

Poverty and Elimination of Urban Health Disparities

Challenge and Opportunity

STEPHEN B. THOMAS AND SANDRA CROUSE QUINN

Graduate School of Public Health, University of Pittsburgh, Pittsburgh, Pennsylvania, USA

The aim of this article is to examine the intersection of race and poverty, two critical factors fueling persistent racial and ethnic health disparities among urban populations. From the morass of social determinants that shape the health of racial and ethnic communities in our urban centers, we will offer promising practices and potential solutions to eliminating racial and ethnic health disparities.

Key words: poverty; disparities; race

To be impoverished is to be an internal alien, to grow up in a culture that is radically different from the one that dominates the society. The poor can be described statistically; they can be analyzed as a group. But they need a novelist as well as a sociologist if we are to see them. They need an American Dickens to record the smell and texture and quality of their lives. —Harrington¹

The Color Line: Race in Historical and Contemporary Perspective

Herein lie buried many things which if read with patience may show the strange meaning of being black here at the dawning of the Twentieth Century. This meaning is not without interest to you . . . for the problem of the Twentieth Century is the problem of the color line . . . the relation of the darker to the lighter races of men in Asia and Africa, in America and the islands of the sea.

—W.E.B. Du Bois²

The “color line” is not fixed but ripples through time, finding expression at distinct stages of our development as a nation. As the meaning of race has changed over time, its burdens and privileges have shifted among population groups. At one time in our history, for instance, the Irish and Italians were considered “nonwhite,” along with other immigrants who were not descendants of the early Anglo Saxon Protestant settlers. The original language of white racial differences began with the anxious response of early Americans to waves of immigration, beginning in the

1840s when the Irish (or Celts) entered U.S. ports, followed by nationals from central, southern, and eastern Europe. Over time, the descendants of these “white ethnic groups” became the monolithic Caucasian race, the majority population, considered superior in all respects to the black people of African descent.^{3,4}

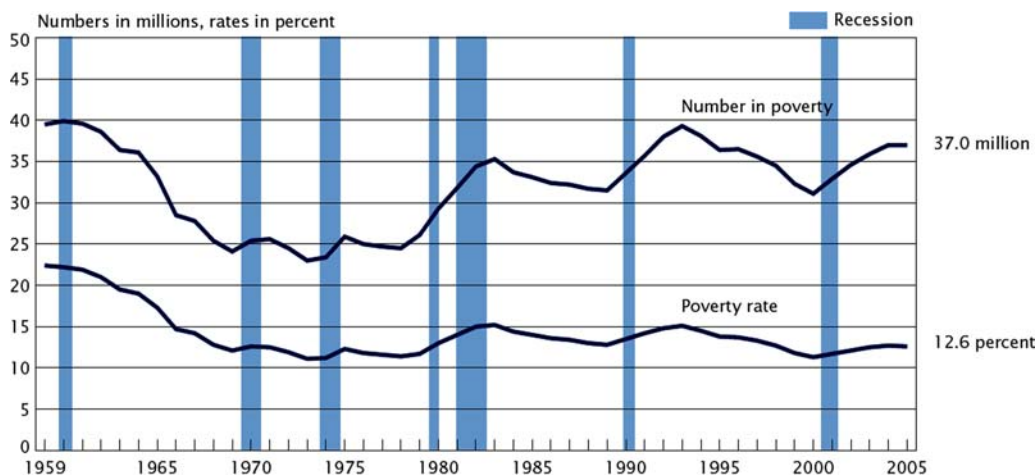
The matter of race is a persistent theme throughout the history of our society. Discourse on race tends to focus on the “black” experience, owing to the peculiar institution of slavery in America. We must be mindful that American Indian and/or Alaska Native, Asian, Native Hawaiian or other Pacific Islander, and ethnic Hispanic/Latino populations have also experienced systematic discrimination on the basis of their race and/or ethnicity. However, as science of the human genome makes clear that we are indeed one race, the human race, we nonetheless must confront the vestiges of discrimination and inequity as evidenced by the poor health status among racial and ethnic minority populations in the United States. Cooper argues that we should abandon the concept of race for the purpose of surveillance and instead use ethnicity as the appropriate classification schema for public health research and practice.⁵ Yet, from the social justice perspective of public health, the shift away from race to ethnic group minimizes the health effect of racism, especially for populations subjected to social prejudice because of their dark skin and physical features.

Race and Health

Levine *et al.* conducted a study of black–white inequalities in mortality and life expectancy from 1933 to 1999.⁶ The results were sobering. The forecasts

Address for correspondence: Stephen B. Thomas, Ph.D., Center for Minority Health, Graduate School of Public Health, 125 Parran Hall, University of Pittsburgh, Pittsburgh, PA 15261. Voice: 412-624-5665; fax: 412-624-8679.

sbtomas@cmh.pitt.edu



Note: The data points are placed at the midpoints of the respective years.

Source: U.S. Census Bureau, Current Population survey, 1960 to 2006 Annual Social and Economic Supplements.

FIGURE 1. Number in poverty and poverty rate, 1959–2005.

for relative black–white age-adjusted, all-cause mortality and white–black life expectancy at birth showed trends toward increasing disparities. The authors state that “... there has been no sustained decrease in black–white inequalities in age-adjusted mortality or life expectancy at birth at the national level since 1945” (p. 475).⁶ In other words, “... millions of premature deaths will continue to occur among African Americans” (p. 475).⁶

These facts are shaping the world view of high-level policy makers resulting in public displays of rancor and recrimination. In October 2007, Sen. Barack Obama, a 2008 presidential candidate, demanded that John Tanner, chief of the Justice Department’s Civil Rights Division, resign after Tanner suggested that older minority voters were not widely disenfranchised by laws requiring photo identification because many minorities died before reaching old age. The remarks were delivered in a speech in which Tanner stated, “[O]f course, photo identification also ties into the racial aspect because our society is such that minorities don’t become elderly the way white people do. They die first.”⁷

However, the decreased life expectancy among minorities is a fact underlying the statement by Tanner, and it would not be the first time that decision makers acted on such facts to shape public policy. For example, in 1990, Healthy People (HP) 2000, the nation’s agenda for improving the health of the American people, set one target for reaching health objectives for minority populations and used another target objective for the majority white population.⁸ For example, the HP 2000

objective for infant mortality stated “reduce the infant mortality rate to no more than 7 per 1000 live births ... and reduce the infant mortality rate among blacks to no more than 11 per 1000 live births.”⁸ The publication of HP 2010 changed the way that objectives were framed.⁹ For example, the HP 2010 objective for infant mortality is to reduce infant deaths from the 1998 baseline of 7.2 per 1000 births to the HP 2010 target of 4.5 per 1,000 live births. This new format brought an end to separate objectives for minority populations and challenged the nation to close the gap between whites and racial and ethnic minority populations.^{9,10}

Socioeconomic Status and Poverty

Health disparities are often a result of poverty, but the opposite also holds true. Poor health leads to higher medical expenditures and reduces the potential to work and earn, perpetuating the cycle of poverty. Thus, a holistic look at solving the problem of health disparities in the United States requires us to confront problems in various social and economic spheres.

Although over several decades the poverty rate has fallen in the United States, the sheer number of poor has risen (Fig. 1).

