Reconsidering Health Disparities

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The 1990s were a prosperous decade in the United States. The *Economic Report of the President* noted that during the 1990s, the economic performance of the United States was both outstanding and sustainable.[1–3] Between 1980 and 1996, median household incomes increased about 5% in constant dollars; in 1996, median family income rose with each higher level of education for men and women in each racial/ethnic group.[4] The year 1998 was an exceptional economic benchmark, with "the best performance in a generation."[5]

Dramatically, however, the terrorist acts of September 11, 2001, changed the economic underpinnings of our society and threatened the potential health status of the nation. As resources shift to support defense and economic slowdown is forecasted, decisions regarding allocation of both public and private resources for health and welfare are likely to be reexamined. Recent Department of Health and Human Services (DHHS) allocations of $2.9 billion in fiscal year 2002 for bioterrorism preparedness demonstrate that the national government will develop measures to preserve and protect the economic viability and health of the population. This cautious optimism raises two points relative to the discussion of health disparities.

First, resources in the United States have not been allocated equitably. In fact, socioeconomic data reveal two Americas: one, a healthy, vibrant, prosperous, advantaged class; the other, an unhealthy, disadvantaged, economically impoverished subpopulation without access to health or social assets. Despite general prosperity, income inequality is the worst in 50 years, due to the larger income increases among the wealthier groups.[4,5] Differences by race, ethnicity, age, gender, geography, and social circumstances affecting disadvantaged groups and often invisible populations characterize this uneven distribution of health, prosperity, poverty, and disease burden. Recent and overt terrorist threats and actions such as the destruction of the World Trade Center twin towers and the dissemination of anthrax underscore the observation that shifts in the allocation of resources are necessary to respond to national crises. New groups will

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experience economic and social vulnerability as resources for existing health and welfare programs are redirected in this costly national effort. The paradox of unprecedented scientific capacity and, until recently, economic growth against a backdrop of health and social disparities across identified and unidentified populations presents a major public health challenge that is exacerbated by today's national crisis.

Second, the current profile of health status reveals variable manifestations of health and wellness across and within groups. With changing world patterns of terrorism, new vulnerable groups created by unanticipated exposure to deadly diseases such as anthrax or to toxic substances from the Ground Zero demolition are likely to emerge with perhaps an exacerbation of existing health disparities, impacting both already-affected and new population groups. In addition, as unemployment increases and becomes protracted, more groups will be at risk. Health disparities by race, ethnicity, gender, age, income, geography, and social circumstances are readily chronicled for many diseases through existing public health surveillance, but expanded surveillance may be required to capture new, emerging diseases and new vulnerable groups. Only in this manner can effective policies and progress be developed to meet special needs.

Life expectancy overall has improved. In 1998, life expectancy reached an all-time high of 76.7 years, yet the overall mortality for African Americans was 53% higher than for whites. Infant mortality, for example, a longstanding indicator of health status, fell to a record low of 7.2 per 1,000 live births in 1998.[6] Disparity, however, persists among different racial and ethnic groups, with African Americans demonstrating the highest infant mortality rate (13.7), followed by American Indians (8.7), whites (6.0), Hispanics (6.0), and Chinese Americans (3.1).[7] Put another way, if the entire population had the same infant mortality rate as African Americans, an additional 26,462 infants would have died in 1998.

Racial and ethnic disparities are readily apparent and are compounded by age, income, and other social indicators. Studies have demonstrated, for example, that people with lower incomes tend to die at younger ages than those with higher incomes, and among people 25–64 years of age, death rates for chronic diseases, communicable diseases, and injuries are inversely related to education for men and women.[4,6]

