to depression: The impact of neighborhood violent crime on inner-city residents in Baltimore, Maryland, USA. *Social Science & Medicine* 67(1):23-30.

Eyler, A. A., D. Matson-Koffman, D. R. Young, S. Wilcox, J. Wilbur, J. L. Thompson, B. Sanderson, and K. R. Evenson. 2003. Quantitative study of correlates of physical activity in women from diverse racial/ethnic groups—The Women's Cardiovascular Health Network Project—Summary and conclusions. *American Journal of Preventive Medicine* 25(3):93-103.

Fagan, A. A., K. Hanson, J. D. Hawkins, and M. W. Arthur. 2008. Implementing effective community-based prevention programs in the Community Youth Development Study. *Youth Violence and Juvenile Justice* 6(3):256-278.

Fagan, A. A., K. Hanson, J. D. Hawkins, and M. W. Arthur. 2009. Translational research in action: Implementation of the Communities That Care prevention system in 12 communities. *Journal of Community Psychology* 37(7):809-829.

Fagan, A. A., M. W. Arthur, K. Hanson, J. S. Briney, and J. D. Hawkins. In review. Effects of Communities That Care on the adoption and implementation fidelity of evidence-based prevention programs in communities: Results from a randomized controlled trial. *Prevention Science*.

Felitti, V. J. 2002. The relationship of adverse childhood experiences to adult health: Turning gold into lead. *Zeitschrift Fur Psychosomatische Medizin Und Psychotherapie* 48(4):359-369.

Felitti, V. J., R. F. Anda, D. Nordenberg, D. F. Williamson, A. M. Spitz, V. Edwards, M. P. Koss, and J. S. Marks. 1998. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults—The Adverse Childhood Experiences (ACE) study. *American Journal of Preventive Medicine* 14(4):245-258.

Fowler, P. J., C. J. Tompsett, J. M. Braciszewski, A. J. Jacques-Tiura, and B. B. Baltes. 2009. Community violence: A meta-analysis on the effect of exposure and mental health outcomes of children and adolescents. *Development and Psychopathology* 21(1):227-259.

Frayne, S. M., K. M. Skinner, L. M. Sullivan, and K. M. Freund. 2003. Sexual assault while in the military: Violence as a predictor of cardiac risk? *Violence and Victims* 18(2):219-225.

Fujiwara, T. 2008. Violence and asthma: A review. *Environmental Health Insights* 2:45-54.

Gomez, J. E., B. A. Johnson, M. Selva, and J. F. Sallis. 2004. Violent crime and outdoor physical activity among inner-city youth. *Preventive Medicine* 39(5):876-881.

Greenfield, E. A., and N. F. Marks. 2009. Violence from parents in childhood and obesity in adulthood: Using food in response to stress as a mediator of risk. *Social Science & Medicine* 68(5):791-798.

Hahn, R., D. Fuqua-Whitley, H. Wethington, J. Lowy, A. Crosby, M. Fullilove, R. Johnson, A. Liberman, E. Moscicki, L. Price, S. Snyder, F. Tuma, S. Cory, G. Stone, K. Mukhopadhaya, S. Chattopadhyay, and L. Dahlberg. 2007. Effectiveness of universal school-based programs to prevent violent and aggressive behavior: A systematic review. *American Journal of Preventive Medicine* 33(2 Suppl):S114-S129.

Harrison, R. A., I. Gemmell, and R. F. Heller. 2007. The population effect of crime and neighbourhood on physical activity: An analysis of 15,461 adults. *Journal of Epidemiology and Community Health* 61(1):34-39.

Hawkins, J. D., and R. F. Catalano. 1992. *Communities That Care: Action for drug abuse prevention.* The Jossey-Bass Behavioral Science Series. San Francisco, CA: Jossey-Bass.

Hawkins, J. D., E. C. Brown, S. Oesterle, M. W. Arthur, R. D. Abbott, and R. F. Catalano. 2008a. Early effects of Communities That Care on targeted risks and initiation of delinquent behavior and substance use. *Journal of Adolescent Health* 43(1):15-22.

Hawkins, J. D., R. F. Catalano, M. W. Arthur, E. Egan, E. C. Brown, R. D. Abbott, and D. M. Murray. 2008b. Testing Communities That Care: The rationale, design and behavioral baseline equivalence of the Community Youth Development Study. *Prevention Science* 9(3):178-190.

Hawkins, J. D., S. Oesterle, E. C. Brown, M. W. Arthur, R. D. Abbott, A. A. Fagan, and R. F. Catalano. 2009. Results of a type 2 translational research trial to prevent adolescent drug use and delinquency: A test of Communities That Care. *Archives of Pediatrics and Adolescent Medicine* 163(9):789-798.

Hawkins, J. D., S. Oesterle, E. C. Brown, K. C. Monahan, R. D. Abbott, M. W. Arthur, and R. F. Catalano. In review. Sustained decreases in risk exposure and youth problem behaviors after installation of the Communities That Care prevention system in a randomized trial.

Hogan, P., T. Dall, and P. Nikolov. 2003. Economic costs of diabetes in the US in 2002. *Diabetes Care* 26(3):917-932.

Huang, E. S., A. Basu, M. O'Grady, and J. C. Capretta. 2009. Projecting the future diabetes population: Size and related costs for the U.S. *Diabetes Care* 32(12):2225-2229.

IOM (Institute of Medicine). 2000. *Promoting health: Intervention strategies from social and behavioral research*. Washington, DC: National Academy Press.

Johnson, S. L., B. S. Solomon, W. C. Shields, E. M. McDonald, L. B. McKenzie, and A. C. Gielen. 2009. Neighborhood violence and its association with mothers' health: Assessing the relative importance of perceived safety and exposure to violence. *Journal of Urban Health-Bulletin of the New York Academy of Medicine* 86(4):538-550.

Justice Policy Institute. 2009. The costs of confinement: Why good juvenile justice policies make good fiscal sense. Washington, DC: Justice Policy Institute.

Kilpatrick, D. G., K. J. Ruggiero, R. Acierno, B. E. Saunders, H. S. Resnick, and C. L. Best. 2003. Violence and risk of PTSD, major depression, substance abuse/dependence, and comorbidity: Results from the national survey of adolescents. *Journal of Consulting and Clinical Psychology* 71(4):692-700.

Kuklinski, M. R., J. S. Briney, J. D. Hawkins, and R. F. Catalano. In review. Cost-benefit analysis of Communities That Care outcomes at eighth grade.

Latkin, C. A., and A. D. Curry. 2003. Stressful neighborhoods and depression: A prospective study of the impact of neighborhood disorder. *Journal of Health and Social Behavior* 44(1):34-44.

Lehrer, E. 2000. Crime-fighting and urban renewal. *Public Interest* (141):91-103.
Loukaitou-Sideris, A. 2006. Is it safe to walk? Neighborhood safety and security considerations and their effects on walking. *Journal of Planning Literature* 20(3):219-232.
Lumeng, J. C., D. Appugliese, H. J. Cabral, R. H. Bradley, and B. Zuckerman. 2006. Neighborhood safety and overweight status in children. *Archives of Pediatrics & Adolescent Medicine* 160(1):25-31.
Molnar, B. E., S. L. Gortmaker, F. C. Bull, and S. L. Buka. 2004. Unsafe to play? Neighborhood disorder and lack of safety predict reduced physical activity among urban children and adolescents. *American Journal of Health Promotion* 18(5):378-386.
National Center for Injury Prevention and Control. 2003. *Costs of intimate partner violence against women in the United States.* Atlanta, GA: Centers for Disease Control and Prevention.
National Center for PTSD. 2007. *How common is PTSD?* http://www.ptsd.va.gov/public/pages/how-common-is-ptsd.asp (accessed 2011).
National Center for PTSD. 2009. PTSD in children and adolescents. Washington, DC: National Center for PTSD.
Neckerman, K. M., M. Bader, M. Purciel, and P. Yousefzadeh. 2009. *Measuring food access in urban areas*. New York: Columbia University.
Odoms-Young, A. M., S. Zenk, and M. Mason. 2009. Measuring food availability and access in African-American communities: Implications for intervention and policy. *American Journal of Preventive Medicine* 36(4):S145-S150.
Paolucci, E. O., M. L. Genuis, and C. Violato. 2001. A meta-analysis of the published research on the effects of child sexual abuse. *Journal of Psychology* 135(1):17-36.
Pastore, D. R., M. Fisher, and S. B. Friedman. 1996. Violence and mental health problems among urban high school students. *Journal of Adolescent Health* 18(5):320-324.
Prevention Institute. 2010. *Addressing the intersection: Preventing violence and promoting healthy eating and active living.* Oakland, CA.
Prevention Institute. 2011a. City voices and perspectives: Blueprint for action—Preventing violence in Minneapolis. Oakland, CA.
Prevention Institute. 2011b. *Unity fact sheet: Violence and chronic illness.* Oakland, CA.
Prevention Institute, The California Endowment, The Urban Institute. 2007. *Reducing health care costs through prevention.* Oakland, CA.
Puzzanchera, C., and M. Sickmund. 2008. *Juvenile court statistics 2005.* Pittsburgh, PA: National Center for Juvenile Justice.
Quinby, R. K., A. A. Fagan, K. Hanson, B. Brooke-Weiss, M. W. Arthur, and J. D. Hawkins. 2008. Installing the Communities That Care prevention system: Implementation progress and fidelity in a randomized controlled trial. *Journal of Community Psychology* 36(3):313-332.
Rohrer, J. E., A. A. Arif, J. R. Pierce, Jr., and C. Blackburn. 2004. Unsafe neighborhoods, social group activity, and self-rated health. *Journal of Public Health Managagement and Practice* 10(2):124-129.
Rybak, R. T. P. 2011. *State of the blueprint report*. Paper presented at Blueprint for Action Youth Violence Prevention Conference, Minneapolis, MN, May 27.
Sallis, J. F., A. C. King, J. R. Sirard, and C. L. Albright. 2008. Perceived environmental predictors of physical activity over 6 months in adults: Activity counseling trial (vol. 26, p. 701, 2007). *Health Psychology* 27(2):214.
Schweinhart, L. J., J. Montie, Z. Xiang, W. S. Barnett, C. R. Belfield, and M. Nores. 2005. *Lifetime effects: The High/Scope Perry preschool study through age 40.* Ypsilanti, MI.
Shaffer, A. 2002. *The persistence of L.A.'s grocery gap: The need for a new food policy and approach to market development*. Los Angeles, CA: Center for Food and Justice, Urban and Environmental Policy Institute.

Shonkoff, J. P., W. T. Boyce, and B. S. McEwen. 2009. Neuroscience, molecular biology, and the childhood roots of health disparities. *Journal of the American Medical Association* 301(21):2252-2259.

Skogan, W. G., S. M. Hartnett, N. Bump, and J. Dubois. 2008. *Executive summary: Evaluation of CeaseFire-Chicago*. Chicago, IL: Northwestern University.

Sternthal, M. J., H. J. Jun, F. Earls, and R. J. Wright. 2010. Community violence and urban childhood asthma: A multilevel analysis. *European Respiratory Journal* 36(6):1400-1409.

