

A Community Resilience Approach to Reducing Ethnic and Racial Disparities in Health

Prevention Institute, a non-profit, national center dedicated to health and well-being, developed a toolkit for health and resilience in vulnerable environments (THRIVE), a community resilience assessment toolkit, to help communities bolster factors that will improve health outcomes and reduce disparities experienced by racial and ethnic minorities. THRIVE is grounded in research and was developed with input from a national expert panel. It has demonstrated utility in urban, rural, and suburban settings.

Within months of piloting, several communities had initiated farmer's markets and youth programs. THRIVE provides a framework for community members, coalitions, public health practitioners, and local decisionmakers to identify factors associated with poor health outcomes in communities of color the range of partners needed to improve community health outcomes, such as planners, elected officials, businesses, housing, and transportation; engage and take action to remedy disparities. (*Am J Public Health*. 2005; 95:XXX-XXX. doi:10.2105/AJPH.2004.050146)

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RACIAL AND ETHNIC

minorities in the United States experience poorer health outcomes than do Whites, and these disparities are not only persistent but also increasing.¹ Health disparities are generally not the result of people experiencing a *different* set of illnesses from those affecting the general population. Rather, they are the same diseases and injuries that affect the population as a whole, only they affect people of color more frequently and more severely.²⁻⁶ A broad range of social, economic, and community conditions, such as stress, insufficient financial and social supports, poor diet, environmental exposures, and community factors and characteristics contribute to disparities in health.⁷

THRIVE—a toolkit for health and resilience in vulnerable environments—is a community resilience assessment tool that helps communities identify and foster elements and characteristics in the community environment that promote positive health and safety outcomes for racial and ethnic minorities. These elements are shaped by root factors such as oppression and racism, and THRIVE helps frame a practical approach for addressing these elements to improve health outcomes.

HEALTH, SAFETY, AND COMMUNITY ENVIRONMENT

The “natural” environment (i.e., air, water, and soil) has a

direct influence on health. Environmental quality tends to be worse in areas where the population is either composed of low-income individuals or primarily of people of color. For example, polluting sites are concentrated in areas where low-income and minority populations reside.⁸

The social and community environments affect health directly as well as indirectly by influencing behavior. Neighborhood conditions can directly produce higher stress levels that contribute to poorer mental health and health outcomes. For example, Husain⁹ showed in 2002 that children who heard gunshots were twice as likely to experience asthmatic symptoms. Geronimus¹⁰ postulated in 2001 that cumulative exposure to environmental hazards, stressors in residential and work environments, and persistent psychosocial stress can explain disparate levels of morbidity and disability in African American women.

The community environment also influences behavior, which in turn affects health outcomes. Blum¹¹ noted in 1981 that individual behavior is markedly affected by various aspects of the environment. For example, fruit and vegetable intake was 32% higher in African American neighborhoods when supermarkets were closer.¹² Focusing on behavior change alone ignores larger environmental factors that can work against the educational message. Adler and

Newman¹³ asserted in 2002 that the higher prevalence of risky behaviors associated with lower income levels, such as tobacco use, physical inactivity, and a high-fat diet, are shaped and constrained by the social and physical environment. Smedley et al.¹⁴ concluded in 2002 that 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.

Research has now shown that after adjustment for individual risk factors, there are neighborhood differences in health outcomes.¹⁵ It is also established that standards of population health are overwhelmingly affected not so much by medical care as by the social and economic circumstances in which people live and work.¹⁶

A RESILIENCE APPROACH TO COMMUNITY HEALTH

When crafting approaches to improve the community environment, it is important to focus on both risk and resilience. Risk factors are characteristics or circumstances that increase the likelihood that people within the community will experience poor health and safety outcomes. Resilience is the ability to thrive despite the presence of risk factors. Limiting risk factors reduces the threats to health and safety, but does not necessarily achieve conditions that support good health. For

example, the proliferation of fast food and junk food is a significant risk factor for poor nutrition, and steps to minimize the marketing and availability of such food are important aspects of an overall approach to good health. However, it is equally important to ensure that safe, healthy, affordable, and culturally appropriate food is available in a community. The effects of risk and resilience (or protective) factors on health and safety are interactive and cumulative. Studies show that resilience factors can counteract the negative impact of risk factors.^{17,18} One study demonstrated that protective factors moderate the negative exposure to risk, reducing problem behaviors and becoming more influential as levels of risk exposure increase.¹⁹

For the most part, health promotion efforts have tended to focus on risk reduction. Further, when resilience approaches are promulgated, they tend to focus on individual resilience rather than on the overall community environment that influences health and safety outcomes. To the extent that community-oriented assets are addressed, they tend to be defined as assets that build individual resiliency rather than being targeted at environmental conditions within a community. The small numbers of community resilience efforts have tended to address healing and recovery from specific events, such as plant closings²⁰ and the September 11, 2001, terrorist attacks.²¹ These resilience efforts were largely individually focused, providing referrals, education, and counseling services, and did not focus on identifying and promoting factors in the com-

munity that could be bolstered to promote better health and safety outcomes generally and for people of color in particular.