In 2006, 36.5 million people lived below the poverty line, half of whom live in cities, leading to an urban poverty level of 16%. Eight percent of the people living below the poverty line are non-Hispanic white, 21% are Hispanic, 24% are black, and 10% are Asian. More than 15.5 million people below the poverty line, in fact, have an income-to-poverty ratio below 0.5; of

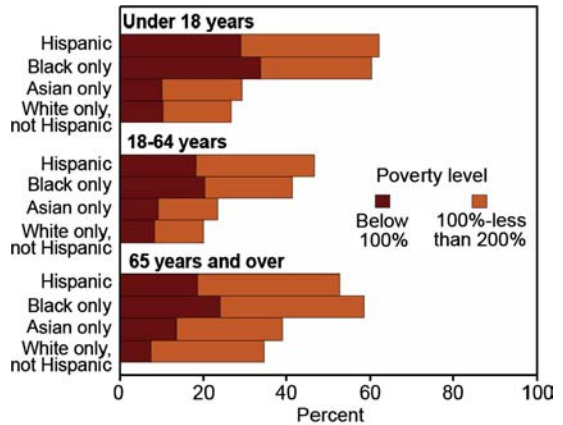
these, 26% are black, representing 10% of the African American population.¹¹ As defined by the Office of Management and Budget and updated for inflation with the Consumer Price Index, a person earning less than \$5147 a year has an income-to-poverty ratio less than 0.5.¹² Glasmeier, in the *Introduction to the Poverty in America Project*, writes, “Today, this person can afford little more than \$7 a day on food, leaving \$200 a month for shelter, enough to buy her a bed in a group home.”¹³

According to Glasmeier “[T]he severely poor are more likely to be of working age than young or old, though a large share of the truly poor are children under seventeen. The largest number of abjectly poor are white (two times as many as blacks), but blacks and Hispanics are disproportionately likely to be most affected. Women, the prime target of welfare reform, on a proportionate basis are one third more likely to face deep poverty than men.”¹³ Poverty and race are graphically illustrated in FIGURE 2.

The U.S. Census Bureau reported that in 2006, 47 million people, or 15.8% of our population, were uninsured.¹¹ However, among minorities 20% of black and 34% of Hispanic people are uninsured. Children in poverty are more likely to be uninsured, as shown in FIGURE 3.

Social Context of Socioeconomic Status, Race, and Health

As Geronimus states, “The association between health and poverty is among the most robust findings of social epidemiology” (p. 867).¹⁴ There is no better illustration of this fact than the causal relationship between racial residential segregation and health disparities. Williams and Collins described racial residential segregation as a “... fundamental cause of racial disparities in health. The physical separation of the races by enforced residence in certain areas is an institutional mechanism of racism that was designed to protect whites from social interaction with blacks” (p. 404).¹⁵ They argue that the pervasive consequences of racial residential segregation are evident in mortality data for the United States, which delineates that “... compared to the white population, African Americans/blacks have an elevated death rate for 8 of the 10 leading causes of death. Especially disconcerting is evidence revealing that the black-white disparities in health have not narrowed over time” (p. 405).¹⁵ Despite passage of the Civil Rights Act of 1968, which made discrimination in the sale or rental of housing illegal, there continues to exist subtle and blatant discrimi-

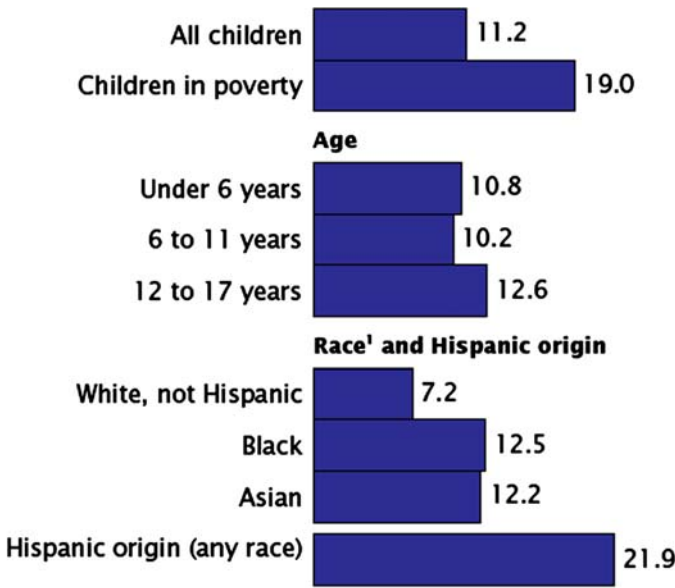


Source: Centers for Disease Control and Prevention, National Center for Health Statistics, *Health, United States 2006*, Figure 5. Data from the U.S. Census Bureau.

FIGURE 2. Low-income population, 2004.

nation in housing patterns. Both historical and contemporary practices have erected and maintained the walls of segregation: federal mortgage programs that excluded blacks, racial steering by real estate agents, intentional discrimination in the location of and assignment to public housing, limits on the number of apartments or affordable housing units provided in suburbs, redlining by insurance agencies and banks, racially skewed appraisal practices, and countless acts of individual discrimination by housing providers. The authors contend the following:

1. Racial residential segregation is a form of institutionalized racism with fundamental implications for life course development.
2. The 2000 Census had more than 74 metropolitan statistical areas with a dissimilarity score greater than 0.60. These areas contained most of the black population in the United States. An index of 0.60 means that 60% of blacks would have to move to eliminate segregation.¹⁶
3. The decline in segregation is due to the reduction (white flight) of all white census tracts and has had no effect on the high percentage of black census tracts or the concentration of urban poverty.
4. Residential racial segregation concentrates poverty, creating conditions for public schools to have high proportions of poor black and Hispanic children.
5. Although the actual number of whites living in poverty is greater than that of racial minorities, poor whites tend to be dispersed throughout communities. Consequently, in 96%



Note: For discussion of statistically significant differences between groups, see text.

Source: U.S. Census Bureau, Current Population Survey, 2006 Annual Social and Economic Supplement.

FIGURE 3. Uninsured children (%) by poverty status, age, and race and Hispanic origin, 2005. Federal surveys now give respondents the option of reporting more than one race. Therefore, two basic ways of defining a race group are possible. A group such as Asian may be defined as those who reported Asian and no other race (the race-alone or single-race concept) or as those who reported Asian regardless of whether they also reported another race (the race-alone-or-in-combination concept). This figure shows data using the first approach (race alone). The use of the single-race population does not imply that it is the preferred method of presenting or analyzing data. The Census Bureau uses a variety of approaches. Information on people who reported more than one race, such as White and American Indian and Alaska Native or Asian and Black or African American, is available from Census 2000 through American FactFinder. About 2.6 percent of people reported more than one race in Census 2000.

of predominantly white schools, most students come from middle-class backgrounds.¹⁷ Most poor white people are residentially located next to nonpoor people, whereas most poor black people are concentrated in high-poverty neighborhoods. “The worst urban context in which whites reside is considerably better than the average context of black communities”¹⁸ (as quoted by 19 [Sampson and Wilson, p. 41]).

6. “The concentration of “poverty” and not racial composition per se is the basic cause of the problems that plague segregated schools” (p. 986).¹⁹

7. Racial residential segregation creates conditions that facilitate peer pressure against academic achievement and support of crime and substance abuse.

8. Black and Hispanic students are concentrated in urban schools with inferior courses and lower

levels of achievement than those of the schools attended by white students in adjacent suburban school districts. Through this mechanism, racial residential segregation drives racial differences in high school dropout and graduation rates and the probability of enrollment in college.