A pattern of disparities can be replicated with mortality from selected causes. The three leading causes of death (heart disease, cancer, and stroke) are the same for men and women. Yet death rates vary by gender, age, race, and income. Cancer, the second leading cause of death after cardiovascular disease, provides a useful example of mortality disparities. As the Institute of Medicine notes in *The Unequal Burden of Cancer: An Assessment of NIH Research and Programs for Ethnic Minorities and the Medically Underserved,* cancer is expected to be the leading cause of death in the 21st century.[8] Despite significant gains in cancer detection, not all segments of the population have benefited from this scientific expertise. African American males, for example, are 15% more likely to develop cancer than white males, and they experience the highest cancer mortality of all groups. Lung cancer mortality is 30% higher in African American males and prostate cancer mortality is two to five times as high as in other groups. Breast cancer rates among African American women are lower than among whites but mortality rates are higher. Cervical cancer among African American and Hispanic women continues to rise. Ethnic minorities also experience higher rates of stomach cancer. In addition, lower survival rates occur in minority groups, with American Indians experiencing the lowest cancer survival rates of any ethnic group in the United States.[8]

While poverty or low socioeconomic status has not been directly linked to higher cancer incidence, cancer survival rates of the poor are 10%–15% lower than among higher-income Americans.[8] Mortality from other causes further illuminates disparities by race, ethnicity, gender, age, and income. In 1996, for example, unintentional injuries ranked higher for males than for females.[4] Elderly white males are at the highest risk for suicide, and homicide rates for both African American and Hispanic male youth are seven to eight times the rates for white male youth.[6] Poor people 18–64 years of age were about three times as likely as middle- or high-income populations to report limitations in activities due to chronic conditions.[4]

Children are also at risk: in 1995, one in every five children lived in poverty, and one in five poor and near-poor children had no health insurance.[4] This contrasts with 9% of middle-income children and 4% of high-income children who were uninsured in 1995. Vaccination rates of poor children lag behind those of nonpoor children.[4] Lack of timely access to health care services has been suggested as an explanation for the fact that children 1–14 years of age living in low-income areas have twice the hospitalization rates for asthma as those in high-income areas.[4] These disparities suggest that we are not doing well by our children.

Geographic differences in health status may also contribute to health outcomes. Age-adjusted death rates in 1994–96 revealed geographic differences.[4] The rate of mortality in the East South Central Division, for example, was 575.5 per 100,000, 15% higher than in the United States as a whole. Mortality rates for the Mountain, Pacific, West North Central, and New England Divisions were 7%–10% lower than the U.S. average.[4] The argument that access to health care contributes to this difference is frequently cited as one explanation for variations in health indicators.

Further delineation of geographic disparities is noted in the rural/urban comparison. As Freudenberg notes, while both urban and rural areas experience disproportionate burdens of poor health, the excess mortality and morbidity of the poor and people of color have become increasingly concentrated in urban areas and extended to "edge cites."[9] Previously, rural "protection" from high mortality was presumed. Today, shifts in disease burden highlight the plight of rural populations, particularly minorities with chronic disease or HIV.

These selected indicators demonstrate the capacity of our current system to conduct surveillance of the population's health. However, as Miringoff points out, there is a need for additional surveillance of social indicators to further illuminate the how and why of gender, age, racial/ethnic, geographic, and economic disparities.[5]

The factors responsible for health disparities defy simple solutions. Given world terrorism with its attendant shifts in resources and creation of new economically deprived groups, new health disparities are likely to emerge for different populations. A fundamental reality is that health, social, and economic resources will be redirected to foretell potential risks and minimize the effects of speculative events, perhaps at the expense of remediating current health and social disparities. Explaining the paradox of a scientifically wealthy society with old and new health disparities will require the best talents of all the academic disciplines, in concert with communities and government, to alter the sustained effects of health and social disparities.

The purpose of this issue of *Public Health Reports* is to (*a*) provide a forum for examining the issue of health disparities, (*b*) consider a comprehensive approach to describe health disparities, (*c*) examine the role of academic and practice partnerships in addressing health disparities, (*d*) explore the experiences of research on selected health disparities, and (*e*) elicit issues germane to advancing research on health disparities in the future. In such a context, this special-focus issue introduces a comprehensive framework for reconsideration of health disparities. It also provides commentary by national experts on contemporary issues related to health disparities and offers articles illustrating current research, academic, and practice partnerships directed at reducing health disparities.