A scan of the community resilience landscape highlighted the need for a practical tool that could assist communities in identifying and increasing those resilience factors related to the health of their community and in decreasing disparities experienced within those communities. There are numerous community capacity-building efforts, and they play an important role in helping practitioners take advantage of emerging research. Community capacity-building efforts (e.g., Partnerships for the Public's Health; the Turning Point initiative; Public Health Leadership Institute's approaches to implementing best practices to effective collaboration; and the Community Tool Box's links to implementing and evaluating key public health principles) focus on a variety of skills but have not defined a specific set of community resilience factors that are linked to the Leading Health Indicators of Healthy People 2010²² nor have they provided a tool for using these indicators for community work.

Thus there is a preponderance of attention to risk factors and to efforts that seek to solely change individual behavior. However, the THRIVE toolkit highlights resilience factors that support health and safety outcomes in communities and can help close the health gap. Enhancing community resilience factors could have long-term, positive affects on individual and community health and such factors can also serve as interim benchmarks in meeting Healthy People 2010 goals.

COMMUNITY RESILIENCE FACTORS

The THRIVE tool consists of 20 factors in the following 4 clusters: built environment, social capital, services and institutions, and structural factors.

Built Environment Factors

The built environment is a community's developed infrastructure, such as street design, public transportation, and permitted uses of buildings. Built environment factors that influence health-related behaviors and outcomes include whether or not there are safe places for incidental or recreational physical activity; the availability of safe, affordable, healthy food; safe, affordable housing; safe and accessible transportation; clean air, water, and soil; limited availability of harmful products, such as alcohol and tobacco; and a welcoming and culturally appropriate environment where people want to be. For example, children's physical activity levels are positively associated with the number of play spaces near their homes,^{23,24} and quality housing can reduce triggers for asthma²⁵ and psychological stress.²⁶

Social Capital Factors

Social capital includes connections among individual social networks and the norms of reciprocity and trustworthiness that arise from them,²⁷ as well as standards for behavior that are socially dictated. These standards, or behavioral and gender norms, strongly influence behavioral choices about alcohol consumption,²⁸ tobacco use, and sexual activity.²⁹ Further, elements of social capital are associated with significant increases in mental health and lower rates of homicide, suicide, and alcohol and drug abuse.^{30,31}

When people come together for the common good, communities have marshaled their resources and efforts to reduce levels of violence³² and improve food access.³³ Social capital factors include trust and cohesion; willingness to take action for the community's benefit; community engagement, such as voting or volunteering; behavior norms; and gender norms.

Services and Institutions

The availability of and access to high-quality, culturally competent, and appropriately coordinated public and private services and institutions is a critical element for good health. Public and private services and institutions include local government, public health and health care, social services, education, public safety, community groups and coalitions, community-based organizations, faith institutions, businesses, and arts institutions. Services and institutions can both promote healthy behaviors, such as clinics giving out walking monitors, and strengthen a broad range of health-promoting elements in a community. Research has shown that an artistic environment promotes healing, for example, in hospitals and other health care facilities, where the incorporation of arts into building spaces has reduced patient recovery time and assisted in relief for the disabled, infirm, or their caregivers.³⁴ The availability of public and community-based services may be particularly important in low-income communities of color, as residents may not have access to or be able to afford to pay for such services.

Structural Factors

Structural factors are overarching and rooted in broader

systems that have an impact on people and communities everywhere. Structural factors include racial relations, employment and economic opportunities, and marketing and advertising practices. House and Williams³⁵ concluded in 2000 that the nature of the socioeconomic stratification of individuals can be changed in ways that will improve health outcomes. The media have an enormous impact on shaping perceptions about what is “normal” in society and influence behaviors ranging from contraceptive use³⁶ to consumption of sodas and high-fat foods to engaging in acts of violence.^{37,38}

PROCESS

The community factors delineated in THRIVE are derived from an iterative process conducted from July 2002 through March 2003 and supported by The California Endowment. We scanned peer-reviewed literature and relevant reports and interviews with practitioners and academics as well as an internal analysis that included brainstorming, clustering of concepts and information, and a search for supporting evidence as the analysis progressed. The literature scan began with the Leading Health Indicators in Healthy People 2010 (identified by then-Surgeon General David Satcher³⁹ in 2000 as having a role in the elimination of health disparities) and the “actual causes” of death identified in 1993 by McGinnis and Foegen.⁴⁰ We then searched for subsequent information that linked the Leading Health Indicators with social, behavioral, and environmental elements.