9. “Middle-class suburban African Americans reside in neighborhoods that are less segregated than those of poor, central city blacks. However, compared to their white counterparts, middle-class blacks are more likely to live in poorer quality neighborhoods with white neighbors who are less affluent than they are. That is, middle-class blacks are less able than their white counterparts to translate their higher economic status into desirable residential conditions” (p. 992).¹⁹

10. Segregation leads to racial differences in the purchasing power of a given level of income for

a range of services that are necessary for good health. “On average, blacks pay higher costs than whites for housing, food, insurance, and other services . . . Thus, the high cost and poor quality of grocery items in segregated neighborhoods can lead to poorer nutrition” (p. 990).¹⁹ Also, tobacco and alcohol industries have targeted poor minority communities with advertising for their products, thus facilitating the spread of risk behaviors associated with chronic disease.

In summary, efforts to eliminate racial and ethnic health disparities among urban populations living under conditions of poverty must move beyond the biomedical model with its focus on disease and individual risk behaviors. Solutions must also address institutional racism and other structural forces fueling racial/ethnic inequality in income, neighborhood conditions, educational achievement, and political enfranchisement.

Health Status

Health disparities for racial and ethnic populations are undisputed, leading the Centers for Disease Control and Prevention (CDC) to state as its guiding principle for improving minority health in America, “. . . [T]he future health of the nation will be determined to a large extent by how effectively we work with communities to reduce and eliminate health disparities between non-minority and minority populations experiencing disproportionate burdens of disease, disability, and premature death.”²⁰ However, what is also abundantly clear is that the complex web of causation—including poverty; racism; and the political, social, and economic environment—places enormous challenges before public health professionals committed to the elimination of disparities. To make a significant difference will require that we reimagine research on health disparities.

The Challenge: Transdisciplinary and Community-engaged Research

Kilbourne *et al.* propose a hierarchy to guide research into health disparities (FIG. 4).²¹ To date, there is a huge volume of literature that documents both disparities and the key multilevel determinants that shape those disparities. However, still lacking is the third-generation research that provides solutions for eliminating health disparities through the development and implementation of interventions. This stage involves

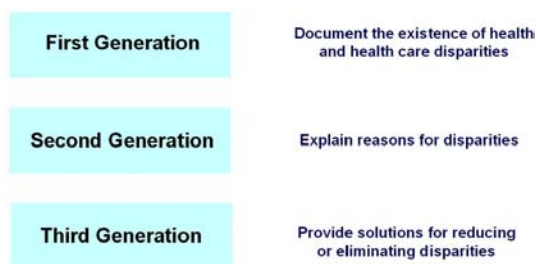


FIGURE 4. Hierarchy of health disparity research.

the full spectrum of the research process from developing culturally appropriate interventions to implementing, translating, and evaluating interventions in diverse settings, and finally disseminating the findings and promoting policy changes as a result of the intervention research. This stage provides solutions. We argue that the third-generation research rests on three key pillars: transdisciplinary (TD) research, community engagement, and translation of evidence-based practices.

The complex map of social, economic, and environmental determinants of health for minority populations in our urban centers demands a newly integrated approach to research. Quinn and Green argue that research on health disparities must be, by nature, a new TD field. They go on to say, “. . . [W]ith its complex causal roots, health disparities research can be ‘owned’ by no one discipline, even though public health has a major role” (p. 439).²² Grappling with the persistence of health disparities in poor, minority communities requires the inclusion of disciplines with whom public health professionals rarely work, including economists, political scientists, educators, urban planners, and others. This rich environment could enable Rosenfield’s goal that TD research can facilitate moving from interdisciplinary work to creation of a new field of inquiry. According to Rosenfield, the TD approach is a “process by which collaborators work jointly on a problem from the very onset, using a shared conceptual framework that draws together discipline specific theories, models, methods, and measures into a new synthesis.”²³

David Abrams, director of the National Institutes of Health’s (NIH) Office of Behavioral and Social Science Research, links the success of TD research to address health disparities with community engagement. “TD research strategies, in addition to integrating biobehavioral and social-ecological perspectives, will fulfill the promise of eliminating disparities and improving population well-being to the extent that TD teams

embrace a broad participatory community-based philosophy” (p. 527).²⁴ Quinn and Green go further to suggest that community participation is an essential ingredient in creating successful TD research, posing the challenge, “... would true integration of community voices, not just through CBPR [community-based participatory research] but also through community advisory boards and real participation in intervention planning, evaluation, and research, help to foster TD research, translation, and dissemination” (p. 439).²²

Community Engagement in Research

Multiple reports, including those from the Institute of Medicine, the National Research Council, various NIH component offices, and peer-reviewed literature, consistently focus on the importance of community engagement in health promotion and disease prevention, particularly with minority communities.^{25–31} In its report, *Promoting Health*, the Institute of Medicine stated the following:

Efforts to develop the next generation of prevention interventions must focus on building relationships with communities, and develop interventions that derive from the communities’ assessments of their needs and priorities. Models should be developed that encourage members of the community and researchers to work together to design, train for, and conduct such programs (p. 29).²⁷

However, the ability to conduct public health and medical research and interventions requires that researchers build trusting collaborations and relationships with minority communities. The CDC defines community engagement as “... the process of working collaboratively with groups of people who are affiliated by geographic proximity, special interests or similar situations ...” (p. 2).²⁵ They further describe it as a blend of “science and an art” that draws upon multiple disciplines as well as our skills and ability to adapt the science to meet community needs (p. 2).²⁵

An Opportunity: Target Common Risk Factors for Chronic Diseases

The sheer complexity of addressing the social determinants of health disparities associated with race and poverty in urban settings can be paralyzing for public health professionals. The expansion of our urban centers—coupled with immigration; concentrated poverty; and the devastation from racism, dis-

crimination, and underinvestment in the social structures required to foster health—present daunting and, some might feel, insurmountable challenges. We will not solve poverty overnight, and clearly, our political will as a nation undermines our desire to do so. Nor will we create the social, economic, and physical environments necessary to foster and sustain healthy citizens without concerted and sustained investment.

In the words of Dr. Martin Luther King, Jr., “... from this mountain of despair we must carve out a stone of hope.” Therefore, it is incumbent upon us to create opportunities to make progress on eliminating health disparities through innovative community-based models for health promotion and rigorous intervention research. We will highlight one such project, which draws upon community engagement, public and private partnerships, and evidence-based practice to facilitate the improvement of health among African Americans in blighted urban communities in Pittsburgh.

Vlahov, Galea, and Freudenberg identify several tensions that face public health professionals committed to addressing health disparities experienced by poor urban communities, including the tension between categorical interventions, usually aimed at one disease outcome, and comprehensive interventions, which focus on change in multiple outcomes and through various levels of the socioecological model.³² We offer the Healthy Black Family Project (HBFP), a program of the Center for Minority Health (CMH) at the University of Pittsburgh, as an example of a comprehensive intervention.