HEALTH DISPARITIES IN CONTEXT

The pioneering epidemiological work of Kitagawa and Hauser, Silver, and Fuchs in the late 1960s signaled increased attention in the research community to the relationship between health and social factors.[10–12] As Feinstein notes in his review of the literature in this area, the past 20 years witnessed substantial studies documenting the scope of inequities across countries and the possible explanations of differential health outcomes.[13] In 1980, the *Black Report* in Britain stimulated debate about social class and mortality rates and advanced the discourse about the relationship between health and social conditions.[14] World Health Organization documents in 1981 and 2000 emphasized the importance of collaborative research in this area to shape systems and infrastructure that could improve health status differentials globally.[15,16]

In the United States, the *Report of the Secretary's Task Force on Black and Minority Health,* published in 1985, highlighted racial health inequities and called for intensified research, advocating a strategic approach to address health disparities in this country.[17]

In June 1997, President Clinton launched One America in the 21st Century: the President's Initiative on Race. This effort spurred further investigation of disparities in income, employment, education, health, crime, and housing across racial groups. It provided a forum for advancing health, social, and economic policy.[18]

Advances in the social and behavioral sciences continue to inform the debate over the causal links to disease and the multiple interactions among physiological, genetic, economic, biological, and environmental contributions to the evolution of health and illness in vulnerable populations.[19] Thus, our understanding continues to deepen and the concepts shaping our analysis have provided a critical lens with which to examine health disparities.

Research has provided several concepts that are instructive in assessing health disparities. The first concept is vulnerability, "being in a position of being hurt or injured or ignored as well as being helped by others."[20] Vulnerable groups are those that have disproportionate risk or susceptibility to adverse outcomes.[21] As Aday points out, anyone can be vulnerable at any time, contingent on the confluence of circumstances. Further, both the origins and the remedies of vulnerability are rooted in the bonds of human communities.[20]