Based on the findings of this scan and analysis, we identified

a set of 20 community factors that could be linked to Leading Health Indicators through research. Further, we grouped the factors into 4 interrelated clusters. The clusters and factors were reviewed and ratified by the THRIVE national expert panel and incorporated into a tool with input from a subcommittee of the expert panel.

THRIVE was piloted in 3 communities: Hidalgo County, New Mexico (rural site); Del Paso Heights, Sacramento, Calif (suburban site); and East Harlem, New York City, NY (urban site), between October and December 2003. In order to ensure that the event met local needs, we had each site identify its own purpose for the pilot event and select participants. The purposes ranged from integrating pilot event outcomes into strategic plans to advancing more upstream approaches to health and addressing disparities. Participants included adult and youth community members, public health practitioners, law enforcement personnel, transportation providers, and medical providers. The pilot event was standardized for all 3 sites to assess the tool’s overall utility and applicability. Prevention Institute, a national nonprofit center in Oakland, Calif, developed and piloted THRIVE under contract with the Office of Minority Health, US Department of Health and Human Services. Pilot sites received seed funding of \$10 000 for their participation, pilot event costs, next steps from the event, and promotion of community resilience.

Each pilot event was 1 day long. The first half included participants’ identification of their major health concerns for the

community; training on a community resilience approach to reducing health disparities, including background on the value of prevention; a framework for focusing on community factors; a delineation of the 4 clusters and 20 factors, linking each of them to the Healthy People 2010 Leading Health Indicators and major health concerns previously identified; and using the THRIVE tool to prioritize and score the 20 community factors.

The second half of the day was a facilitated process that confirmed the group’s responses on the tool; prioritized 4 to 6 top priority factors for the entire group; allowed renaming of the priority factors to reflect local emphasis and language; developed local indicators for each priority factor; identified strengths and gaps for each priority factor; delineated key partners to engage and the next steps; and evaluation. Follow-up interviews were also conducted with site hosts 2 to 4 months after the pilot event.

OUTCOMES

Overall, pilot participants affirmed the value of a community resilience approach and the utility of the tool across rural, urban, and suburban settings. Participants thought the tool provided a good framework for thinking about health on a population level and identifying factors that could improve health outcomes. Community members described the pilot event and THRIVE tool as “insightful,” “a great way to look at community in different ways,” “eye-opening,” providing “information to help my community and youth commission,” and a tool that “makes me want to look forward to the future” (pilot

participants, Del Paso Heights, 2003). Participants at the Hidalgo County, NM, site also described the tool as “a really good tool that is well thought out” with utility for both practitioners and residents (J Marrufo, follow-up evaluation, 2004). At the New York site, 1 participant commented, “The tool works and has utility for public health and government agencies and function” (R Hayes, follow-up evaluation, 2004).

At the Hidalgo site, participants reported that THRIVE has utility for public health and government agencies and found the process useful for training community health outreach workers, reporting that “THRIVE is an effective strategy tool that defines where public health can make its mark in the big picture” (R Hayes, follow-up evaluation, 2004). At the same time, the users at the site acknowledged challenges in identifying health issues, such as those identified in THRIVE, beyond the mandate and current funding streams of the health department (e.g., housing, transportation). Two of the sites, Del Paso Heights and Hidalgo County, incorporated the outcomes from THRIVE into their strategic plans, and the event served as a catalyst for immediate action to bring healthier, more affordable food into the community and to improve services for youth.

Ensuring healthy, affordable food emerged as a major priority at all sites. Within 4 months of the pilot events, Del Paso Heights and Hidalgo County launched farmer’s markets as a result of priorities identified at the pilot events. Del Paso Heights incorporated the development of the market into its economic development plan and worked with

local farmers to bring healthy, affordable food into the neighborhood. Local merchants and craftspeople were also encouraged to participate. Hidalgo County formed a partnership with a sister city in Mexico and arranged for regular farmers' markets with fresh, affordable Mexican produce.