Suglia, S. F., M. B. Enlow, A. Kullowatz, and R. J. Wright. 2009. Maternal intimate partner violence and increased asthma incidence in children: Buffering effects of supportive caregiving. *Archives of Pediatrics & Adolescent Medicine* 163(3):244-250.

Thorpe, K. E., C. S. Florence, and P. Joski. 2004. Which medical conditions account for the rise in health care spending? *Health Affairs* 23(5):W437-W445.

Vasquez, V. B., D. Lanza, S. Hennessey-Lavery, S. Facente, H. A. Halpin, and M. Minkler. 2007. Addressing food security through public policy action in a community-based participatory research partnership. *Health Promotion Practice* 8(4):342-349.

Veenema, T. G. 2001. Children's exposure to community violence. *Journal of Nursing Scholarship* 33(2):167-173.

Vera Institute of Justice. 2011. *Cost-benefit analysis*. http://www.advanceproj.com/doc/p3_cost.pdf (accessed September 16, 2011).

Vest, J., and A. Valadez. 2005. Perceptions of neighborhood characteristics and leisure-time physical inactivity—Austin/Travis county, Texas, 2004. *Morbidity and Mortality Weekly Report* 54(37):926-928.

Weir, L. A., D. Etelson, and D. A. Brand. 2006. Parents' perceptions of neighborhood safety and children's physical activity. *Preventive Medicine* 43(3):212-217.

Weiss, B., and Southern California Injury Prevention Research Center, UCLA School of Public Health, Prevention Institute. 2008. *An assessment of youth violence prevention activities in USA cities*. Oakland, CA: Prevention Institute.

Williamson, D. F., T. J. Thompson, R. F. Anda, W. H. Dietz, and V. Felitti. 2002. Body weight and obesity in adults and self-reported abuse in childhood. *International Journal of Obesity* 26(8):1075-1082.

Wilson, D. K., K. A. Kirtland, B. E. Ainsworth, and C. L. Addy. 2004. Socioeconomic status and perceptions of access and safety for physical activity. *Annals of Behavioral Medicine* 28(1):20-28.

Wright, R. J., and S. F. Steinbach. 2001. Violence: An unrecognized environmental exposure that may contribute to greater asthma morbidity in high risk inner-city populations. *Environmental Health Perspectives* 109(10):1085-1089.

Wright, R. J., H. Mitchell, C. M. Visness, S. Cohen, J. Stout, R. Evans, and D. R. Gold. 2004. Community violence and asthma morbidity: The inner-city asthma study. *American Journal of Public Health* 94(4):625-632.

Yancey, A. K., and S. K. Kumanvika. 2007. Bridging the gap—Understanding the structure of social inequities in childhood obesity. *American Journal of Preventive Medicine* 33(4):S172-S174.

Zenk, S. N., A. J. Schulz, B. A. Israel, S. A. James, S. M. Bao, and M. L. Wilson. 2005. Neighborhood racial composition, neighborhood poverty, and the spatial accessibility of supermarkets in metropolitan Detroit. *American Journal of Public Health* 95(4):660-667.

Appendix A

Workshop Agenda

WORKSHOP ON THE SOCIAL AND ECONOMIC COSTS OF VIOLENCE: THE VALUE OF PREVENTION

April 28-29, 2011

Approach: This workshop will present an ecological life course framework for thinking about the impact of violence, to explore how the costs can be greater than typically conceived. Building from the individual to the community to the societal level, the workshop will examine the effect that violence has on development. Speakers will explore the ways in which a community can mitigate violence or the associated impacts.

Objectives:

- To examine the social and economic costs of violence through a common framework that accounts for both life course and ecological impacts.
- To explore the value of preventing violence through early interventions, multisectoral responses, and community-based approaches.

DAY 1—THURSDAY, APRIL 28

SECTION I. Setting the Stage
8:15 AM-9:15 AM

8:15 AM—Opening Remarks
PATRICK KELLEY, M.D., Dr.P.H.
Institute of Medicine

8:30 AM—Welcome
MARK ROSENBERG, M.D., M.P.P.
The Task Force for Global Health

8:45 AM—Keynote
STEPHEN LEWIS
AIDS-Free World

SECTION II. A Framework for Understanding the Costs
9:15 AM-12:10 PM

This session will introduce a qualitative framework that seeks to comprehensively identify the impact of violence across the life span and through the ecological levels. What are the kinds of social and economic costs associated with different types of violence? How would an economist attempt to quantify these costs? What are the critical challenges involved in measuring and evaluating costs?

Moderated by PAMELA TEASTER, Ph.D.
University of Kentucky

9:15 AM—Framework for Assessing the Costs of Violence
PHAEDRA CORSO, Ph.D.
University of Georgia

Panel: Types of Violence

- 9:40 AM—*Interpersonal violence*: **Hugh Waters, M.D., Ph.D.,** RAND Health
- 10:05AM—*Suicide*: **Michael Phillips, M.D., M.P.H.,** Shanghai Jiao Tong University School of Medicine

10:05 AM—BREAK

Panel: Risk Factors

- 10:45 AM—*Firearms*: **David Hemenway, Ph.D.,** Harvard University
- 11:10 AM—*Alcohol*: **Philip Cook, Ph.D.,** Duke University

11:35 AM—Discussion with All Panelists

LUNCH
12:10 PM-1:00 PM

SECTION III. Beyond Injury: The Indirect Costs
1:00 PM-2:20 PM

Like secondhand smoke, the impact of violence extends beyond the direct victims and beyond acute injuries. What are the consequences for individuals, for families, and for communities? Using the framework, speakers will consider both immediate and longer-term effects.

Moderated by PEGGY MURRAY, Ph.D., M.S.W.
National Institute on Alcohol Abuse and Alcoholism

1:00 PM—Impact of Violence as Contagion
ROWELL HUESMANN, Ph.D., M.S.
University of Michigan

1:25 PM—Q&A with Dr. Huesmann

1:40 PM—Impact on Direct Victims in the Long Run
DEBORAH PROTHROW-STITH, M.D.
Spencer Stuart

2:05 PM—Q&A with Dr. Prothrow-Stith

2:20 PM—BREAK

SECTION IV. Shaping the Impact: The Context of Violence
2:40 PM-5:15 PM

Different contexts result in different experiences of violence. How does the environment, including its risk and protective factors, shape the nature of violence and its costs? Presenters will examine the outcomes and costs related to violence in different contexts (in terms of both geography and the nature of the violence).

2:40 PM—Opening Remarks
MINDY FULLILOVE, M.D.
Columbia University

2:55 PM—Case Study Presentations:

- 2:55 PM— *Drug cartel-related violence in Juárez, Mexico*: **Arturo Cervantes, M.D., M.P.H., Dr.P.H.,** Ministry of Health, Mexico
- 3:15 PM—*Collective violence in Sierra Leone*: **Theresa Betancourt, Sc.D., M.A.,** Harvard University
- 3:35 PM—*Youth violence in Kingston, Jamaica*: **Elizabeth Ward, M.B.B.S., M.Sc.,** University of the West Indies
- 3:55 PM—*Intimate partner violence in Bangladesh, Morocco, and Uganda*: **Aslihan Kes, M.S.,** International Center for Research on Women (ICRW)

4:15 PM—Discussion with Panelists
Led by MINDY FULLILOVE
Columbia University

5:00 PM—Summary of Day 1
MINDY FULLILOVE AND DAVID HEMENWAY

DAY 2—FRIDAY, APRIL 20

SECTION I. Violence and Development
8:30 AM-9:45 AM

8:15 AM—Welcome and Introduction of Day 2
MARK ROSENBERG
The Task Force for Global Health

8:20 AM—Keynote: From the Individual to the Community
How does exposure to violence in early childhood impact an individual's development throughout his or her lifetime? How can intervening in early developmental stages prevent violence or minimize its impact? How do these impacts carry through to the community level?
JACK SHONKOFF, M.D.
Center on the Developing Child
Harvard University

8:50 AM—Q&A with Dr. Shonkoff

9:10 AM—Implications in the Global Development Context
How does violence affect the achievement of economic and human development goals? What role does development play in promoting individual and community resilience to violent events? Are there opportunities for synergies between the global development and violence prevention agendas?

GARY MILANTE, Ph.D.
The World Bank

9:35 AM—Q&A with Dr. Milante

9:45 AM—BREAK

SECTION II. Who Pays?: The Costs of Violence Across Society
10:00 AM-11:30 AM

The comprehensive framework for understanding costs demonstrates that the costs of violence do not fall upon a narrow portion of society, but on everyone. All sectors, therefore, have a part to play in preventing violence. Representatives from various sectors and government agencies will talk about what they perceive as both the overt and the hidden costs of violence. How can different sectors work together to produce a broad and integrated response that will more effectively combat violence?

10:00 AM—Opening Remarks

XINQI DONG, M.D., M.P.H.
Administration on Aging
Department of Health and Human Services

10:10 AM—Panel: Violence and Violence Prevention Across Sectors

- **e. christi cunningham, J.D.,** Department of Labor
- **Kevin Sabet, Ph.D.,** White House Office of National Drug Control Policy
- **Michael Wells, Ph.D.,** Safe and Drug Free Schools, Department of Education

11:00 AM—Open Discussion: Opportunities for Collaborative Prevention

LUNCH
11:30 AM-12:30 PM

SECTION III. The Case for Violence Prevention
12:30 PM-3:00 PM

Although the costs of violence are enormous, they are not inevitable. Building on the framework from Day 1, the speakers will examine why investments in violence prevention make economic sense. What are the measurable benefits of investing in interventions that reduce risk factors or promote protective factors? How can the strengths of individuals, families, and communities be leveraged for violence prevention?

12:30 PM—The Value of Prevention
RACHEL DAVIS, M.S.W.
Prevention Institute

1:00 PM—Panel: Promoting Resilience Through Community-Based Interventions

- 1:00 PM—*Developing effective interventions*: **Juma Assiago,** UN Habitat
- 1:25 PM—*Choosing an approach: The Communities That Care Model*: **J. David Hawkins, Ph.D.,** University of Washington
- 1:50 PM—*Organizing diverse community stakeholders*: **Rodrigo Guerrero, M.D., Dr.P.H.,** Vallenpaz
- 2:15 PM—*Reaching the community*: **Ivan Juzang, M.B.A.,** MEE Productions

2:40 PM—Discussion with Panelists
Led by RACHEL DAVIS
Prevention Institute

3:00 PM—BREAK

SECTION IV. The Road Ahead
3:15 PM-4:00 PM

Moderated by MARK ROSENBERG,
The Task Force for Global Health, and
RODRIGO GUERRERO, Vallenpaz

A guided discussion with the audience will examine how we can use our new understanding of the costs to mobilize the necessary stakeholders and resources to push violence prevention forward. What are the knowledge gaps that we need to address to make a more effective case for these investments? How can violence prevention be incorporated into existing initiatives?