Translating Evidenced-based Research into Community-based Prevention: The HBFP

In 2002, *Diabetes Care* published a position statement on prevention or delay of type 2 diabetes by the American Diabetes Association and the National Institute of Diabetes, Digestive, and Kidney Diseases (NIDDK). Efforts to prevent and/or delay the onset of type 2 diabetes could yield enormous benefits in reduced human suffering, increased quality of life, and reduced costs associated with the management and care of persons with type 2 diabetes. The position statement cited four major clinical trials that served as the scientific foundation for their conclusion. However, “... only the Diabetes Prevention Program (DPP) enrolled large numbers of ethnic minorities, and their demographic characteristics were similar to Caucasians in

the study.”³³ Reporting in the *New England Journal of Medicine*, authors of the DPP stated that the following:

...the lifestyle intervention reduced the incidence by 58% and [medication] metformin by 31% as compared with placebo. The lifestyle intervention was significantly more effective than [medication] metformin. To prevent one case of diabetes during a period of three years, 6.9 persons would have to participate in the lifestyle-intervention program, and 13.9 would have to receive [medication] metformin. Lifestyle changes and treatment with metformin both reduced the incidence of diabetes in persons at high risk. The lifestyle intervention was more effective than metformin (p. 393).³³

The DPP lifestyle behavior change protocol is simple and suitable for implementation in urban populations with increased risk for type 2 diabetes. NIDDK packaged the lifestyle protocol into a national program titled “Small Steps, Big Rewards,” designed for mass dissemination across the nation. However, like far too many efforts to translate the results of research into standards of practice in the community, too few poor people and minorities ever receive the benefit.

The following year, similar consensus was reached on changing guidelines for diagnosis of cardiovascular disease. It is well established that African Americans suffer a disproportionate burden of hypertension compared with whites. In 2003, the National Heart, Lung, and Blood Institute (NHLBI) released new clinical practice guidelines for the prevention, detection, and treatment of high blood pressure. The guidelines featured altered blood pressure categories, including a new “prehypertension” level—which covers about 22% of American adults or about 45 million persons:

...The new [NHLBI] report changes the former blood pressure definitions to: normal, less than 120/less than 80 mmHg; pre-hypertension, 120–139/80–89 mmHg; stage 1 hypertension, 140–159/90–99 mmHg; stage 2 hypertension, at or greater than 160/at or greater than 100 mmHg.

According to NHLBI, “unless prevention steps are taken, stiffness and other damage to arteries worsen with age and make high blood pressure more and more difficult to treat. The new pre-hypertension category reflects this risk and, we hope, will prompt people to take preventive action early.”³⁴

Thus, in 2002 and 2003, scientific consensus emerged around prevention of diabetes and hypertension, two major causes of morbidity and mortality among African Americans nationally and in Pittsburgh. Prediabetes and prehypertension share common risk factors amenable to modification through similar lifestyle behavior changes; namely, increasing physical activity and healthy eating, all designed

to reduce excess weight and maintain a healthful body mass index, can lead to significant reductions in morbidity and mortality (NIDDK, DPP Lifestyle Materials³⁵).

In summary, scientific consensus on the desirability and feasibility of preventing and/or delaying development of diabetes and hypertension, coupled with the evidence from the DPP’s Balance Lifestyle activities (increase physical activity, smoking cessation, and healthful eating), shaped the direction of the HBFP. The challenge was to culturally tailor the DPP lifestyle activities and deliver them through the HBFP to African Americans at risk for premature morbidity and mortality from hypertension and type 2 diabetes. Furthermore, those same lifestyle changes would have a positive effect on other leading causes of death for African Americans, including cardiovascular diseases and some cancers.

Building a Foundation of Trusting Partnerships

From 2000 on, the CMH in the Graduate School of Public Health at the University of Pittsburgh invested significant time and resources into building a foundation of trust and creating partnerships with organizations across the city. Beginning with the African American Health Promotion Campaign in 2001, the CMH used media, speaking engagements, and community outreach activities to stimulate awareness of health disparities. In 2001, the CMH led a dramatic local initiative, including many partners across health, social services, civil rights, media, insurance companies, faith-based institutions, and others to address the crisis of looming suspension for more than 11,000 children in the city’s schools because they had not complied with a new state law that required a second measles, mumps, and rubella vaccine. In response to the crisis, the CMH partnered with the Board of Education and the Pitt Chancellor to lead a public health campaign, called Booster-Booster. Working with no grant funding, within 6 weeks, 96% of the children were brought into compliance with the new regulation, and the remaining few hundred were addressed by school nurses. By responding to an urgent community need and reaching out to a diverse set of partners, the CMH built tremendous credibility and trust in the community. It also laid a foundation of successful collaboration with many community-based organizations, private industry, the faith community, public schools, and others, upon which the HBFP could draw sustenance, take root, and grow.

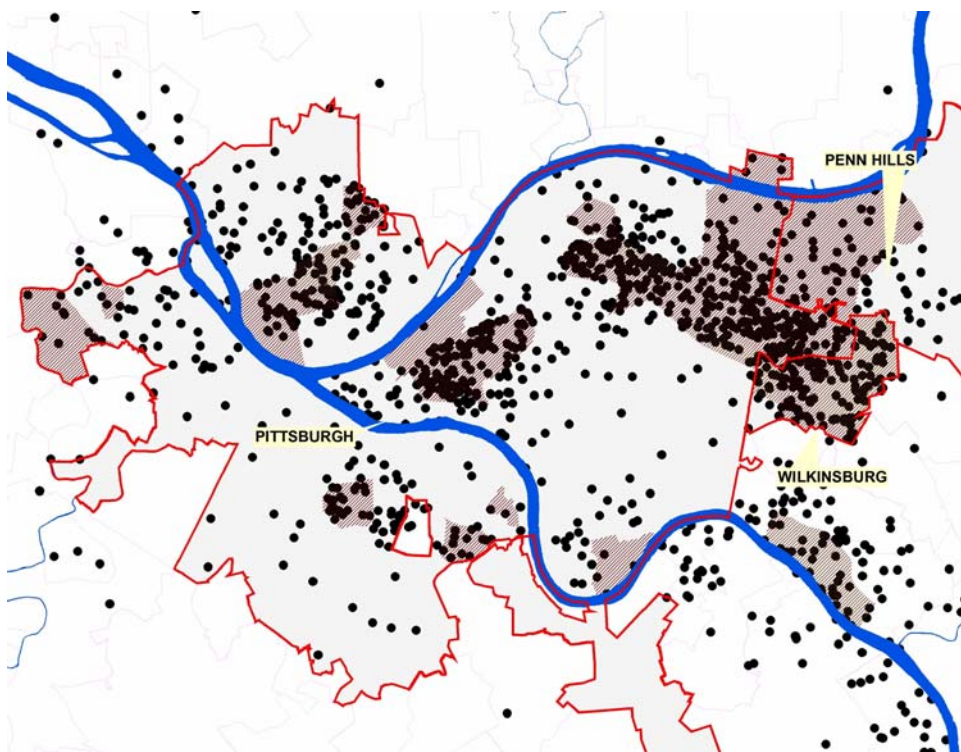


FIGURE 5. The HEZ.

Less Talk, More Action: Creating the Health Empowerment Zone

In 2004, working in conjunction with the Pittsburgh Foundation, the Allegheny County Health Department, and the CMH Health Disparity Working Groups, we identified the East End of Pittsburgh as the priority area in which to focus the HBFP intervention. The Health Empowerment Zone (HEZ) was defined as a geographical space consisting of predominantly black neighborhoods (FIG. 5). Inclusion criteria for the HEZ include a census tract with at least 60% of the residents black and 20% below the federal poverty line. In FIGURE 5, each dot represents 100 African Americans, making evident the history of racial residential segregation. With additional support from the Robert Wood Johnson Foundation in 2005, we set a goal to reach a population of no less than 100 families and 10,000 individuals, with a set of community-based health promotion interventions focusing on stress reduction, physical activity, smoking cessation, and nutrition education—core components of the DPP.