Education and literacy were priority factors at Del Paso Heights and Hidalgo County. Within 4 months of the pilot event, both communities had taken steps to mitigate this factor with recommendations that emerged at the pilot event. Hidalgo County launched a Big Brothers/Big Sisters program and trained more than 40 additional youths on the community resilience approach and the THRIVE tool. The community described itself as having shifted from a risk reduction focus with its youths to understanding the need to provide positive opportunities and resources for youths, including involving them significantly in planning and decision making. After being trained, the youths from the community were inspired to lead discussions on youth programming. Del Paso Heights has launched a teen center, securing space from a local school, and has plans and funding to hire 25 youth workers to staff the center. The center will have a service-learning component as requested by the youths it will serve. Youths in the community have also begun to incorporate the environmental approach described in THRIVE into their efforts to reduce violence in schools, because they now see how environmental factors influence violence and violent behaviors.

Using the THRIVE tool also resulted in shifts in interest and

engagement within the community. For example, in 1 community, there was a major shift primarily from using a risk-based approach in resolving problems to focusing on community resilience. There has also been a shift to focus more on the needs of young people and to identify and provide a range of needed youth services and programming. In Del Paso Heights, THRIVE helped community members structure their response to the different factors that are impacting their lives. One participant, who is part of the Redevelopment Advisory Commission, is using what he learned to incorporate health and public safety considerations into the work of the commission. The same community will likely experience an influx of about 4000 Hmong immigrants, and community members would like to use THRIVE to develop strategies for coping with the impact of this population's arrival in the community, particularly with an emphasis on affordable housing and employment and economic development. In addition, participants immediately talked to neighbors and friends about the pilot and the approach. Within days of the pilot, community members who had not participated were strongly advocating with key decisionmakers for the changes on which participants had agreed. For public health practitioners in New York City, THRIVE was helpful in framing the different layers that affect health and has given them a way to think about these layers and how they contribute.

One limitation of this study is that although the 3 community pilot sites responded positively to the THRIVE tool and expressed how instrumental it was in creat-

ing change, it is not possible with scientific certainty to conclude that this change was a result of the THRIVE toolkit and pilot process and not merely the result of the seed funding they received for participation.

IMPLICATIONS

The United States has a history and continued practice of deeply rooted personal and institutional biases directed against people of color in key elements of community life, such as employment, housing, the justice and education systems, and public health and health care. Therefore, it is not surprising that there are disparities in health. Indeed, given the history of inequality and the resulting disparity in opportunity, health disparities are currently a predictable and persistent problem.

The THRIVE toolkit provides a framework for identifying and addressing community conditions that can improve health outcomes and close the health gap. The framework translates research into a conceptual model that people can understand and into a tool that enables people to identify specific factors and concrete actions that will make a difference in communities. THRIVE works for a variety of health issues and fosters solutions that address multiple health concerns simultaneously. One of its unique contributions is its emphasis on resilience, which builds on community strengths and encourages community leadership to foster positive change and close the health gap.

Most discussions about reducing health disparities focus on improving access to care and on the quality of care. Clearly these are critical issues that must be

remedied. However, it is also imperative to do whatever possible to reduce the number of people getting sick and injured *in the first place*. THRIVE is a framework for this type of prevention work at a community or population level. Further, the community resilience factors identified in THRIVE also support treatment outcomes. Positive behaviors and environments equally improve the success of treatment and disease management.

The THRIVE national expert panel identified ways that THRIVE can help close the health gap. They pointed to the importance of emphasizing a resilience approach and building on strengths in disenfranchised communities to reduce disparities. Further, the panel emphasized the need to track this approach and associated data over time to build a stronger science and practice base for communities of color. Other ways the tool can help close the health gap include (1) changing the way people think about health and safety, (2) providing an evidence-based framework for change, (3) building community capacity while building on community strengths, and (4) fostering links to decision makers and other resources.

As we have had the opportunity to talk all over the country about a community framework to address disparities, it is apparent that this approach has great resonance. It provides a practical approach to alleviate the ways that poverty, racism, and other forms of oppression play out at the community level. Synthesis research by the Institute of Medicine and others has documented the powerful influence that social and environmental influences have on health. Now that these factors are recognized, effective

public health practice demands that they be addressed to reduce the prevalence of racial and ethnic disparities in health. THRIVE is 1 tool with demonstrated utility for doing so.