Appendix B

Speaker Biographical Sketches

Juma Assiago is an urban safety and youth expert with UN HABITAT. He joined UN HABITAT in 1999, working in the area of urban safety and youth programming. He is tasked with assisting governments and other city stakeholders in building capacities at the city level to adequately address urban insecurity and to contribute to the establishment of a culture of prevention in developing countries. He has served in various United Nations interagency coordinating processes and technically supported various international youth crime prevention and governance processes. He also is involved in developing youth safety tools and approaches in urban contexts. His main thematic area of focus is on the use of social, institutional, and situational crime prevention measures to reduce youth crime and delinquency in cities. He has participated and presented papers in several international conferences on youth and children empowerment. Mr. Assiago currently is involved in the strategic planning process of the Safer Cities Programme, which, among others, is defining the key role of the police in urban development and developing a network structure that takes into consideration the governance of safety and safety in public spaces.

Theresa Betancourt, Sc.D., M.A., is assistant professor of child health and human rights in the Department of Global Health and Population at the Harvard School of Public Health. Dr. Betancourt is a member of the François-Xavier Bagnoud Center for Health and Human Rights, where she directs the Research Program on Children and Global Adversity. Her central research interests focus on the developmental and psychosocial consequences of concentrated adversity on children and families, resilience

and protective processes in child mental health, health and human rights, and cross-cultural mental health research. She is the principal investigator of a prospective longitudinal study of war-affected youth in Sierra Leone and is leading a mixed-methods study in Rwanda to develop and test family-strengthening interventions for HIV/AIDS-affected youth, conducted in collaboration with Partners in Health. In addition, she is working with colleagues at Children's Hospital Boston to study strengths and sources of resilience in Somali refugee children and families resettled in the United States. Previously, Dr. Betancourt worked as a mental health clinician in both school and community settings and consulted on global children's mental health issues for various international nongovernmental organizations (NGOs) and UN agencies. She has extensive experience in conducting research among children and families in low-resource settings, particularly in the context of humanitarian emergencies. In 2007, Dr Betancourt was awarded a K01 Career Development Award from the U.S. National Institute of Mental Health to study modifiable protective processes in the mental health of refugee children and adolescents.

Arturo Cervantes Trejo, M.D., M.P.H., Dr.P.H., serves as technical secretary of the National Council for Injury Prevention and general director of the National Center for Injury Prevention of the Mexican Ministry of Health. He also holds the Carlos Peralta Quintero Chair of Public Health at the Faculty of Medicine of Anahuac University in Mexico. He is board certified by the National Council of Public Health in Mexico and is a member of the charter class of the National Board of Public Health Examiners in the United States. As head of the National Center for Injury Prevention, Dr. Cervantes has coauthored the National Specific Action Program for Road Safety, the National Specific Action Program for Violence Prevention, and numerous analyses of morbidity and mortality from external causes of injury for the country. Currently, he participates in the presidential task force Todos Somos Juárez, a strategy for violence prevention and social development for the city of Ciudad Juárez. Todos Somos Juárez is led by the federal government with the participation of the government of the state of Chihuahua, the municipal government of Juárez, and the city's civil society. The strategy includes 160 policy actions in health, labor, education, culture, economic, and security areas undertaken to address the underlying social and economic issues that fuel crime and insecurity in Ciudad Juárez, Mexico's eighth largest city and the most populous city on the Mexico-U.S. border.

Philip J. Cook, Ph.D., is a senior associate dean for faculty and research, professor of economics and sociology, and ITT/Sanford Professor of Public Policy at Duke University. He has twice served as director and chair of

Duke's Sanford Institute of Public Policy. He has served as consultant to the U.S. Department of Justice (Criminal Division) and to the Department of Treasury (Enforcement Division). His service with the National Academies includes membership on expert panels dealing with the prevention of alcohol abuse, violence, and school rampage shootings. He is currently a member of the National Research Council's (NRC's) Committee on Law and Justice and was until recently a member of the Division Committee for the Behavioral and Social Sciences and Education. Dr. Cook is a member of the Institute of Medicine of the National Academy of Sciences and an honorary fellow in the American Society of Criminology.

Phaedra S. Corso, Ph.D., is head of the Department of Health Policy and Management of the University of Georgia (UGA), where she is also an associate professor. Dr. Corso has considerable public health experience having worked at the Centers for Disease Control and Prevention (CDC) for nearly 15 years before coming to UGA. While at CDC, she served as a management analyst, disease investigation specialist, economic analyst, lead health economist, and prior to joining UGA, as acting chief of the Prevention Development and Evaluation Branch. Her research focuses on the practical application of economic evaluation for setting health policy, specifically related to population-based public health interventions, quality-of-life assessment for vulnerable populations, evaluating preferences for health risks, and violence and injury prevention.

e. christi cunningham, J.D., is associate assistant secretary for regulatory affairs at the Department of Labor. Ms. cunningham advises the assistant secretary for policy on policy issues concerning the department's regulations and regulatory agenda. Ms. cunningham manages the regulation production process of the department's agencies and chairs the Regulatory Council. Ms. cunningham came to the Department of Labor from Howard University School of Law, where she taught a variety of subjects including labor law, equal employment opportunity, administrative law, and torts. She also taught international human rights for several sessions of the law school's summer program in Cape Town, South Africa. At Howard Law School, Ms. cunningham was the recipient of several awards for teaching and service. In addition to her academic pursuits, Ms. cunningham founded the Community Antiviolence Project (CAP), a nonprofit organization dedicated to building coalitions to reduce various forms of violence and to empower individuals in low-income communities. Ms. cunningham previously was an associate in the New York offices of Debevoise and Plimpton and clerk to the Honorable Constance Baker Motley in the Southern District of New York. She is admitted to the bar in New York and the District of Columbia.

For more than 10 years, **Rachel Davis, M.S.W.,** has overseen the development and implementation of Prevention Institute's projects related to community health and reducing disparities, violence prevention, and mental health. In addition, she develops community tools, provides consulting and training for various community and government organizations, and advances the conceptual work of the organization. Ms. Davis is project director for UNITY: Urban Networks to Increase Thriving Youth Through Violence Prevention, an initiative funded by the CDC and the California Wellness Foundation to support large cities in implementing and sustaining effective preventive approaches to violence and building more momentum for such an approach nationally and in California. Previously, she facilitated a statewide interagency violence prevention partnership in California's state government; evaluated community-wide violence prevention efforts; co-taught a violence prevention graduate course in the School of Public Health at the University of California, Berkeley; and contributed to the *Partnerships for Preventing Violence* satellite training series through research, script development, facilitator training, and project management. She has also facilitated strategic planning processes resulting in Oxnard, California's *Strategic Action Framework for Empowered, Thriving Youth (SAFETY) BluePrint*, the *Alameda County Violence Prevention Initiative*, *Cultivating Peace in Salinas*, California, and San Mateo County's Primary Prevention Framework for Behavioral Health.

XinQi Dong, M.D., M.P.H., is the Associate Director, Rush Institute for Healthy Aging and an Associate Professor of Medicine, Nursing, and Behavioral Sciences at the Rush University Medical Center. Having emigrated from China, he has had long standing interests in human rights and social justice issues in vulnerable populations. Dr. Dong's research focuses on the epidemiological studies of elder abuse in the United States and China, with particular emphasis on its adverse health outcomes and its relationship between psychological and social wellbeing. Dr. Dong currently is an APSA Congressional Policy Fellow/Health and Aging Policy Fellow working with a diverse group of policy leaders at the national, state, and local levels on the issues relevant to elder abuse. He has been working with CDC, NIA, and NAS on the state-of-the-science for the issues of elder abuse. Moreover, he has been working with the Chicago Wellbeing Task Force and the Legislative Task Force to revise and ultimately pass the IL Elder Abuse Act. Currently, Dr. Dong serves as a Senior Policy and Research Advisor for the HHS Administration on Aging (AoA) and a Senior Policy Advisor for the Centers for Medicare and Medicaid Services (CMS). Dr. Dong is actively working with Chinese communities to promote understanding and civic engagement on the issues of elder abuse through innovative, culturally, and linguistically appropriate ways. He serves on the Board of Directors for the

Chinese American Service League, the largest social services organization in the Midwest serving the needs of Chinese population. He is a fellow of the Institute of Medicine of Chicago (IOMC) and a member of the Institute of Medicine's Forum on Global Violence Prevention. Dr. Dong is a Beeson Scholar, and is the recipient of the Nobuo Maeda International Aging and Public Health Research Award, the National Physician Advocacy Merit Award, and the Maxwell A. Pollack Award in productive aging by the Gerontological Society of America.

Mindy Thompson Fullilove, M.D., is a research psychiatrist at the New York State Psychiatric Institute and professor of clinical psychiatry and public health at Columbia University. She is a board-certified psychiatrist, having received her training at New York Hospital-Westchester Division and Montefiore Hospital. She has conducted research on AIDS and other epidemics of poor communities, with a special interest in the relationship between the collapse of communities and decline in health. Her work on AIDS is featured in Jacob Levenson's *The Secret Epidemic: The Story of AIDS in Black America* (Random House, 2004). She is the author of *Root Shock: How Tearing Up City Neighborhoods Hurts America and What We Can Do About It* (Random House, 2004), and *The House of Joshua: Meditations on Family and Place* (University of Nebraska Press, 1999). Her current work focuses on the connection between urban function and mental health.

Elected in 2011, **Rodrigo V. Guerrero, M.D., Dr.P.H.,** once again serves as mayor of Cali, Colombia. Previously, he has held the posts of professor, department head, dean of health sciences, and president at Universidad del Valle in Colombia. In his previous stint as mayor, Dr. Guerrero developed an epidemiological approach to urban violence prevention through the Program DESEPAZ, which has been successfully applied in several cities of Colombia and in other countries. After leaving his first mayoral post, he joined the Pan American Health Organization in Washington, DC, where he started the Violence Prevention Program. Dr. Guerrero has written numerous articles on youth violence and violence as a health issue. In addition to his current post as mayor, Dr. Guerrero dedicates his time to Vallenpaz, a nonprofit organization devoted to helping rural communities in conflict-ridden areas of Colombia. He is a member of CISALVA, the Violence Research Center of Universidad del Valle, and the Institute of Medicine.

J. David Hawkins, Ph.D., is the endowed professor of prevention and founding director of the Social Development Research Group at the School of Social Work of the University of Washington, Seattle. His research focuses on understanding and preventing child and adolescent health and

behavior problems. He develops and tests prevention strategies that seek to reduce risk through the enhancement of strengths and protective factors in families, schools, and communities. He is principal investigator of the Community Youth Development Study, a randomized field experiment involving 24 communities across 7 states testing the effectiveness of the Communities That Care prevention system developed by Dr. Hawkins and Richard F. Catalano. He is a fellow of the American Society of Criminology and the Academy of Experimental Criminology and a member of the IOM/NRC Board on Children, Youth, and Families. Dr. Hawkins has authored numerous articles and several books as well as prevention programs for parents and families, including *Guiding Good Choices*, *Parents Who Care*, and *Supporting School Success*. His prevention work is guided by the social development model, his theory of human behavior.