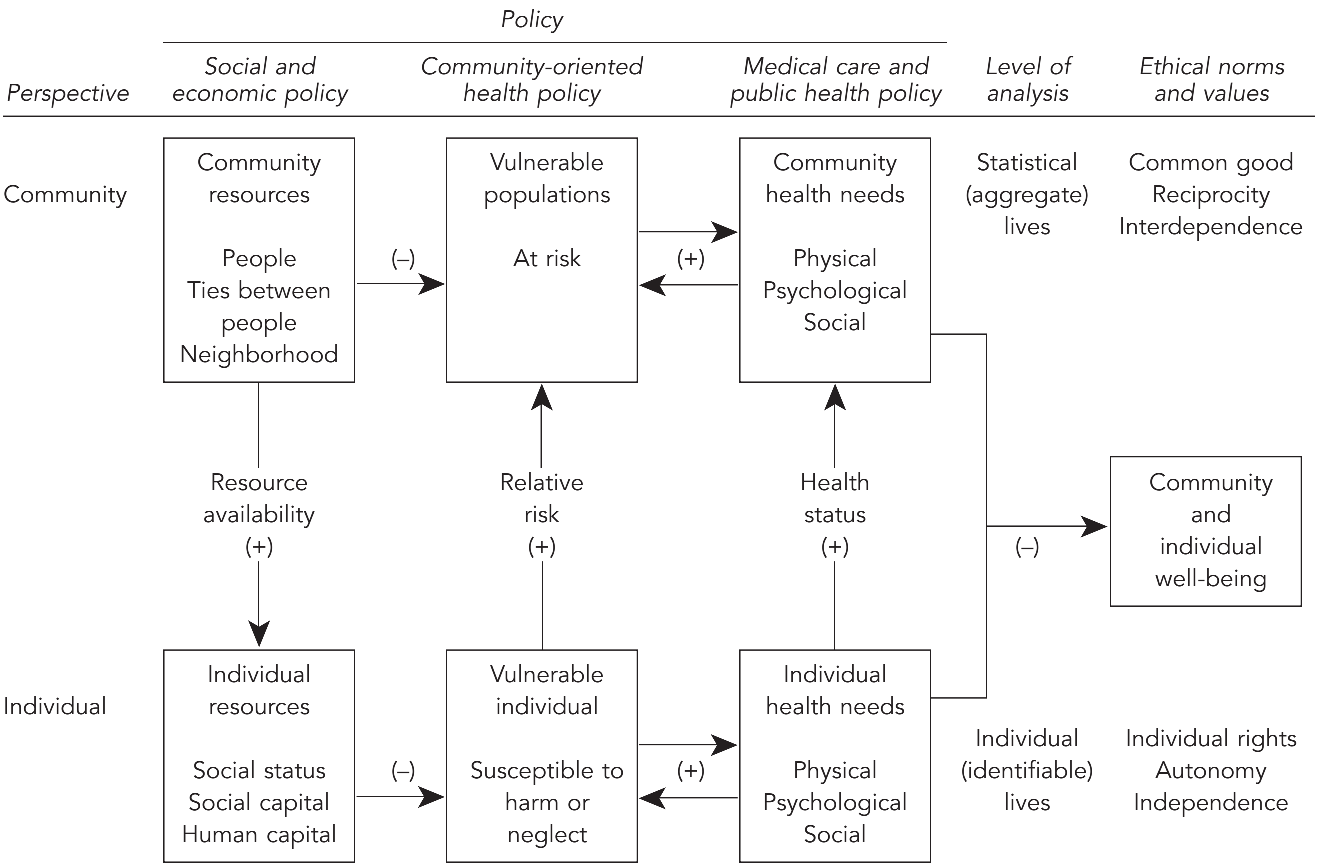
Susceptibility is another concept that is central to understanding health inequities. Susceptibility denotes being subject to influences, or risk, for an adverse outcome. The epidemiological concept of risk, or the probability that an individual will become ill in a stated time, is a powerful tool in studying health and illness in vulnerable populations. Both community and individual risk factors can be identified and the probability of an adverse outcome predicted. *Relative risk* refers to the ratio of the risks of poor health for two groups that are exposed to a particular risk factor. Relative risk defines the association between the factor and the disease.[22] The differential vulnerability hypothesis argues that negative or stressful events contribute to poor health and may affect some groups more than others.[20–25] *Heterogeneity* refers to the differences in aggregate measures of health status between or among population groups that appear to be consistently associated with some defining characteristics of those groups.[26]

The framework proposed by Aday presents a comprehensive approach to understanding at-risk individuals and communities and the attendant health disparities that frequently evolve.[27] These collective concepts form the basic assumptions of Aday's model. This model promotes two perspectives that are particularly useful in examining health disparities in vulnerable populations (see Figure).

The first is the community perspective, which identifies community resources, vulnerable populations at risk, and community health needs. This level of analysis permits the examination of health disparities in the context of a health system embedded in a social, economic, and physical environment informed by policies, social norms, and relationships.

The second, individual perspective, analyzes risks

Figure. Framework for studying vulnerable populations



NOTE: A plus sign indicates a direct relationship (the likelihood of outcomes increases as the predictor increases). A minus sign indicates an inverse relationship (the likelihood of outcomes decreases as the predictor increases).

SOURCE: Aday LA. At risk in America: the health care needs of vulnerable populations in the United States. 2nd ed. San Francisco: Jossey-Bass Publisher; 2001. Used with permission of John Wiley & Sons, Inc.

and resources at the individual level. Individual resources include social status, social capital, and human capital. Vulnerable individuals within vulnerable populations can then be identified. In addition, individual health needs (physical, psychological, and social) can be elicited at the individual as well as the community level. One asset of this framework is the capacity to inspect the relationship between community and individual factors contributing to health status. The framework also includes those values and norms that color our individual and community sense of well-being. Selected characteristics allow us to note physical risk, for example, which might include HIV-infected people, high-risk mothers and infants, and people with chronic diseases. Psychological risk might be applied to those who are mentally ill, experiencing alcohol or substance abuse, or victims of suicide. Social risk might include abuse, homelessness, or immigrant status.[20] This framework is useful in advancing research and health models that permit multiple perspectives.