Although African Americans make up only 12.4% (159,058) of the total population of Allegheny County (1,281,666), 44% of all African Americans live within the HEZ. This proportion represents 70,700 African

Americans (41% of the total 173,465 residents that live in the HEZ). The population is majority female (53.3%). Of this group, 27% of all families with children younger than 18 years live below the federal poverty level. Seven percent of the eligible workforce is unemployed. Nearly 47% of all housing stock is owner-occupied housing units where 10% of all owners are single females with children younger than 18 years. Twenty-nine percent of all households have individuals aged 65 years and older.

Many black neighborhoods in Pittsburgh and Allegheny County are designated as medically underserved areas, primary care health professional shortage areas (HPSAs), dental HPSAs, or population primary care HPSAs. In Allegheny County, 104 HPSA census tracts were identified in 12 neighborhoods. Some of these include neighborhoods in the HEZ including East Liberty, Homewood-Brushton, and Wilkesburg. Six census tracts in these communities are also dental HPSAs. This is one index of the low-income status and high unemployment rates contained in the HEZ neighborhoods. For example, two HEZ communities are primary care HPSAs: Homewood-Brushton (97% African American) and East Liberty (72.5% African American).

The CMH leased space to physically locate the HBFP in the heart of two black communities (East Liberty and Wilksburg). Its headquarters are housed at the Kingsley Association, an original settlement house and community-based organization established in 1893. Hosanna House, a vibrant faith-based organization located in the blighted municipality of Wilksburg, serves as an HBFP satellite. Both institutions are highly credible community-based organizations that provide a wide range of human services. Within these settings, the HBFP provides (1) individualized health risk assessments; (2) a personal health coach to work with participants to create a tailored health promotion plan; and (3) classes in physical activity, stress management, nutrition, and smoking cessation. Health coaches, certified as fitness instructors, meet with participants in their homes as well as onsite. All participants must first complete the HBFP orientation session and document permission from their physician. Anyone without a medical home is referred to a federally qualified health center.

Based on participant preferences, the range of programs continues to expand, including but not limited to yoga, water aerobics, African dance, healthy cooking, walking groups, kids' nutrition, a rhythm and movement class, a diabetes support group, body toning, and a bicycle club. HBFP deliberately created an environment in which participants were encouraged to bring family members and friends. The presence of social support and an environment in which the coaches and instructors "look like me," in the words of many participants, has contributed to a powerful response. By October 2007, the HBFP had enrolled 6000 participants, of which 4251 (70.8%) were actively engaged in at least one HBFP activity monthly.

The goal of the HBFP is to decrease the incidence of diabetes and hypertension among African Americans residing in the Pittsburgh's HEZ. There are eight objectives designed to accomplish this goal:

1. Within the HEZ, recruit no fewer than 100 families and 10,000 individuals into the HBFP.
2. Support a minimum of 50 civic groups and a minimum of 25 social networks around the promotion of healthy lifestyles.
3. Engage at least 30 distinct organizations in a learning collaborative (LC) designed to make the elimination of health disparities a strategic priority within their organizations.
4. Establish the Black Leadership Commission on Health Promotion, composed of 25 opinion leaders who make a commitment to work on policy development, media advocacy, and accountabil-

ity needed to sustain the HBFP as an ongoing resource to the community.

5. Develop and implement a memorandum of agreement with the *New Pittsburgh Courier* (local black newspaper).
6. Develop and implement a memorandum of agreement with the local black radio station and an African American theater company to replicate the University of Alabama radio drama, *Body Love*, a weekly soap opera that promotes healthy lifestyle choices.
7. Develop and implement a memorandum of agreement with the African American Chamber of Commerce to encourage black businesses to make elimination of health disparities a priority.
8. Develop and maintain an HBFP Web site to disseminate health promotion information, provide links to other pertinent health Web sites, and provide a calendar of community events related to health.

Many of the objectives and activities of the HBFP link to the levels and targets of intervention identified in the literature by Freudenberg³⁶ and others. In TABLE 1, we describe examples from HBFP in the context of those linkages.

Portals of Entry into the HBFP

To join the HBFP, an individual need only complete an HBFP enrollment card. Once enrolled, the person is scheduled for a mandatory orientation, to ensure that he or she has accurate information regarding the project. All HBFP activities that involve physical activity require both a medical clearance and fitness assessment. The fitness assessments are scheduled with a health coach once the individual completes orientation. This assessment includes calculation of body mass index, a stretching and flexibility exercise, and an age-appropriate step test.

Evidence of Risk for Chronic Disease

Thus far, in HBFP, we have demonstrated the feasibility of collecting baseline measures on African American residents in HEZ neighborhoods. TABLE 2 presents summary data from comprehensive clinical and health risk assessments conducted on 887 adult participants. These assessments were initially conducted by Highmark Blue Cross/Blue Shield, a corporate partner and financial sponsor of the HBFP and then by HealthCalc, a private firm engaged in

TABLE 1. Recommended interventions to address health disparities in urban areas and application to HBFP

Level of intervention ³⁶	Target	HBFP current activities and future directions (in <i>italics</i>)
Municipal determinants of health	<i>Policy regulations</i>	Convened sustainability summit with state officials, insurers, and foundation leaders focused on changing policy regulations needed to incorporate HBFP as provider of preventive services reimbursed through insurance company state contracts
	<i>Changes in civil society</i>	Created an HBFP strategy team that includes key leaders from local foundations Initiated the LC, which includes nonprofits, community-based organizations, philanthropy, contract agencies for county government, local health providers, and others <i>Using the LC as springboard, established the Black Leadership Commission on Health Promotion, composed of natural leaders emerging from the HBFP, with authority to hold elected officials accountable for healthy public policy conducive to the elimination of health disparities</i>
Change characteristics of individuals and populations	<i>Focus on adults</i> ¹⁴	Offer health promotion and disease prevention activities and classes for adults
	<i>Evidence-based research</i>	Translate protocols of randomized clinical trials into culturally tailored interventions focused on known risk factors (obesity, smoking, poor nutrition) for common diseases (type 2 diabetes, hypertension, and depression) Continually expand and modify components of the program that foster physical activity, etc., on the basis of participants' feedback
	<i>Increase individual participation in research</i>	Embed research study on prevention of depression within HBFP Train HBFP staff and Lay Health Advocates in associated depression prevention strategies Provide opportunities to enroll in the Minority Health Research Database Provide opportunities for investigators to participate in appropriate HBFP events
	<i>Innovative mechanisms for financing and implementing interventions</i> ^{40,41}	Leverage HBFP participant base to negotiate preventive services and chronic disease management contracts with health plans/insurance companies, and ensure sustainability
Change health care and social services	<i>Increase access to health and social services</i>	Include many health and social services agencies in the LC, and develop associated activities to increase access <i>Open Healthy Black Family Clinics in "full service" black barbershops and beauty salons equipped with telemedicine technology focused on early detection of markers for metabolic syndrome and hypertension.</i>
	<i>Enhance the capacity of health professionals to work with diverse communities</i>	Provide opportunities for other providers to learn more about African American community through the LC <i>Establish "cultural confidence" certification for health professionals as part of continuing education with fees reinvested into HBFP</i>
	<i>Use health to unify divergent sectors</i> ⁴²	Established Funders' Forum on Health Disparities composed of philanthropic leaders convened as a "brain trust" focused on minimizing fragmentation and maximizing targeted funding of efforts designed to address the social determinants of racial/ethnic health disparities Fostered significant collaboration across divergent organizations through the LC
Change social environment	<i>Change social norms about health</i>	Take health professionals, clinical services, and public health education to trusted community institutions where normative behavior is shaped (church, barbershop, community-based organizations, media) Engage media, including mainstream and black-owned media, to increase awareness and change norms Engage faith communities to include health promotion as a theme within their congregations
		Use black history (Underground Railroad, with an associated Major Taylor Cycling Club activity) as thread to weave a tapestry linking physical activity (cycling), nutrition (healthy soul food), and social support to "freedom from bondage"