David Hemenway, Ph.D., is an economist and professor at Harvard School of Public Health (HSPH) and a James Marsh Visiting Professor-at-Large at the University of Vermont. Additionally, he is director of the Harvard Injury Control Research Center and the Youth Violence Prevention Center. He was president of the Society for the Advancement of Violence and Injury Research and, in 2007, received the Excellence in Science Award from the Injury Section of the American Public Health Association. He has received fellowships from the Pew, Soros, and Robert Wood Johnson foundations. Dr. Hemenway has written more than 150 journal articles and is sole author of 5 books. Recent books include *Private Guns Public Health* (University of Michigan Press, 2006) and *While We Were Sleeping: Success Stories in Injury and Violence Prevention* (University of California Press, 2009). Dr. Hemenway has received 10 HSPH teaching awards.

L. Rowell Huesmann, Ph.D., M.S., is the Amos N. Tversky Collegiate Professor of Psychology and Communication Studies and Director of the Research Center for Group Dynamics at the University of Michigan's Institute for Social Research. He is also editor of the journal *Aggressive Behavior* and past-president of the *International Society for Research on Aggression*. His research over the past 40 years has focused on the psychological foundations of aggressive and violent behavior and on how predisposing personal factors interact with precipitating situational factors to engender violent behavior. This research has included several life span longitudinal studies showing how the roots of aggressive behavior are often established in childhood. One particular interest has been investigating how children learn through imitation and how children's exposure to violence in the family, schools, community, and mass media stimulates the development of their own aggressive and violent behavior over time. He has conducted longitudinal studies on the effects of exposure to violence at multiple sites in

the United States as well as in Finland, Poland, Israel, and Palestine. These studies have shown that simply seeing a lot of violence (political violence, family violence, community violence, media violence) in childhood changes children's thinking and perceptions, and increases the risk of interpersonal aggressive behavior later in life. He has also conducted research showing that interventions that change children's beliefs about the appropriateness of conflict and aggression can be effective in preventing aggression. In 2005, Dr. Huesmann was the recipient of the American Psychological Association's award for Distinguished Lifetime Contributions to Media Psychology.

In 1990, **Ivan Juzang, M.B.A.,** founded MEE Productions Inc., a unique and groundbreaking research and communications company with offices in Philadelphia, Chicago, and Los Angeles. For the past two decades, Mr. Juzang and his senior management team have tackled some of the toughest social and public health issues across America. Mr. Juzang has become a leading expert in the field of strategic communications and social marketing, and he has an exceptional knowledge of the public health, social, and educational issues impacting underserved communities. He also specializes in conducting qualitative research that elicits informative, accurate, and authentic responses, using proprietary focus group research and data analysis methodologies he designed in order to determine the motivation and persuasion techniques that best reach and influence any target population. In collecting and analyzing thousands of hours of qualitative, grassroots research, Ivan Juzang has talked to thousands of adults and youth living in underserved communities impacted by violence, grinding poverty, and other social issues. His long track record of grassroots community-based research began with MEE's first groundbreaking report on urban youth culture, *The MEE Report: Reaching the Hip-Hop Generation* (1992), funded by the Robert Wood Johnson Foundation. Mr. Juzang also served as principal investigator (PI) for a 10-city sexuality research study that explains how the hip-hop generation navigates its way through sexual situations and responds to today's sexually explicit media messages, *This Is My Reality—The Price of Sex: An Inside Look at Black Urban Youth Sexuality and the Role of Media*. He was also a PI on the research that led to the *In Search of Love* dating violence report and *L-Evated: The Blunt Truth*, an exploration of marijuana use and abuse in the inner city. *Moving Beyond Survival Mode,* released in May 2010, is his sixth major research report on urban culture, behavior, and communications. This 2-year research project examined the mental and emotional needs that lead to disastrous choices and behavioral consequences among youth.

Patrick W. Kelley, M.D., Dr.P.H., joined the Institute of Medicine in July 2003 serving as the director of the Board on Global Health and the Board

on African Academy Science Development. Previously he served in the U.S. Army for more than 23 years as a physician, residency director, epidemiologist, and program manager. In his last Department of Defense (DoD) position, Dr. Kelley founded and directed the presidentially mandated DoD Global Emerging Infections Surveillance and Response System (DoD-GEIS). This responsibility entailed managing approximately $42 million dollars of emerging infections surveillance, response, training, and capacity-building activities undertaken in partnership with numerous elements of the federal government and with health ministries in more than 45 developing countries. He also designed and established the DoD Accessions Medical Standards Analysis and Research Activity, the first systematic DoD effort to apply epidemiology to the evidence-based development and evaluation of physical and psychological accession standards. Dr. Kelley is an experienced communicator having lectured in more than 20 countries and authored more than 50 scholarly papers and book chapters. He also designed and served as the specialty editor for the two-volume textbook entitled *Military Preventive Medicine: Mobilization and Deployment*. Dr. Kelley obtained his M.D. from the University of Virginia and his Dr.P.H. from the Johns Hopkins School of Hygiene and Public Health.

Aslihan Kes, M.S., is a specialist at the International Center for Research on Women (ICRW) where she is currently working on a research study in Kenya exploring the economic and social costs of poor maternal health for women and their households, as well as on a series of projects that focus on gender and agricultural development in sub-Saharan Africa. Ms. Kes has also been involved in a number of studies that examine various dimensions of women's asset rights in sub-Saharan Africa and their effect on women and their households' well-being. At ICRW she coauthored (with Caren Grown and Geeta Rao Gupta) *Taking Action: Achieving Gender Equality and Empowering Women* (Earthscan Press, 2005) and (with Hema Swaminathan) "Gender and Time Poverty in Sub-Saharan Africa" (in *Gender, Time Use and Poverty in Sub-Saharan Africa*, edited by Mark Blackden and Quentin Wodon).

Stephen Lewis is board chair of the Stephen Lewis Foundation, distinguished visiting professor at Ryerson University, and co-founder and co-director of AIDS-Free World. He is a member of the board of directors of the Clinton Health Access Initiative and the International AIDS Vaccine Initiative. He also serves as a commissioner on the newly formed Global Commission on HIV and the Law, created by United Nations Development Programme (UNDP) with the support of Joint United Nations Program on HIV/AIDS (UNAIDS). Mr. Lewis's work with the United Nations (UN) spanned more than two decades. He has served as the UN secretary-general's special envoy

for HIV/AIDS in Africa and deputy executive director of the United Nations Children's Fund (UNICEF) at the organization's global headquarters in New York. Mr. Lewis is the author of the best-selling book *Race Against Time* (House of Anansi Press, 2005). He holds 32 honorary degrees from Canadian universities, and in June 2010 he received an honorary degree from Dartmouth College. In 2003, Mr. Lewis was appointed a companion of the Order of Canada, Canada's highest honor for lifetime achievement. He was awarded the Pearson Peace Medal in 2004 by the UN Association in Canada; the award celebrates outstanding achievement in the field of international service and understanding. In 2007, King Letsie III, monarch of the Kingdom of Lesotho (a small mountainous country in Southern Africa), invested Mr. Lewis as a knight commander of the Most Dignified Order of Moshoeshoe.

Gary Milante, Ph.D., came to the World Bank in 2003 as a researcher, focusing on the causes and impacts of conflict and fragility as well as on effective post-conflict recovery. His interests are in applied game theory and modeling the political economy of peaceful compromise. Before joining the World Development Report 2011 team, Dr. Milante held a joint position in the Development Economics Research Group and the bank's Fragile and Conflict Affected Countries Group. He led the bank's "Peace and Development" research project focusing on successful post-conflict economic recovery through effective power-sharing arrangements, political systems, and macroeconomic policy. He has conducted research in Sudan and has recently written on the upcoming referendum. Additionally, he manages research projects on landmines and geography-of-conflict data, has written on the Arab "democracy deficit," and was a guest editor for a special edition on post-conflict transitions for the *Journal of Peace Research*.

Peggy Murray, Ph.D., M.S.W., is senior adviser for the National Institutes of Health (NIH) Institute on Alcohol Abuse and Alcoholism (IAAA) and is responsible for IAAA's research translation initiatives in health professions education. She also serves as an adjunct professor at the Catholic University School of Social Work. She is coauthor of *A Medical Education Model for the Prevention and Treatment of Alcohol-Use Disorders*, a 20-module curriculum and faculty development course for medical school faculty in the primary care specialties. The model has been translated into five languages and implemented in eight countries to date. The relationship of alcohol misuse to aggressive behavior and violence is a complex one, and research has shown that this relationship is more than associative. In addition to alcohol misuse promoting aggressive behavior, victimization as a result of violence can lead to excessive alcohol consumption. Strategies to prevent violence must take this into account and, to be effective, must deal with the

alcohol use of both the perpetrators and the victims of violence. Alcohol affects the person and behavior at many levels from the cell, to the brain, to the individual as a whole, to particular neighborhoods and micro cultures, to the global society. For more than 20 years, Dr. Murray has worked at the IAAA in positions that have led to collaboration with scientists across all of its divisions and offices. She hopes to bring a broad perspective on alcohol misuse to the identification of effective approaches to global violence prevention.

Michael Phillips, M.D., M.P.H., is currently director of the Suicide Research and Prevention Center of the Shanghai Jiao Tong University School of Medicine, executive director of the World Health Organization (WHO) Collaborating Center for Research and Training in Suicide Prevention at Beijing Hui Long Guan Hospital, professor of psychiatry and global health at Emory University, professor of clinical psychiatry and clinical epidemiology at Columbia University, vice chairperson of the Chinese Society for Injury Prevention and Control, and treasurer of the International Association for Suicide Prevention. He is currently the principal investigator on a number of multicenter collaborative projects on suicide, depression, and schizophrenia. His recent publications include "Repetition of Suicide Attempts: Data from Emergency Care Settings in Five Culturally Different Low- and Middle-Income Countries Participating in the WHO SUPRE-MISS Study" (*Crisis*, 2010) and "Nonfatal Suicidal Behavior Among Chinese Women Who Have Been Physically Abused by Their Male Intimate Partners" (*Suicide Life-Threatening Behavior*, 2009). Dr. Phillips is a Canadian citizen who has been a permanent resident of China for more than 25 years. He runs a number of research training courses each year; supervises Chinese and foreign graduate students; helps coordinate WHO mental health activities in China; promotes increased awareness of the importance of addressing China's huge suicide problem; and advocates improving the quality, comprehensiveness, and access to mental health services around the country.

Deborah Prothrow-Stith, M.D., specializes in senior-level searches for academic medical centers, public health schools, healthcare systems, and hospitals as a member of Spencer Stuart's Life Sciences Practice. Prior to joining Spencer Stuart, Dr. Prothrow-Stith was associate dean and professor of public health practice at the Harvard School of Public Health. She is recognized as one of the creators of a nationwide social movement to prevent violence and is the coauthor of *Deadly Consequences* (Harper Perennial, 1993, with Michaele Weissman), the first book to present the public health perspective on the topic to a mass audience; *Sugar and Spice and No Longer Nice* (Jossey-Bass, 2005); *Murder Is No Accident*

(Jossey-Bass, 2004); and *Health Skills for Wellness* (Prentice Hall, 2001), a state-of-the-art high school health text. As a board-certified internist, Dr. Prothrow-Stith has extensive clinical experience including service as attending physician at Boston City Hospital and chief of the Adolescent Clinic at Harvard Street Neighborhood Health Center. In addition to 10 honorary doctorates, Dr. Prothrow-Stith has received the 1993 World Health Day Award, the 1989 Secretary of Health and Human Services Award, and a presidential appointment to the National Commission on Crime Control and Prevention. She is a member of the Institute of Medicine.