There is a great risk that the prevalence of health disparities may increase as the population becomes even more multicultural. As the country becomes more diverse, the reality of a healthy and productive nation will increasingly rely on the ability to keep all Americans healthy and eliminate disparities by improving the health of communities of color. Health care is among the most expensive commitments of government, businesses, and individuals. Illness and injury also generate tremendous social costs in the form of lost productivity and expenditures for disability, workers' compensation, and public benefit programs. Eliminating racial and ethnic health disparities is imperative as both a matter of fairness and economic common sense. This tremendous challenge can—and must—be met with a focused commitment of will, resources, and cooperation to make change happen. ■

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This article was accepted February 4, 2005.

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Acknowledgments

This work was supported by the California Endowment and the federal Office of Minority Health (contract 233-02-0068).

The authors thank the pilot sites: Hidalgo Medical Services in Lordsburg, NM; Mutual Assistance Network of Del Paso Heights in Del Paso Heights, Sacramento, Calif; and the New York City Health Department District Public Health Offices in East Harlem, South Bronx, Central Brooklyn, NY. The authors acknowledge and thank the pilot hosts: James Marrufo, Richard L. Dana, and Roger Hayes. The authors also thank the Project Expert Panel (PEP) for their continuous feedback and support. A complete list of the PEP is available at <http://www.preventioninstitute.org/thrive.html#panel>. The authors also express appreciation to Leslie Mikkelsen for providing conceptual input on the health disparities framework and Howard Pinderhughes for his review and advice.

The authors are solely responsible for the content, which does not necessarily represent the official views of the funders.

Human Participant Protection

No protocol approval was needed for this study.

References

- House JS, Williams DR. Understanding and reducing socioeconomic and racial/ethnic disparities in health. In: Smedley BD, Syme SL, eds. *Promoting Health: Intervention Strategies from Social and Behavioral Research*. Washington, DC: National Academy Press; 2000:81.
- Office of Women's Health: California Department of Health Services. About gynecologic cancers. Available at: http://www.dhs.ca.gov/director/owh/owh_main/gcip/about%20gyn%20can.htm. Accessed August 19, 2003.
- Diamant AL, Babey SH, Brown ER, Chawla N. Diabetes in California: nearly 1.5 million diagnosed and 2 million more at risk. Los Angeles: UCLA Center for Health Policy Research; 2003.
- Health, United States, 2001 with Urban and Rural Chart Book*. Hayattsville, Md: National Center for Health Statistics; 2001.
- Baker SP, Braver ER, Li-Hui C, Pantula JF, Massie D. Motor vehicle occupant deaths among Hispanic and black children and teenagers. *Arch Pediatr Adolesc Med*. 1998;152:1209–1212.
- Health Disparities Experienced by Black or African Americans—United States. *MMWR Morb Mortal Wkly Rept*.

2005;54:1–3. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5401a1.htm#tab>. Accessed August 16, 2005.