Continued

TABLE 1. Continued

Level of intervention ³⁶	Target	HBFP current activities and future directions (in <i>italics</i>)
	<i>Develop new constituencies and leaders for public health</i> ^{14,36,42}	Engaged multiple media partners in local media campaign around minority health within the city
		Engaged several corporate partners in support of HBFP initiatives
	<i>Focus on networks broader than the individual</i> ¹⁴	Allow for the social construction of family as unit of intervention and social network
	<i>Build trust, social capital, and social cohesion through participation and empowerment</i> ^{40,42,43}	Developed, implemented, and sustained many CMH activities even before HBFP to build trust, increase participation, and enable community members to identify solutions for their health issues
		Created trusting relationships between HBFP participants and staff that encourages participants to influence program activities and policies
	<i>Engage community members and community organizations</i> ^{32,40,43,44}	Engaged 30 organizations in the HBFP LC
		Enrolled 6000 participants in HBFP
		At request of HBFP participants, community leaders, and organizations, CMH and HBFP strategy team are currently discussing expansion into two other predominantly black neighborhoods: the historical Hill District and the Northside of Pittsburgh

TABLE 2. Selected HBFP baseline clinical and health risk assessment data

Indicator ^a	Male, % (n = 166)	Female, % (n = 721)	Total (N = 887)
Obesity (BMI \geq 30.0 kg/m ² of body surface area)	46.0	56.6	54.6
Prehypertensive (BP: sys 120–139 or dias 80–89)	42.0	38.0	38.7
Hypertensive (BP: sys \geq 140 or dias \geq 90)	48.8	40.8	42.3
Serum cholesterol borderline high (200–239)	20.8	21.2	21.1
Serum cholesterol high (\geq 240)	10.7	9.8	10.0
HDL cholesterol low (<40)	50.3	18.2	24.2
LDL cholesterol borderline high (130–189)	22.1	14.8	16.1
LDL cholesterol high (> 160)	12.4	8.4	9.1
Triglycerides borderline high (150–199)	20.0	13.3	14.6
Triglycerides high (\geq 200)	20.0	13.7	15.0
Self-report diabetes prevalence	20.2	17.2	17.8
Self-report heart disease prevalence	8.0	5.4	5.9
Self-report cancer prevalence	11.7	5.9	7.0
Self-report depression prevalence	10.4	18.3	16.8
Current cigarette smoker	11.7	14.6	14.0
Doesn't always use seat belts	51.6	34.5	37.6

^aBMI, body mass index; BP, blood pressure; sys, systolic; dias, diastolic; HDL, high-density lipoprotein (good cholesterol); LDL, low-density lipoprotein (bad cholesterol).

2006. The process of completing health risk assessments on HBFP participants is ongoing. About 81 % of the participants completing assessments to date have been women, aged 17–90 years, with a mean age of 52 years.

Several indicators in TABLE 2 demonstrate that participants in HBFP are a high-risk population, some of whom already have chronic disease, and many

of whom show detectable precursors to chronic disease, such as obesity, elevated blood pressure, elevated triglyceride levels, and reduced high-density lipoprotein (good cholesterol) levels. These data also demonstrate the effectiveness of the HBFP in enrolling and involving an African American population who are appropriate targets for disease prevention and health promotion activities.

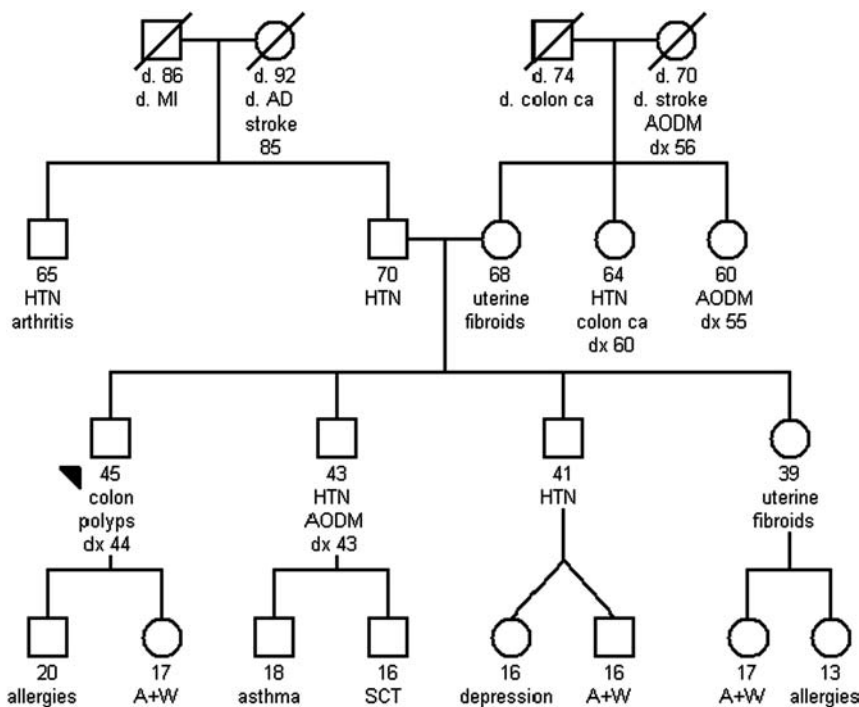


FIGURE 6. A family pedigree.

Genetic Family Health History

Another key entry point for participants into the HBFP is the genetic family health history. Vogel *et al.*³⁷ give a detailed description of the methods and procedures. The genetic pedigree has long been the cornerstone of clinical genetics. It aids in making a diagnosis, determining risk, and assessing the need for patient education and psychosocial support.^{38,39} In recent years, genetic medicine has entered the realm of primary care because the importance of family history as a risk factor for multifactorial diseases has been established.³⁸

As of July 2007, approximately 606 genetic family health histories (for an example, see FIG. 6) have been completed on individuals recruited from more than 20 locations in the HEZ, including churches, community events, barbershops, beauty salons, and health fairs. Most participants attended the session alone, although a few participants brought family members. Interviews were conducted by CMH genetic counseling students from the Department of Human Genetics in the Graduate School of Public Health. Participants provided information to develop a three- to four-generation pedigree. The average pedigree included 30–40 family members. The most common conditions reported included hypertension, diabetes, can-

cers, heart disease, stroke, mental illness, and substance abuse.