Mark L. Rosenberg, M.D., M.P.P., is executive director of the Task Force for Global Health. Previously, for 20 years, Dr. Rosenberg was at the CDC, where he led its work in violence prevention and later became the first permanent director of the National Center for Injury Prevention and Control. He also held the position of the special assistant for behavioral science in the Office of the Deputy Director (HIV/AIDS). Dr. Rosenberg is board certified in both psychiatry and internal medicine with training in public policy. He is on the faculty at Morehouse Medical School, Emory Medical School, and the Rollins School of Public Health at Emory University. Dr. Rosenberg's research and programmatic interests are concentrated on injury control and violence prevention, HIV/AIDS, and child well-being, with special attention to behavioral sciences, evaluation, and health communications. He has authored more than 120 publications and recently coauthored the book *Real Collaboration: What It Takes for Global Health to Succeed* (University of California Press, 2010). Dr. Rosenberg has received numerous awards including the Surgeon General's Exemplary Service Medal. He is a member of the Institute of Medicine. Dr. Rosenberg's organization, the Task Force for Global Health, participated in the IOM-sponsored workshop Violence Prevention in Low- and Middle-Income Countries: Finding a Place on the Global Agenda, and the Task Force remains interested in helping to continue the momentum of the workshop through the Forum on Global Violence Prevention. The Task Force is heavily involved the delivery of a number of global health programs and sees many ways in which interpersonal violence and conflict exacerbate serious health problems and inequities.

Working on drug policy issues for more than 16 years, **Kevin A. Sabet, Ph.D.,** currently serves in the Obama Administration as the special adviser for policy and strategic planning at the White House Office of National Drug Control Policy (ONDCP). In this position, Dr. Sabet advises the ONDCP director on all matters affecting priorities, policies, and programs of the National Drug Control Strategy. He worked on policy and speechwriting at ONDCP in 2000, and from 2003 to 2004, he worked for the

Clinton and Bush Administrations. Dr. Sabet has published widely in peer-reviewed journals and books on the topics of marijuana policy, cocaine sentencing, legalization, medical marijuana, addiction treatment, and other issues. He is a regular contributor to editorial pages and the television news media, including the *Washington Post, New York Times, San Francisco Chronicle*, CNN, CNBC, and more than a dozen other media outlets. Dr. Sabet first offered testimony on drug policy to the U.S. Senate Judiciary Committee in 1996. Before joining ONDCP in 2009, Dr. Sabet consulted in a private capacity on drug policy initiatives for the United Nations, local governments, and various nonprofit organizations. Dr. Sabet is the founder of two antidrug coalitions and has keynoted major antidrug conferences and professional meetings in Brunei, Canada, Ecuador, Italy, Lithuania, Macau, Thailand, the United Kingdom, and other countries.

Jack P. Shonkoff, M.D., is the Julius B. Richmond FAMRI Professor of Child Health and Development at the Harvard School of Public Health and the Harvard Graduate School of Education; professor of pediatrics at Harvard Medical School and Children's Hospital Boston; and director of the university-wide Center on the Developing Child at Harvard University. He also chairs the National Scientific Council on the Developing Child, a multi-university collaboration comprising leading scholars in neuroscience, psychology, pediatrics, and economics, whose mission is to bring credible science to bear on policy affecting young children. Under the auspices of the National Academy of Sciences, Dr. Shonkoff chaired a blue-ribbon committee that produced a landmark report titled *From Neurons to Neighborhoods: The Science of Early Childhood Development*. He has authored more than 150 publications and has received multiple professional honors, including elected membership to the IOM of the National Academy of Sciences, the C. Anderson Aldrich Award in Child Development from the American Academy of Pediatrics, and the Distinguished Contributions to Social Policy Award from the Society for Research in Child Development.

Pamela B. Teaster, Ph.D., is director of the Graduate Center for Gerontology, chairperson of the Department of Gerontology, associate dean for research, and professor at the College of Public Health at the University of Kentucky (KY). She serves on the editorial board of the *Gerontologist*, the *Journal of Applied Gerontology*, and the *Journal of Elder Abuse and Neglect*. She is president of the KY Guardianship Association, director of the KY Justice Center for Elders and Vulnerable Adults, a member of the Task Force on Older Adult Ministries for the National Episcopal Church, and immediate past president of the National Committee for the Prevention of Elder Abuse. She has served on the National Academy of Sciences'

Committee on Social Security and Representative Payees, the American Bar Association's Commission on Law and Aging, and the Center for Guardianship Certification. She is a fellow of the Gerontological Society of America, a recipient of the Rosalie Wolf Award for Research on Elder Abuse (National Association of Adult Protective Services), the Outstanding Affiliate Member Award (Kentucky Guardianship Association), and the Distinguished Educator Award (Kentucky Association for Gerontology). She is the author of *Public Guardianship After 25 Years: In the Best Interests of Incapacitated People?* (Praeger, 2010).

Elizabeth Ward, M.B.B.S., M.Sc., is a medical epidemiologist with years of public health experience in the Jamaican government health system. Dr. Ward is a consultant at the Institute of Public Safety and Justice at the University of the West Indies and chair of the board of directors of the Violence Prevention Alliance Jamaica. She was formerly the director of disease prevention and control of the Health Promotion and Protection Division in the Ministry of Health. She has coordinated program development, research, and data analysis and has been responsible for disease prevention and control. She spearheaded the development of the Jamaica Injury Surveillance System, which tracks hospital-based injuries island-wide. Additionally, Dr. Ward has contributed to the development of Jamaican government policies as a task force member for the National Security Strategy for Safe Schools and as a member of the working groups for the Security Component of the National Development Plan, the National Strategic Plan for Children and Violence, and the Strategic Plan for Healthy Lifestyles.

Hugh Waters, M.D., Ph.D., is a senior health specialist with Rand Health. He has 22 years' experience working with public health programs and has expertise in the areas of (1) health insurance and health financing reforms; (2) evaluation of the effects of health financing mechanisms on access, equity, and quality; and (3) economic evaluation of health programs. He speaks French and Spanish fluently and has worked in more than 30 countries. Dr. Waters is a coeditor of the book *Good Practices in Health Financing,* published in 2008 by the World Bank, and the author of several chapters in this book, which contains a series of case studies of health insurance in low- and middle-income countries and draws lessons from these experiences. Dr. Waters has lived and worked in Kenya, Cameroon, and Peru and has worked on a short-term basis on health projects in numerous countries in Africa, Asia, and Latin America. He teaches a course entitled "Comparative Health Insurance" at the Johns Hopkins School of Public Health.

Michael Wells, Ph.D., is a federal project officer with the Safe Schools Healthy Students Initiative of the Office of Safe and Drug Free Schools at the Department of Education, where he also has served as a research analyst and grants manager. Before joining the Department of Education in 2005, Dr. Wells was director of the Safe Schools-Healthy Students Initiative for Stokes County Schools in North Carolina. A psychologist by training, Dr. Wells has specialized in administering programs for and counseling at-risk middle and high school students. He is a licensed counselor.

Appendix C

Planning Committee Biographical Sketches

Mark L. Rosenberg, M.D., M.P.P. (*Chair*), is executive director of the Task Force for Global Health. Previously, for 20 years, Dr. Rosenberg was at the Center for Disease Control and Prevention (CDC), where he led its work in violence prevention and later became the first permanent director of the National Center for Injury Prevention and Control. He also held the position of the special assistant for behavioral science in the Office of the Deputy Director (HIV/AIDS). Dr. Rosenberg is board certified in both psychiatry and internal medicine with training in public policy. He is on the faculty at Morehouse Medical School, Emory Medical School, and the Rollins School of Public Health at Emory University. Dr. Rosenberg's research and programmatic interests are concentrated on injury control and violence prevention, HIV/AIDS, and child well-being, with special attention to behavioral sciences, evaluation, and health communications. He has authored more than 120 publications and recently coauthored the book *Real Collaboration: What It Takes for Global Health to Succeed* (University of California Press, 2010). Dr. Rosenberg has received numerous awards including the Surgeon General's Exemplary Service Medal. He is a member of the Institute of Medicine (IOM), and his organization, the Task Force for Global Health, participated in the IOM-sponsored workshop Violence Prevention in Low- and Middle-Income Countries: Finding a Place on the Global Agenda. The Task Force remains interested in helping to continue the momentum of this workshop through the Forum on Global Violence Prevention. The Task Force is heavily involved the delivery of a number of global health programs and sees many ways in which interpersonal violence and conflict exacerbate serious health problems and inequities.

Mindy Thompson Fullilove, M.D., is a research psychiatrist at the New York State Psychiatric Institute and professor of clinical psychiatry and public health at Columbia University. She is a board-certified psychiatrist, having received her training at New York Hospital-Westchester Division and Montefiore Hospital. She has conducted research on AIDS and other epidemics of poor communities, with a special interest in the relationship between the collapse of communities and decline in health. Her work in AIDS is featured in Jacob Levenson's *The Secret Epidemic: The Story of AIDS in Black America* (Random House, 2004). She is the author of *Root Shock: How Tearing Up City Neighborhoods Hurts America and What We Can Do About It* (Random House, 2004) and *The House of Joshua: Meditations on Family and Place* (University of Nebraska Press, 1999). Her current work focuses on the connection between urban function and mental health.

Peggy Murray, Ph.D., M.S.W., is senior adviser for the National Institutes of Health (NIH) Institute on Alcohol Abuse and Alcoholism (IAAA) and is responsible for IAAA's research translation initiatives in health professions education. She also serves as an adjunct professor at the Catholic University School of Social Work. She is coauthor of *A Medical Education Model for the Prevention and Treatment of Alcohol-Use Disorders*, a 20-module curriculum and faculty development course for medical school faculty in the primary care specialties. The model has been translated into five languages and implemented in eight countries to date.

The relationship of alcohol misuse to aggressive behavior and violence is a complex one, and research has shown that this relationship is more than associative. In addition to alcohol misuse promoting aggressive behavior, victimization as a result of violence can lead to excessive alcohol consumption. Strategies to prevent violence must take this into account and, to be effective, must deal with the alcohol use of both the perpetrators and the victims of violence. Alcohol affects the person and behavior at many levels from the cell, to the brain, to the individual as a whole, to particular neighborhoods and micro cultures, to the global society. For more than 20 years, Dr. Murray has worked at the IAAA in positions that have led to collaboration with scientists across all of its divisions and offices. She hopes to bring a broad perspective on alcohol misuse to the identification of effective approaches to global violence prevention.