Compounding risks are noted when groups appear in more than one categorization. Populations with multiple risks require multiple approaches to research and services, as suggested by Heckler in her 1985 report.[17] One of the greatest challenges is analyzing those groups experiencing changing risk/vulnerability status who are also experiencing the effects of multiple cumulative risks. Aday offers a delineation of crosscutting health needs of vulnerable populations that is helpful in elucidating the magnitude of multiple health risks (see Table).[20]

It is evident that within each group, the addition of risk factors changes the balance of health and illness and forces reconsideration of all aspects of the previous model. Consider, for example, imposing on any of the groups the fear, anxiety, death, and disease exposure created by recent terrorist acts. Clearly, health disparities across groups might shift and already adversely affected groups such as immigrants, people of color, women, and children might be additionally and disproportionately affected. Individuals and communities become at increased risk as the uncertainty of social and economic policies relative to the allocation of resources becomes an additional stress. The underlying ethical norms and values such as public good, social justice, individual liberties specifying our perspectives on community and individual well-being are being challenged. The approaches presented in the Figure and the Table underscore the utility of a comprehensive approach to the study of health disparities.

While there has been much progress in studying health disparities, serious challenges to our understanding remain. As Miringoff emphasizes, the data that are collected are often incomplete and collected in a way that makes them incompatible with the research questions. In addition, the quantity of data is often questionable, thus compromising the generalizability of research findings.[5] Thus, both qualitative and quantitative limitations confront researchers and practitioners. Further, current research often focuses on specific aspects of health disparities and provides limited examination of the fundamental underpinnings and indicators of vulnerability.

The unprecedented changes in the 2000 Census provide one illustration of the methodological challenges for researchers and practitioners measuring and analyzing health disparities. In an effort to develop a new classification system, the 2000 Census includes new racial/ethnic classifications as well as an option for multiple classifications.[28] Public health routinely uses racial and ethnic classifications to identify diseases in specific populations and factors related to disease and disability. This is most notable in the use of race and ethnicity data to establish goals and priorities and to measure progress in eliminating health disparities in the development of Healthy People 2010.[29,30] The new classification will change the capacity to compare data with the 1997 baseline data in the document. Changes in the denominators will alter the surveillance of births, deaths, and disease and make analysis of trends and patterns complex. Without the collection of race-specific information, it will be hard to observe the effects of racial and social inequities manifest in access, allocation of resources, and medical care.[31] These changes in the Census 2000, therefore, on balance may have adverse effects on the nation's capacity to define health disparities and require the reconsideration of our approaches to better understand health disparities.

The complexity of health disparities frequently requires multilevel analysis and adaptation of current methodologies. Many interventions promise success, but the limitations of methodological analysis and community and individual influences upon health status fail to answer some fundamental questions about health disparities. Taking a comprehensive view of health disparities is an essential step. The queries regarding health disparities include these lingering questions:

- What makes some groups more vulnerable, more susceptible than other groups?
- What factors contribute to the health and illness of specific groups?
- What services or interventions will remediate the differences?