In addition to completing a family health history, many participants were offered an opportunity to enroll in a Minority Research Recruitment Database. A separate informed consent was required for this component of the program. Individuals in the Minority Research Recruitment Database give permission for CMH staff to send them information on clinical trials for which they might be eligible in the future. As of July 2007, approximately 404 participants (77.5%) who completed a family health history have enrolled in the database.

Although African Americans are commonly perceived as being wary of health professionals in general and medical research in particular, the HBFP genetic family health history appears to be a successful outreach strategy to engage participants in a health promotion activity. The family health history approach is also successful in securing the informed consent of participants to enroll in the Minority Research Recruitment Database. The process of conducting the genetic family health history is one of the few encounters with a health professional in which the participant is the expert and drives the conversation. The positive relationship established during the interview

helps to facilitate the credibility and positive regard needed to establish trust and overcome real and perceived barriers toward participation in research. Also, participant feedback has made clear that the success of the HBFP is directly related to key characteristics of staff. All full-time program staff are African American. For many participants, it was the first time they had met a black yoga instructor or water aerobics teacher. All health coaches are certified in their respective fields and participate in appropriate continuing education.

Primary Partners and the Learning Collaborative

The HBFP benefits from a coalition of community partners and stakeholders. They come from a wide range of sectors in the community, including representation from the African American faith community, county government, philanthropy, medicine, civil rights organizations, mass media, private industry, insurance companies, youth-serving organizations, health advocates, and organizations serving the elderly. These organizations meet monthly in the LC, a forum for routine exchange of information, trust building, and creation of referral networks. Over time, new organizations as well as health and human service providers joined the LC as an efficient method to reach African Americans through the HBFP participants and other residents in the HEZ in need of a wide range of human services, from registering for the Child Health Insurance Program to housing assistance, for example.

Diversity of Funding Streams

The HBFP has attracted an array of funding partners largely because of its focus on prevention of chronic disease. Funders include local foundations (the Pittsburgh Foundation, DSF Charitable Foundation, Highmark Foundation, Poise Foundation, and the Heinz Endowments). More support is provided by the Robert Wood Johnson Foundation and private donations. In 2007, the CMH was awarded a 5-year \$4.8 million NIH grant from the National Center on Minority Health and Health Disparities. This award supports establishment of the new Research Center of Excellence in Minority Health Disparities at the University of Pittsburgh (2P60-MD000207-06, Stephen Thomas, principal investigator).

Sustainability

The active involvement of local foundations continues to be essential, not only for their investment of approximately \$3.5 million but also for their insight, advocacy, and access to influential people capable of transforming the HBFP from an innovative community-based demonstration project into an institution with sustained ability to implement and disseminate health promotion and disease prevention interventions that are scientifically sound and culturally relevant. This is the context in which foundation project officers are convened as a strategy team with HBFP leadership at the CMH. Over the past 4 years, the strategy team has held weekly conference calls and meets face to face in a monthly retreat. Several of the project officers of the foundations report that they have never been so actively engaged in an ongoing project. Also, in 2006, CMH was awarded a challenge grant for support of the HBFP from the DSF Charitable Foundation, which will provide a \$1.50 match up to \$1.5 million. In other words, the CMH must raise \$1 million to meet the challenge. In return, they will receive another \$1.5 million to help sustain the program. This challenge has set off a major fundraising campaign designed to expand the base of support and extend community ownership of the HBFP.

In 2007, local foundation partners for HBFP convened key Commonwealth of Pennsylvania officials, the Secretary of Public Welfare and the Secretary of Health, along with a representative from the CDC and executives from four major insurance companies to discuss sustainability of the HBFP. As result, the path has been cleared for insurance companies to incorporate the HBFP into their state contracts for preventive services and chronic disease management. Negotiations are under way with Highmark Blue Cross/Blue Shield, the UPMC Health Plan, and the Gateway Health Plan to invest in HBFP by providing reimbursement for services through state contracts focused on high-risk populations living in poverty. Changing the health care funding paradigm to include more support for prevention continues to be a primary objective of our foundation partners. From this perspective, their investment in the HBFP demonstrates a new way of doing business where the savings benefit accrues to the commonwealth.

Discussion

The HBFP incorporates several types of interventions necessary to address health disparities among

minority populations living under conditions of racial residential segregation and poverty. In TABLE 1, we organize the project's activities and goals according to key types of interventions identified in the literature. Using the strengths of the community, including social support, close social networks, and strong community organizations, the HBFP has tailored evidence-based practices into a culturally relevant system of delivery. Freudenberg asserts that "Effective public health programs must use the available scientific evidence to meet the unique needs of urban populations and a thorough understanding of the relevant social and political contexts in order to manage the process of program implementation and institutionalization" (p. 295).³⁶

What HBFP does not do, at this time, is directly address the upstream determinants of poverty, such as institutional racism and unemployment. However, the level of trust and participation in HBFP has laid a foundation for engaging the community in more activities, including job training, policy advocacy, and actions aimed at changing social determinants of health. Tremendous excitement among the adult participants in HBFP has led to their request for more youth programming, which may create opportunities for activities that support educational success for children. Moreover, because we are observing the evidence that improving health status through a community-based approach is also strengthening community capacity, altering organizational structures, affecting social norms, and engaging community members in vital health promotion, we believe that this type of intervention can be characterized as a health promotion greenhouse for a newly energized community that can take on the upstream influences shaping health status and community vitality.

Summary

Addressing poverty and health disparities experienced by minority populations in urban centers demands that we move to a TD research paradigm that enables us to ask the complex questions necessary to foster social change. However, it also requires that we truly influence the health status of residents living in poor urban communities by engaging them in scientific research, public health interventions, and policy advocacy. We are indeed challenged to form lasting partnerships between academic institutions, many located in the heart of these poor urban neighborhoods, and the residents themselves. True partnerships cannot be dictated by grant funding but by a moral commitment to create a healthy environment for all. Finally, our

goal requires that we invest more time and resources into propagation of third-generation health disparity research, and moreover, the translation of evidence-based interventions that address common risk factors for multiple diseases. The approach must be informed by community input, culturally tailored for a specific minority community, and focused on sustainable programs capable of extending the years of quality life for underserved, poorly served, and never-served segments of our society.

Acknowledgments

We thank the Pittsburgh Foundation, the DSF Charitable Foundation, the Highmark Foundation, Poise Foundation, the Heinz Endowments, the Robert Wood Johnson Foundation, and the NIH National Center on Minority Health and Health Disparities (2P60MD000207-07; S. Thomas, PI). We also extend special thanks to Dr. Supriya Kumar for her skillful review of early drafts of this article.

Conflicts of Interest

The authors declare no conflicts of interest.