Pamela B. Teaster, Ph.D., is director of the Graduate Center for Gerontology, chairperson of the Department of Gerontology, associate dean for research, and professor at the College of Public Health at the University of Kentucky (KY). She serves on the editorial board of the *Gerontologist*, the *Journal of Applied Gerontology*, and the *Journal of Elder Abuse and*

Neglect. She is president of the KY Guardianship Association, director of the KY Justice Center for Elders and Vulnerable Adults, member of the Task Force on Older Adult Ministries for the National Episcopal Church, and immediate past president of the National Committee for the Prevention of Elder Abuse. She has served on the National Academy of Sciences' Committee on Social Security and Representative Payees, the American Bar Association's Commission on Law and Aging, and the Center for Guardianship Certification. She is a fellow of the Gerontological Society of America and a recipient of the Rosalie Wolf Award for Research on Elder Abuse (National Association of Adult Protective Services), the Outstanding Affiliate Member Award (Kentucky Guardianship Association), and the Distinguished Educator Award (Kentucky Association for Gerontology). She is the author of *Public Guardianship After 25 Years: In the Best Interests of Incapacitated People?* (Praeger, 2010).

Elizabeth Ward, M.B.B.S., M.Sc., is a medical epidemiologist with years of public health experience in the Jamaican government health system. Dr. Ward is a consultant at the Institute of Public Safety and Justice at the University of the West Indies and chair of the board of directors of the Violence Prevention Alliance Jamaica. She was formerly the director of disease prevention and control of the Health Promotion and Protection Division in the Ministry of Health. She has coordinated program development, research, and data analysis and has been responsible for disease prevention and control. She spearheaded the development of the Jamaica Injury Surveillance System, which tracks hospital-based injuries island-wide. Additionally, Dr. Ward has contributed to the development of Jamaican government policies as a task force member for the National Security Strategy for Safe Schools and as a member of the working groups for the Security Component of the National Development Plan, the National Strategic Plan for Children and Violence, and the Strategic Plan for Healthy Lifestyles.

Appendix D

Forum Member Biographical Sketches

Jacquelyn C. Campbell, Ph.D., R.N. (*Co-chair*), is the Anna D. Wolf Chair and a Professor in the Johns Hopkins University School of Nursing with a joint appointment in the Bloomberg School of Public Health and one of the inaugural Gilman Scholars at JHU. She is also the National Program Director of the Robert Wood Johnson Foundation Nurse Faculty Scholars program. Dr. Campbell has been conducting advocacy policy work and research in the area of violence against women since 1980, with 12 major federally funded research grants and more than 220 articles and seven books. She is an elected member of the Institute of Medicine/National Academy of Sciences, and the American Academy of Nursing as well as Chair of the Board of Directors of Futures without Violence. She served on the Department of Defense Task Force on Domestic Violence and has provided consultation to DHHS, CDC, WHO, USAID and received the National Friends of the NINR Research Pathfinder Award, the Sigma Theta Tau International Nurse Researcher Award, and the American Society of Criminology Vollmer Award for advancing justice. Dr. Campbell co-Chaired the Steering Committee for the World Health Organization Multi-country study on Violence Against Women and Women's Health, has been appointed to three IOM/NAS Committees evaluating evidence in various aspects the area of violence against women and currently serves on the IOM Board on Global Health as well as Co-Chairing the IOM Forum on Global Violence Prevention. She is also a member of the Fulbright Specialist Roster and does work in collaboration with shelters, governments, criminal justice agencies, schools of nursing, and health care settings in countries such as South Africa, Spain, New Zealand, Australia, Haiti, and the Democratic Republic of the Congo (DRC).

Mark L. Rosenberg, M.D., M.P.P. (*Co-chair*), is executive director of the Task Force for Global Health. Previously, for 20 years, Dr. Rosenberg was at the Centers for Disease Control and Prevention (CDC), where he led its work in violence prevention and later became the first permanent director of the National Center for Injury Prevention and Control. He also held the position of special assistant for behavioral science in the Office of the Deputy Director (HIV/AIDS). Dr. Rosenberg is board certified in both psychiatry and internal medicine with training in public policy. He is on the faculty at Morehouse Medical School, Emory Medical School, and the Rollins School of Public Health at Emory University. Dr. Rosenberg's research and programmatic interests are concentrated on injury control and violence prevention, HIV/AIDS, and child well-being, with special attention to behavioral sciences, evaluation, and health communications. He has authored more than 120 publications and recently coauthored the book *Real Collaboration: What It Takes for Global Health to Succeed* (University of California Press, 2010). Dr. Rosenberg has received numerous awards including the Surgeon General's Exemplary Service Medal. He is a member of the Institute of Medicine. Dr. Rosenberg's organization, the Task Force for Global Health, participated in the IOM-sponsored workshop Violence Prevention in Low- and Middle-Income Countries: Finding a Place on the Global Agenda, and the Task Force remains interested in helping to continue the momentum of the workshop through the Forum on Global Violence Prevention. The Task Force is heavily involved in the delivery of a number of global health programs and sees many ways in which interpersonal violence and conflict exacerbate serious health problems and inequities.

Clare Anderson, M.S.W., LICSW, is the deputy commissioner at the Administration on Children, Youth, and Families (ACYF). Prior to joining ACYF, she was senior associate at the Center for the Study of Social Policy, where she promoted better outcomes for children, youth, and families through community engagement and child welfare system transformation. Ms. Anderson provided technical assistance through a federally funded child welfare implementation center and to sites implementing community partnerships for protecting children and the Annie E. Casey Foundation's Family to Family Initiative. She also conducted monitoring of and provided support for jurisdictions under court order to improve child welfare systems. Ms. Anderson previously worked as a direct practice social worker as a member of the Freddie Mac Foundation Child and Adolescent Protection Center at Children's National Medical Center in Washington, DC. She was a consultant to and clinical director at the Baptist Home for Children and Families (now the National Center for Children and Families) in Bethesda,

Maryland, and a member of the clinical faculty at Georgetown University Medical Center, Department of Psychiatry's Child and Adolescent Services.

Frances E. Ashe-Goins, R.N., M.P.H., a registered nurse and policy analyst, is deputy director of the Office of Women's Health at the Department of Health and Human Services (HHS). Formerly, as deputy director and director of the Division of Policy and Program Development, she was responsible for numerous women's health issues, including HIV/AIDS, domestic violence, rape and sexual assault, lupus, diabetes, organ or tissue donation, minority women's health, international health, female genital cutting, mental health, homelessness, and young women's health. Mrs. Ashe-Goines also coordinated the regional women's health coordinators programs. She has written numerous articles, appeared on radio and television programs, been featured in magazine and newspaper articles, made presentations at national and international conferences and workshops, and received many awards and commendations. She is a featured author of a chapter on domestic violence in the book *Policy and Politics in Nursing and Health Care, 4th edition.*

Katrina Baum, Ph.D., is senior research officer in the Office of Research Partnerships at the National Institute of Justice. Dr. Baum most recently was senior statistician at the Bureau of Justice Statistics, where she worked on the National Crime Victimization Survey. Her tenure there included research on juvenile victims, college students, school crime, and groundbreaking studies on identity theft and stalking. Her reports have been cited in the *New York Times* and other major newspapers, and she has appeared on a local television affiliate. Prior to joining the U.S. Department of Justice, Dr. Baum managed a variety of research projects in criminal justice. While working at the Cartographic Modeling Lab in Philadelphia, she developed the Firearms Analysis System, which is a geographic information system used to track firearm-related injuries using data from the Philadelphia Police Department and the National Tracing Center of the Bureau of Alcohol, Tobacco, Firearms, and Explosives. She also served as the local evaluator for Weed & Seed and Safe Schools-Healthy Students grants.

Susan Bissell, Ph.D., serves as chief of child protection of the Programme Division at the United Nations Children's Fund (UNICEF). She previously worked on issues concerning education and children in especially difficult circumstances with UNICEF Sri Lanka and UNICEF in Bangladesh, where she also focused on child labor. Dr. Bissell has managed a number of reports, including a 62-country study on the implementation of the general measures of the UN Convention on the Rights of the Child and global research on the Palermo Protocol and child trafficking. As a member of

the editorial board of the report of the UN Secretary General's Study on Violence Against Children, which was released in 2006, she has also been involved in follow-up activities that will advance the implementation of recommendations of the study. She has contributed to several articles on children's rights, including "Promotion of Children's Rights and Prevention of Child Maltreatment" (2009) and "Overview and Implementation of the UN Convention on the Rights of the Child" (2006), both of which were published in the *Lancet*.

Arturo Cervantes Trejo, M.D., M.P.H., Dr.P.H., serves as technical secretary of the National Council for Injury Prevention and general director of the National Center for Injury Prevention with the Mexican Ministry of Health. He also holds the Carlos Peralta Quintero Chair of Public Health at the Faculty of Medicine of Anahuac University in Mexico. He is board certified by the National Council of Public Health in Mexico and is a member of the charter class of the National Board of Public Health Examiners in the United States. As head of the National Center for Injury Prevention, Dr. Cervantes has coauthored the National Specific Action Program for Road Safety and the National Specific Action Program for Violence Prevention, as well as numerous analyses of morbidity and mortality from external causes of injury. Currently, he participates in the presidential task force Todos Somos Juárez, which is developing a strategy for violence prevention and social development for the city of Ciudad Juárez Chihuahua. Todos Somos Juárez is led by the federal government with the participation of the government of the state of Chihuahua, the municipal government of Juárez, and the city's civil society. The strategy includes 160 policy actions in health, labor, education, culture, economic, and security areas undertaken to address the underlying social and economic issues that fuel crime and insecurity in Ciudad Juárez, Mexico's eighth largest city and the most populous city on the Mexico-U.S. border.

XinQi Dong, M.D., M.P.H., is the Associate Director, Rush Institute for Healthy Aging and an Associate Professor of Medicine, Nursing, and Behavioral Sciences at the Rush University Medical Center. Having emigrated from China, he has had long standing interests in human rights and social justice issues in vulnerable populations. Dr. Dong's research focuses on the epidemiological studies of elder abuse in the United States and China, with particular emphasis on its adverse health outcomes and its relationship between psychological and social wellbeing. Dr. Dong currently is an APSA Congressional Policy Fellow/Health and Aging Policy Fellow working with a diverse group of policy leaders at the national, state, and local levels on the issues relevant to elder abuse. He has been working with CDC, NIA, and NAS on the state-of-the-science for the issues of elder abuse. Moreover,

he has been working with the Chicago Wellbeing Task Force and the Legislative Task Force to revise and ultimately pass the IL Elder Abuse Act. Currently, Dr. Dong serves as a Senior Policy and Research Advisor for the HHS Administration on Aging (AoA) and a Senior Policy Advisor for the Centers for Medicare and Medicaid Services (CMS). Dr. Dong is actively working with Chinese communities to promote understanding and civic engagement on the issues of elder abuse through innovative, culturally, and linguistically appropriate ways. He serves on the Board of Directors for the Chinese American Service League, the largest social services organization in the Midwest serving the needs of Chinese population. He is a fellow of the Institute of Medicine of Chicago (IOMC) and a member of the Institute of Medicine's Forum on Global Violence Prevention. Dr. Dong is a Beeson Scholar, and is the recipient of the Nobuo Maeda International Aging and Public Health Research Award, the National Physician Advocacy Merit Award, and the Maxwell A. Pollack Award in productive aging by the Gerontological Society of America.