- A social environmental approach to health and health interventions. In: Smedley BD, Syme SL, eds. *Promoting Health: Intervention Strategies from Social and Behavioral Research*. Washington, DC: National Academy Press; 2000:3.
- Lee C. Environmental justice: building a unified vision of health and the environment. *Environ Health Perspect*. 2002;110(suppl 2):141–144.
- Husain A. Psychosocial stressors of asthma in inner-city school children. APHA poster presentation at: Putting the Public Back into Public Health: 130th APHA Annual Meeting; November 9–13, 2002; Philadelphia, Pa.
- Geronimus A. Understanding and eliminating racial inequalities in women's health in the United States: the role of the weathering conceptual framework. *J Am Med Womens Assoc*. 2001;56(4):135.
- Blum HL. Social perspective on risk reduction. *Fam Community Health*. 1981;3(1):41–50.
- Morland K, Wing S, Roux AD. The contextual effect of the local food environment on residents' diets: the atherosclerosis risk in communities study. *AJPH*. 2002;92:1761–1768.
- Adler NE, Newman K. Socioeconomic disparities in health: pathways and policies. *Health Affairs*. 2002; 21(2):69.
- Smedley BD, Syme SL. A social environmental approach to health and health interventions. In: Smedley BD, Syme SL, eds. *Promoting Health: Intervention Strategies From Social and Behavioral Research*. Washington, DC: National Academy Press; 2000:2–5.
- House JS, Williams DR. Understanding and reducing socioeconomic and racial/ethnic disparities in health. In: Smedley BD, Syme SL, eds. *Promoting Health: Intervention Strategies From Social and Behavioral Research*. Washington DC: National Academy Press; 2000:81–124.
- Wilkinson R. Keynote address presented at: Media Advocacy: Power for Prevention, State of Oregon Prevention Conference; November 19–21, 2002; Eugene, Ore.
- Bradley RH, Whiteside L, Mundfrom DJ, Casey PH, Kelleher KJ, Pope SK. Early indications of resilience and their relation to experiences in the home environments of low birthweight, premature children living in poverty. *Child Dev*. 1994;65:346–360.
- Smith C, Lizotte AJ, Thornberry TP, Krohn MD. Resilient youth: identifying factors that prevent high-risk youth from engaging in delinquency and drug use. In: Hagan J, ed. *Delinquency in the Life Course: Contextual and Dynamic Analyses*. Greenwich, Conn: JAI Press; 1995:217–247.
- Pollard JA, Hawkins JD, Arthur MW. Risk and protection: are both necessary to understand diverse behavioral outcomes in adolescence? *Social Work Res*. 1999;23(3):145–158.
- The Center for Community Enterprise. *Community Resilience Manual: A Resource for Rural Recovery and Renewal*. Port Alberni, BC: CCE Publications; 2000.
- What is the Community Resilience Project? Available at: <http://www.communityresilience.com/WhatisCRP.htm>. Accessed December 21, 2002.
- Leading Health Indicators. In: *Healthy People 2010*. Washington DC: US Department of Health and Human Services; 2000. Available at: <http://www.healthypeople.gov/LHI>. Accessed August 16, 2005.
- Sallis JF, Nader PR, Broyles SL, et al. Correlates of physical activity at home in Mexican-American and Anglo-American preschool children. *Health Psychol*. 1993;12:390–398.
- Klesges RC, Eck LH, Hanson CL, et al. Effects of obesity, social interactions, and physical environment on physical activity in preschoolers. *Health Psychol*. 1990;9:435–449.
- Reducing Health Disparities Through a Focus on Communities*. Oakland, Calif: PolicyLink; 2002.
- Geronimus A. Understanding and eliminating racial inequalities in women's health in the United States: the role of the weathering conceptual framework. *J Am Med Womens Assoc*. 2001;56(4):133–136.
- Putnam R. *Bowling Alone: The Collapse and Revival of American Community*. New York, NY: Simon & Schuster; 2000.
- Perry CL. Preadolescent and adolescent influences on health. In: Smedley BD, Syme SL, eds. *Promoting Health: Intervention Strategies From Social and Behavioral Research*. Washington DC: National Academy Press; 2000: 217–253.
- Curry SJ, Wagner EH, Cheadle A, et al. Assessment of community-level influences on individuals' attitudes about cigarette smoking, alcohol use, and consumption of dietary fat. *Am J Prev Med*. 1993;9(2):78–84.
- Wandersman A, Nation M. Urban neighborhoods and mental health: psychological contributions to understanding

toxicity, resilience, and interventions. *Am Psychol*. 1998;43:647–656.

31. Buka S. Results from the project on human development in Chicago neighborhoods. Paper presented at: 13th Annual California Conference on Childhood Injury Control; October 25–27, 1999; San Diego, Calif.

32. Sampson RJ, Raudenbush SW, Earls F. Neighborhoods and violent crime: a multilevel study of collective efficacy. *Science*. 1997;277:918–924.

33. Pothukuchi K. Attracting grocery retail investment to inner-city neighborhoods: planning outside the box. *Economic Dev Q*. 19(3): 232–244; 2005.

34. North Carolina Arts for Health Network. Scope of the Arts for Health. Available at: www.ncartsforhealth.org/Scope_of_Arts_for_Health.pdf. Accessed December 20, 2002.

35. House JS, Williams DR. Understanding and reducing socioeconomic

and racial/ethnic disparities in health. In: Smedley BD, Syme SL, eds. *Promoting Health: Intervention Strategies from Social and Behavioral Research*. Washington DC: National Academy Press; 2000:81–124.

36. Brown JD. Mass media influences on sexuality. *J Sex Res*. 2002;39(1): 42–45.

37. Zuckerman DM. Media violence, gun control, and public policy. *Am J Orthopsychiatry*. 1996;66:378–389.

38. Brown JD, Witherspoon EM. The mass media and American adolescents' health. *J Adolesc Health*. 2002; 31(6): 153–170.

39. Satcher D. Eliminating racial and ethnic disparities in health: the role of the ten leading health indicators. *J Natl Med Assoc*. 2000;92:315–318.

40. McGinnis JM, Foege WH. Actual causes of death in the United States. *JAMA*. 1993;270:2207–2213.