References

1. HARRINGTON, M. 1962. *The Other America*. Macmillan Publishing Company. New York.
2. DU BOIS, W.E.B. 1903. *The Souls of Black Folk*. A.C. McClurg & Co. Chicago.
3. OPPENHEIMER, G.M. 2001. Paradigm lost: race, ethnicity, and the search for a new population taxonomy. *Am. J. Public Health* **91**: 1049–1055.
4. THOMAS, S.B. 2001. The color line: race matters in the elimination of health disparities. *Am. J. Public Health* **91**: 1046–1048.
5. COOPER, R.S. 1994. A case study in the use of race and ethnicity in public health surveillance. *Public Health Rep.* **109**: 46–52.
6. LEVINE, R.S. *et al.* 2001. Black-white inequalities in mortality and life expectancy, 1933–1999: implications for healthy people 2010. *Public Health Rep.* **116**: 474–483.
7. ZELENY, J. 2007. Obama calls for ouster of official after remark. *In New York Times*. October 21, 2007, Politics section. Available at: <http://www.nytimes.com/2007/10/21/US/politics/21justice.html#>.
8. U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES PUBLIC HEALTH SERVICE. 1991. *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*. U.S. Department of Health and Human Services, Public Health Service. Washington, DC.
9. U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES PUBLIC HEALTH SERVICE. 2000. *Healthy People 2010: Un-*

- derstanding and Improving Health. U.S. Department of Health and Human Services, Public Health Service. Washington, DC.
10. THOMAS, S.B. *et al.* 2006. Historical and current policy efforts to eliminate racial and ethnic health disparities in the United States: future opportunities for public health education research. *Health Promot. Pract.* **7**: 324–330.
 11. DENAVAS-WALT, C., B.D. PROCTOR & J. SMITH. 2007. Income, poverty, and health insurance coverage in the United States: 2006. *In* Current Population Reports. U.S. Census Bureau, Ed. U.S. Government Printing Office.
 12. U.S. CENSUS BUREAU OF U.S. DEPARTMENT OF COMMERCE. *Press Release*. August 28th 2007 [cited April 15, 2008]; Available at: http://www.census.gov/Press-Release/www/releases/archives/income_wealth/010583.html.
 13. GLASMEIER, A.K. The Nation We've Become. Introduction to the Poverty in America Project 2007 [cited October 24, 2007].
 14. GERONIMUS, A.T. 2000. To mitigate, resist, or undo: addressing structural influences on the health of urban populations. *Am. J. Public Health* **90**: 867–872.
 15. WILLIAMS, D.R. & C. COLLINS. 2001. Racial residential segregation: a fundamental cause of racial disparities in health. *Public Health Rep.* **116**: 404–416.
 16. MASSEY, D.S. & N.A. DENTON. 1988. The dimensions of residential segregation. *Soc. Forces* **67**: 281–315.
 17. ORFIELD, G. & S. EATON. 1996. Dismantling Segregation: The Quiet Reversal of *Brown v. Board of Education*. New York Press. New York.
 18. SAMPSON, R.J. & W.J. WILSON. 1995. Toward a theory of race, crime, and urban inequality. *In* Crime and Inequality. J.H.A.R. Peterson, Ed. Stanford University Press. Stanford, CA.
 19. WILLIAMS, D.R. & C. COLLINS. 2004. Reparations: a viable strategy to address the enigma of African American health. *Am. Behav. Sci.* **47**: 977–1000.
 20. CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC). 2007. Eliminating Racial & Ethnic Health Disparities. [cited October 24, 2007]; Available at: <http://www.cdc.gov/omh/AboutUs/disparities.htm>.
 21. KILBOURNE, A.M. *et al.* 2006. Advancing health disparities research within the health care system: a conceptual framework. *Am. J. Public Health* **96**: 2113–2121.
 22. QUINN, S.C. & B.L. GREEN. 2006. Eliminating racial and ethnic health disparities: a call for innovative research. *Health Educ. Behav.* **33**: 437–439.
 23. ROSENFELD, P.L. 1992. The potential of transdisciplinary research for sustaining and extending linkages between the health and social sciences. *Soc. Sci. Med.* **35**: 1343–1357.
 24. ABRAMS, D. 2006. Applying transdisciplinary research strategies to understanding and eliminating health disparities. *Health Educ. Behav.* **33**: 515–531.
 25. CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC). 1997. Principles of Community Engagement. P.H.P.P. Office, Ed. CDC/ATSDR Committee on Community Engagement. Atlanta, GA.
 26. NATIONAL RESEARCH COUNCIL. 2001. *New Horizons in Health: An Integrative Approach*. Washington, DC.
 27. INSTITUTE OF MEDICINE. 2000. *Promoting Health: Intervention Strategies from Social and Behavioral Research*. Washington, DC.
 28. INSTITUTE OF MEDICINE. 2001. *Health and Behavior: The Interplay of Biological, Behavioral and Societal Influences*. Washington, DC.
 29. OFFICE OF BEHAVIORAL AND SOCIAL SCIENCES RESEARCH. 2001. *Progress and Promise in Research on Social and Cultural Dimensions of Health: A Research Agenda*. Bethesda, MD.
 30. ROUSSOS, S.T. & S.B. FAWCETT. 2000. A review of collaborative partnerships as a strategy for improving community health. *Annu. Rev. Public Health* **21**: 369–402.
 31. SORENSON, S.B., J.G. MANZ & R.A. BERK. 1998. News media coverage and the epidemiology of homicide. *Am. J. Public Health* **88**: 1510–1514.
 32. VLAHOV, D., S. GALEA & N. FREUDENBERG. 2006. Creating healthier cities: where do we go from here? *In* *Cities and the Health of the Public*. N. Freudenberg, S. Galea & D. Vlahov, Eds.: 327–343. Vanderbilt University Press. Nashville, TN.
 33. DIABETES PREVENTION PROGRAM RESEARCH GROUP. 2002. Reduction in the incidence of type 2 diabetes with lifestyle intervention of metformin. *N. Engl. J. Med.* **346**: 393–403.
 34. NATIONAL HEART LUNG AND BLOOD INSTITUTE. 2003. NHLBI issues new high blood pressure clinical practice guidelines. *In* *NIH News*. May 14, 2003. Available at: <http://www.nhlbi.nih.gov/new/press/03-05-14.htm>
 35. NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES. 2006. *Diabetes Prevention Program*. [cited November 1, 2007]; Available at: <http://www.diabetes.niddk.nih.gov/dm/pubs/preventionprogram/index.htm>.
 36. FREUDENBERG, N. 2006. Interventions to improve urban health. *In* *Cities and the Health of the Public*. N. Freudenberg, S. Galea & D. Vlahov, Eds.: 294–326. Vanderbilt University Press. Nashville, TN.
 37. VOGEL, K.J. *et al.* 2007. The use of family health histories to address health disparities in an African American community. *Health Promot. Pract.* **8**: 350–357.
 38. FREZZO, T.M. *et al.* 2003. The genetic family history as a risk assessment tool in internal medicine. *Genet. Med.* **5**: 84–91.
 39. YOON, P.W., M.T. SCHEUNER & M.J. KHOURY. 2003. Research priorities for evaluating family history in the prevention of common chronic diseases. *Am. J. Prev. Med.* **24**: 128–135.
 40. KJELLSTROM, T., S. MERCADO, M. SAMI, *et al.* 2007. Achieving health equity in urban settings. *J. Urban Health* **84**: i1–i6.
 41. ANDRULIS, D.P. 2000. Community, service, and policy strategies to improve health care access in the changing urban environment. *Am. J. Public Health* **90**: 858–862.
 42. MERCADO, S. *et al.* 2007. Urban poverty: an urgent public health issue. *J. Urban Health* **84**(3 Suppl): i7–i15.
 43. LEVITON, L.C., E. SNELL & M. MCGINNIS. 2000. Urban issues in health promotion strategies. *Am. J. Public Health* **90**: 863–866.
 44. VLAHOV, D. *et al.* 2007. Urban as a determinant of health. *J. Urban Health* **84**(3 Suppl): i16–i26.