Amie Gianino, M.S., is the representative of Anheuser-Busch InBev (ABI) to the Global Violence Prevention Forum. Ms. Gianino, the senior global director for the company's Better World efforts, began her career with the company in 1989. Evidence suggests that cultural factors play a strong role in determining whether and how violence manifests in a country's population. Individual factors, such as personality type, are also important predictors of violent behavior. Still, some posit that alcohol may be a cause of violent behavior. As the world's largest brewer—and as the beer industry leader in social responsibility—ABI is especially interested in the dialogue surrounding the intersection of alcohol and violence. The company believes that measures to change negative cultural norms relating to violence and other risky behaviors are important goals. To this end, ABI has been supporting social norms initiatives for more than 10 years in the United States and Europe, with plans for further work in China and Latin America. ABI has also supported the Alcohol Medical Scholars Program (AMSP) since 1997. The AMSP helps train physicians to teach others in the medical community how to better diagnose and treat issues of alcohol dependency. In addition, ABI has supported domestic violence prevention initiatives.

Kathy Greenlee, J.D., was appointed by President Obama as the fourth assistant secretary for aging at the Administration on Aging (AoA) within the Department of Health and Human Services and was confirmed by the Senate in June 2009. Ms. Greenlee brings more than 10 years of experience advancing the health and independence of older persons and their families and advocating for the rights of older persons. AoA is mandated by the Older Americans Act (OAA) to be the focal point and lead advocacy agency

for older persons and their concerns at the federal level. AoA's vision for older people, embodied in the OAA, is based on the value that dignity is inherent to all individuals and the belief that older people should have the opportunity to fully participate in all aspects of society and community life; be able to maintain their health and independence; and be free from violence, abuse, neglect, and exploitation. AoA works with its partners at the federal, state, and community levels to help strengthen the nation's capacity to promote the dignity and independence of older people. AoA works to stimulate programmatic and policy activity at the national, state, and local levels in order to advance the work of eliminating violence against older adults and elder abuse, neglect, and exploitation in the United States, as well as with international organizations and researchers around the world. By doing so, AoA seeks to address the social, economic, and health impacts of violence against older adults and elder abuse, neglect, and exploitation.

Elected in 2011, **Rodrigo V. Guerrero, M.D., Dr.P.H.,** once again serves as mayor of Cali, Colombia. Previously, he has held the posts of professor, department head, dean of health sciences, and president at Universidad del Valle in Colombia. In his previous stint as mayor, Dr. Guerrero developed an epidemiological approach to urban violence prevention through the Program DESEPAZ, which has been successfully applied in several cities of Colombia and in other countries. After leaving his first mayoral post, he joined the Pan American Health Organization in Washington, DC, where he started the Violence Prevention Program. Dr. Guerrero has written numerous articles on youth violence and violence as a health issue. In addition to his current post as mayor, Dr. Guerrero dedicates his time to Vallenpaz, a nonprofit organization devoted to helping rural communities in conflict-ridden areas of Colombia. He is a member of CISALVA, the Violence Research Center of Universidad del Valle, and the Institute of Medicine.

John R. Hayes, M.D., is the global strategy leader for neuroscience medical affairs at Eli Lilly and Company. Before assuming his current position, Dr. Hayes served as vice president for Lilly Research Laboratories. Lilly has done extensive research into areas of suicidality and harmful behavior in the context of mental disorders and has provided significant support for independent research as well as professional and public education about these important and often controversial public health issues. Previously, Dr. Hayes held faculty positions at Texas A&M University and the Indiana University School of Medicine and was president of St. Vincent Hospitals and Health Systems and chief executive officer of Seton Health of Indiana. Dr. Hayes was chairman of the board of the Indiana Health Industry Forum and has served on the boards of 5 for-profit and 12 not-for-profit

institutions. He has been president of the Academy of Psychosomatic Medicine and a director on the American Board of Family Medicine and of the American Psychiatric Foundation, and he is a distinguished life fellow of the American Psychiatric Association. He has won national teaching awards, authored scientific publications, and served as visiting faculty at numerous medical institutions globally over the course of his career.

David Hemenway, Ph.D., is an economist and professor at Harvard School of Public Health (HSPH) and a James Marsh Visiting Professor-at-Large at the University of Vermont. Additionally, he is director of the Harvard Injury Control Research Center and the Youth Violence Prevention Center. He was president of the Society for the Advancement of Violence and Injury Research and in 2007 received the Excellence in Science Award from the Injury Section of the American Public Health Association. He has received fellowships from the Pew, Soros, and Robert Wood Johnson foundations. Dr. Hemenway has written more than 150 journal articles and is sole author of 5 books. Recent books include *Private Guns Public Health* (University of Michigan Press, 2006) and *While We Were Sleeping: Success Stories in Injury and Violence Prevention* (University of California Press, 2009). Dr. Hemenway has received 10 HSPH teaching awards.

Frances Henry, M.B.A., serves as advisor to the F. Felix Foundation. From 2005 to 2009, she created and directed Global Violence Prevention, a project that advanced the science-based prevention of violence in low- and middle-income countries through a coalition of U.S. researchers and practitioners. Based on her experiences of childhood sexual abuse, she founded and for 13 years directed Stop It Now!, an organization dedicated to preventing the sexual abuse of children. She is author of *Vaccines for Violence*, a set of five essays exploring how she learned to counter violence by dealing with fear, by balancing accountability and compassion, and by increasing her capacity to connect to others. Ms. Henry's previous work includes owning a management consulting company and directing presidential and gubernatorial commissions for women. She served as staff for the U.S. Commission on International Women's Year.

Mercedes S. Hinton, Ph.D., is a program officer for the Initiative on Confronting Violent Crime at the Open Society Foundations, where she directs the program's Central America work. Previously, she worked as a consultant for the World Bank's conflict, crime, and violence team and served for seven years on the faculty of the London School of Economics in the United Kingdom. Dr. Hinton is a prize-winning author of a number of books and publications in the area of policing and democratization in the developing world. She is fluent in English, French, Portuguese, and Spanish. Her books

include *Policing Developing Democracies* (Routledge, 2009; co-edited with Tim Newburn) and *The State on the Streets: Police and Politics in Argentina and Brazil* (Lynne Rienner Publishers, 2006), which was awarded the British Society for Criminology's prize for best book of 2006.

Larke Nahme Huang, Ph.D., a licensed clinical-community psychologist, is senior advisor to the administrator of the Substance Abuse and Mental Health Services Administration (SAMHSA) at HHS. In this position she provides leadership on national policy for mental health and substance use issues for children, adolescents, and families. She is also the agency lead on issues of behavioral health equity and eliminating disparities and for the administrator's Strategic Initiative on Trauma and Justice. In 2009 she did a 6-month leadership exchange at the Centers for Disease Control and Prevention, where she was a senior advisor on mental health. For the past 25 years, Dr. Huang has worked at the interface of practice, research, and policy. She has assumed multiple leadership roles dedicated to improving the lives of children, families, and communities. She has been a community mental health practitioner; a faculty member at the University of California, Berkeley and Georgetown University; and a research director at the American Institutes for Research. She has worked with states and communities to build systems of care for children with serious emotional and behavioral disorders. She has developed programs for underserved, culturally and linguistically diverse youth; evaluated community-based programs; and authored books and articles on children's behavioral health and transforming systems and services. Her publications include "Advancing Efforts to Improve Children's Mental Health in America" (*Administration and Policy in Mental Health,* 2010) and *Children of Color: Psychological Interventions with Culturally Diverse Youth* (Jossey-Bass, 2003). In 2003 Dr. Huang served as an appointed commissioner on the President's New Freedom Commission on Mental Health.

L. Rowell Huesmann, Ph.D., M.S., is the Amos N. Tversky Collegiate Professor of Psychology and Communication Studies and Director of the Research Center for Group Dynamics at the University of Michigan's Institute for Social Research. He is also editor of the journal *Aggressive Behavior* and past-president of the *International Society for Research on Aggression*. His research over the past 40 years has focused on the psychological foundations of aggressive and violent behavior and on how predisposing personal factors interact with precipitating situational factors to engender violent behavior. This research has included several life span longitudinal studies showing how the roots of aggressive behavior are often established in childhood. One particular interest has been investigating how children learn through imitation and how children's exposure to violence in the

family, schools, community, and mass media stimulates the development of their own aggressive and violent behavior over time. He has conducted longitudinal studies on the effects of exposure to violence at multiple sites in the United States as well as in Finland, Poland, Israel, and Palestine. These studies have shown that simply seeing a lot of violence (political violence, family violence, community violence, media violence) in childhood changes children's thinking and perceptions, and increases the risk of interpersonal aggressive behavior later in life. He has also conducted research showing that interventions that change children's beliefs about the appropriateness of conflict and aggression can be effective in preventing aggression. In 2005, Dr. Huesmann was the recipient of the American Psychological Association's award for Distinguished Lifetime Contributions to Media Psychology.

Kevin Jennings, M.A., M.B.A., is assistant deputy secretary for the Office of Safe and Drug-Free Schools at the U.S. Department of Education. Previously he was a high school history teacher, first at Moses Brown School in Providence, Rhode Island, and then at Concord Academy in Concord, Massachusetts, where he was chair of the History Department. In 1995, Mr. Jennings left teaching to be the founding executive director of the Gay, Lesbian, and Straight Education Network (GLSEN), a national education organization working to make schools safe for lesbian, gay, bisexual, and transgender students, staff, and families. He held the position of executive director at GLSEN until 2008. Among his awards are the Distinguished Service Award of the National Association of Secondary School Principals and the Human and Civil Rights Award of the National Education Association. He is the author of six books, the most recent of which—*Mama's Boy, Preacher's Son*—was named a book of honor by the American Library Association in 2007.

Carol M. Kurzig is president of the Avon Foundation for Women. Previously, she was president of the National Multiple Sclerosis Society's New York City chapter and director of public services and assistant to the president at the Foundation Center. She was a director and served as board chairman of the Support Center for Nonprofit Management and currently serves as a vice chairman of the Nonprofit Coordinating Committee Board of Directors. The Avon Foundation for Women was created in 1955 to "improve the lives of women" and is now the leading corporate-affiliated global philanthropy dedicated to women. Through 2011, Avon global philanthropy raised and awarded more than $860 million, all of which focused on women and their families (primarily for breast cancer, domestic violence, and emergency and disaster relief). Avon currently supports breast cancer and domestic violence programs in more than 50 countries. The foundation's grant-making programs include the Avon Breast Cancer Crusade,

with goals to accelerate research and ensure access to care; women's empowerment programs, with an emphasis on domestic violence through its Speak Out Against Domestic Violence program; and special programs in response to national and international emergencies. Its extensive fund-raising programs include the nine-city Avon Walk for Breast Cancer series and special events to raise awareness and funds for gender violence programs.

Joanne LaCroix, M.B.A., B.S.W., is manager of the Family Violence Prevention Unit of the Public Health Agency of Canada. Ms. Lacroix's background is in child welfare and family violence. She began her career as a front-line social worker and gradually held a number of supervisory and managerial positions in two of Canada's provinces, Quebec and Ontario. Much of her work as a manager at the provincial level involved building relationships that would foster concerted, coordinated responses to child abuse and family violence. In her current position in the federal government, she builds on the experience she has developed in the field to create and sustain connections among policy makers, researchers, and service providers and to continue to support and move forward the violence prevention agenda. The Public Health Agency of Canada leads and coordinates the federal Family Violence Initiative, a collaboration of 15 departments, agencies, and crown corporations. The initiative promotes public awareness of the risk factors of family violence and the need for public involvement in responding to it; strengthens the capacity of the criminal justice, housing, and health systems to respond; and supports data collection, research, and evaluation efforts to identify effective interventions.

Jacqueline Lloyd, Ph.D., M.S.W., is a health scientist administrator in the Prevention Research Branch in the Division of Epidemiology, Services, and Prevention Research at the National Institute on Drug Abuse (NIDA) within the National Institutes of Health (NIH). Her program areas at NIDA include screening and brief interventions, youth at risk for HIV/AIDS, environmental interventions, peer interventions, women and gender research, and health communications research. Prior to joining the staff at NIDA, Dr. Lloyd held faculty positions at Temple University in the School of Social Administration and at the University of Maryland at Baltimore in the School of Social Work. She has taught courses in research methods, health, and mental health human behavior theory. Her own research activities have included evaluation of a community-based youth prevention program; investigation of HIV risk behaviors and substance use among youth; and investigation of the role of family, peer, and social network contextual factors on risk behaviors and treatment outcomes among youth and injecting drug users. Her many publications include "HIV Risk Behaviors: Risky Sexual Activities and Needle Use Among Adolescents in Substance Abuse

Treatment" (*AIDS and Behavior,* 2010) and "The Relationship Between Lifetime Abuse and Suicidal Ideation in a Sample of Injection Drug Users" (*Journal of Psychoactive Drugs,* 2007).

Brigid McCaw, M.D., M.S., M.P.H., FACP, is medical director for the Family Violence Prevention Program at Kaiser Permanente (KP). Her teaching, research, and publications focus on developing a health systems response to intimate partner violence and the impact of intimate partner violence on health status and mental health. She is a fellow of the American College of Physicians. KP, a large nonprofit integrated healthcare organization serving 8.6 million members in nine states and the District of Columbia, has implemented one of the most comprehensive healthcare responses to domestic violence in the United States. The nationally recognized "systems-model" approach is available across the continuum of care, including outpatient, emergency, and inpatient care; advice and call centers; and chronic care programs. The electronic medical record includes clinician tools to facilitate recognition, referrals, resources, and follow-up for patients experiencing domestic violence and provides data for quality improvement measures. Over the past decade, identification of domestic violence has increased fivefold, with most members identified in the ambulatory rather than the acute care setting. The majority of identified patients receive follow-up mental health services. KP also provides prevention, outreach, and domestic violence resources for its workforce. Violence prevention is an important focus for KP community benefit investments and research studies. The KP program, under the leadership of Dr. McCaw, has received several national awards.

James A. Mercy, Ph.D., is special advisor for strategic directions at the Division of Violence Prevention in the National Center for Injury Prevention and Control of the CDC. He began working at CDC in a newly formed activity to examine violence as a public health problem and, over the past two decades, has helped to develop the public health approach to violence and has conducted and overseen numerous studies of the epidemiology of youth suicide, family violence, homicide, and firearm injuries. Dr. Mercy also served as a coeditor of the *World Report on Violence and Health* prepared by the World Health Organization and served on the editorial board of the United Nation's Secretary General's Study of Violence Against Children. Most recently he's been working on a global partnership with UNICEF, the President's Emergency Plan for AIDS Relief, the World Health Organization (WHO), and others to end sexual violence against girls. His recent publications include "Attention-Deficit/Hyperactivity Disorder, Conduct Disorder, and Young Adult Intimate Partner Violence" (*Archives of General Psychiatry,* 2010) and "Sexual Violence and Its Health Consequences for Female Children in Swaziland: A Cluster Survey Study" (*Lancet,* 2009).

Peggy Murray, Ph.D., M.S.W., is senior advisor for the Institute on Alcohol Abuse and Alcoholism (IAAA) at the National Institutes of Health and is responsible for the institute's research translation initiatives in health professions education. She also serves as an adjunct professor at the Catholic University School of Social Work. She is coauthor of *A Medical Education Model for the Prevention and Treatment of Alcohol-Use Disorders,* a 20-module curriculum and faculty development course for medical school faculty in the primary care specialties. The model has been translated into five languages and implemented in eight countries to date. The relationship of alcohol misuse to aggressive behavior and violence is a complex one, and research has shown that this relationship is more than associative. In addition to alcohol misuse promoting aggressive behavior, victimization as a result of violence can lead to excessive alcohol consumption. Strategies to prevent violence must take this into account and, to be effective, must deal with the alcohol use of both the perpetrators and the victims of violence. Alcohol affects the person and behavior at many levels from the cell, to the brain, to the individual as a whole, to particular neighborhoods and micro cultures, to the global society. For more than 20 years, Dr. Murray has worked at the IAAA in positions that have led to collaboration with scientists across all of its divisions and offices. She hopes to bring a broad perspective on alcohol misuse to the identification of effective approaches to global violence prevention.

Michael Phillips, M.D., M.P.H., is currently director of the Suicide Research and Prevention Center of the Shanghai Jiao Tong University School of Medicine, executive director of the WHO Collaborating Center for Research and Training in Suicide Prevention at Beijing Hui Long Guan Hospital, professor of psychiatry and global health at Emory University, professor of clinical psychiatry and clinical epidemiology at Columbia University, vice chairperson of the Chinese Society for Injury Prevention and Control, and treasurer of the International Association for Suicide Prevention. He is currently the principal investigator on a number of multicenter collaborative projects on suicide, depression, and schizophrenia. His recent publications include "Repetition of Suicide Attempts: Data from Emergency Care Settings in Five Culturally Different Low- and Middle-Income Countries Participating in the WHO SUPRE-MISS Study" (*Crisis,* 2010) and "Nonfatal Suicidal Behavior Among Chinese Women Who Have Been Physically Abused by Their Male Intimate Partners" (*Suicide and Life-Threatening Behavior,* 2009). Dr. Phillips is a Canadian citizen who has been a permanent resident of China for more than 25 years. He runs a number of research training courses each year; supervises Chinese and foreign graduate students; helps coordinate WHO mental health activities in China; promotes increased awareness of the importance of addressing China's huge suicide

problem; and advocates improving the quality, comprehensiveness, and access to mental health services around the country.

Colleen Scanlon, R.N., J.D., has been senior vice president of advocacy at Catholic Health Initiatives in Denver, Colorado, since 1997. In this role Ms. Scanlon directs the development and integration of a comprehensive advocacy program within one of the largest Catholic healthcare systems in the country. Previously she was director of the American Nurses Association Center for Ethics and Human Rights in Washington, DC, and a clinical scholar in the Center for Clinical Bioethics at Georgetown University Medical Center. Ms. Scanlon's background includes a variety of clinical positions in palliative care, oncology, psychiatric care, and home healthcare nursing. She has been involved in the development of educational monographs and videos and coauthored a book entitled *Managing Genetic Information: Implications for Nursing Practice* (American Nurses Association, 1995). She is currently chair of the Catholic Health Association Board of Trustees and serves on the Board of Visitors of Georgetown University School of Nursing and Health Studies and the Catholic Medical Mission Board. She has received several awards, including an honorary doctorate and Distinguished Alumna Award from Georgetown University, the Mara Mogensen Flaherty Award from the Oncology Nursing Society, and the American Cancer Society Lane Adams Award.

Kristin Schubert, M.P.H., Robert Wood Johnson Foundation (RWJF) program officer, believes the Foundation is uniquely positioned to promote and evaluate change in the health and well-being of the nation. She feels that "RWJF has the ability to step in where government and others can't go and influence the way people live for the better." Since joining RWJF in 2000, Ms. Schubert has focused chiefly on improving the health and well-being of vulnerable children, particularly adolescents, across a multitude of issues and systems, such as violence and juvenile justice. She has created and grown initiatives to prevent youth violence, promote better health services within the juvenile justice system, and empower youth to advocate pathways for better health. She believes that the Foundation has played a vital role in enabling youth and families to access opportunities in their communities to improve their health and well-being. Trained in public health and health policy, Ms. Schubert's work builds on the recognition of the critical relationship between health and where a person lives, works, learns, and plays and the tenet that health is a right, not a privilege. She currently serves as the interim director of the RWJF Public Health Team and is a member of the Vulnerable Populations portfolio. Previously, Ms. Schubert was a policy analyst for the Centers for Disease Control–funded Prevention Research Center. Her work focused on eliminating barriers to health among racial

and ethnic groups and improving the health of adolescents. Trained as a molecular biologist, she began her career as a cancer researcher at Memorial Sloan-Kettering Cancer Center in New York City. Ms. Schubert holds an M.P.H. in health policy and administration from Yale University and a B.S. in molecular biology from Lehigh University.

Evelyn Tomaszewski, M.S.W., is a senior policy advisor within the Human Rights and International Affairs Division of the National Association of Social Workers (NASW), where she is responsible for implementation of the NASW HIV/AIDS Spectrum Project. This project addresses a range of health and behavioral health issues with a focus on HIV/AIDS and co-occurring chronic illnesses. Ms. Tomaszewski promotes the NASW Global HIV/AIDS Initiative through collaboration with domestic and international groups and agencies, having implemented a capacity and training needs assessment addressing the social work workforce, volunteers, and health and mental health care providers in sub-Saharan Africa. She staffs the National Committee on Lesbian, Gay, Bisexual, and Transgender Issues and previously staffed the International Committee and the Women's Issues Committee. She has expertise in policy analysis and implementation addressing gender equity, violence prevention, and early intervention; the connection of gender, equity, trauma, and risk for HIV/AIDS and other sexually transmitted infections; and public health approaches to interpersonal violence and community health. Ms. Tomaszewski has more than two decades of social work experience as a counselor, community organizer, educator, trainer, and administrator.

Elizabeth Ward, M.B.B.S., M.Sc., is a medical epidemiologist with years of public health experience in the Jamaican government health system. Dr. Ward is a consultant at the Institute of Public Safety and Justice at the University of the West Indies and chair of the board of directors of the Violence Prevention Alliance Jamaica. She was formerly the director of disease prevention and control of the Health Promotion and Protection Division in the Ministry of Health. She has coordinated program development, research, and data analysis and has been responsible for disease prevention and control. She spearheaded the development of the Jamaica Injury Surveillance System, which tracks hospital-based injuries island-wide. Additionally, Dr. Ward has contributed to the development of Jamaician government policies as a task force member for the National Security Strategy for Safe Schools and as a member of the working groups for the security component of the National Development Plan, the National Strategic Plan for Children and Violence, and the Strategic Plan for Healthy Lifestyles.