Table. Crosscutting health needs of vulnerable populations

	Vulnerable populations								
Vulnerable populations	*High-risk mothers and infants*	*Chronically ill and disabled*	*People living with HIV/AIDS*	*Mentally ill and disabled*	*Alcohol or substance abusers*	*Suicide or homicide prone*	*Abusing families*	*Homeless people*	*Immigrants and refugees*
High-risk mothers and infants	X	Chronically ill/ technology-assisted children	Pediatric AIDS cases	Developmentally disabled infants	Fetal alcohol syndrome/crack babies	Child homicides	Battered pregnant women and infants	Pregnant homeless women	Pregnant refugee women
Chronically ill and disabled	Chronically ill/ technology-assisted children	X	HIV-positive individuals	Chronically mentally ill	Chronic alcoholics/drug addicts	Suicidal long-term care patients	Abused disabled or elderly	Homeless people with chronic disease	Refugees with chronic disease
People living with HIV/AIDS	Pediatric AIDS cases	HIV-positive individuals	X	Central nervous system-impaired people with AIDS	IV drug user/ people with AIDS	Suicidal people with AIDS/ prisoners with AIDS	Homophobic families/AIDS boarder babies	Homeless adults, runaways with AIDS	Refugees with AIDS
Mentally ill and disabled	Developmentally disabled infants	Chronically mentally ill	Central nervous system-impaired people with AIDS	X	Mentally ill substance abusers	Suicidal/ criminally insane	Dysfunctional families	Homeless mentally ill	Refugees with posttraumatic distress
Alcohol or substance abusers	Fetal alcohol syndrome/crack babies	Chronic alcoholics/drug addicts	IV drug users/ people with AIDS	Mentally ill substance abusers	X	Alcohol/drug-related suicides or homicides	Addictive families	Alcoholic/drug-abusing homeless people	Alcoholic/drug abusing refugees
Suicide or homicide prone	Child homicides	Suicidal long-term care patients	Suicidal people with AIDS/ prisoners with AIDS	Suicidal/ criminally insane	Alcohol/drug-related suicides or homicides	X	Violent families	Suicidal violence-prone homeless people	Suicidal violence-prone refugees
Abusing families	Battered pregnant women and infants	Abused disabled or elderly	Homophobic families/AIDS boarder babies	Dysfunctional families	Addictive families	Violent families	X	Runaways	Maltreated refugee children
Homeless people	Pregnant homeless women	Homeless people with chronic disease	Homeless adults, runaways with AIDS	Homeless mentally ill	Alcoholic/drug-abusing homeless people	Suicidal violence-prone homeless people	Runaways	X	Political detainees
Immigrants and refugees	Pregnant refugee women	Refugees with chronic disease	Refugees with AIDS	Refugees with posttraumatic distress	Alcoholic/drug abusing refugees	Suicidal violence-prone refugees	Maltreated refugee children	Political detainees	X

SOURCE: Aday LA. At risk in America: the health care needs of vulnerable populations in the United States. 2nd ed. San Francisco: Jossey-Bass Publishers; 2001. Used with permission of John Wiley & Sons, Inc.

- What policies need to be developed to eliminate health disparities?
- What partnerships will sustain successful interventions?
- What research will be most productive and relevant?

This special-focus issue of *Public Health Reports* explores selected health disparities and their implications for public health action. In the context of research imperatives, the progress of academic, practice, governmental, and community initiatives and their roles in reducing health disparities can be examined.

SELECTED HEALTH DISPARITY INITIATIVES

Several recent federal initiatives have sought to both stimulate national attention to the problem of health disparities and develop and implement, with resource allocations, concrete plans to address these disparities within the medical, academic, research, and public health communities. In addition to drawing national attention to the issue of race, One America in the 21st Century: The President's Initiative on Race seeks to address problem areas such as access to health care and barriers to receiving health care.[18]

The President's Initiative on Race was followed in February 1998 by the presidential commitment to address racial and ethnic health disparities in several key health status areas by the year 2010. The Department of Health and Human Services (DHHS) launched both the Initiative to Eliminate Racial and Ethnic Disparities in Health and Healthy People 2010. Healthy People 2010 includes the major goal of eliminating health disparities based on classifications such as race, ethnicity, gender, geography, education, income, disability, or sexual orientation.[30] As with Healthy People 2000, which had its final review published in 2001, the aim of Healthy People 2010 is to both quantify and assess health progress over time.[32] The Initiative to Eliminate Racial and Ethnic Disparities in Health identifies six key health outcome areas to address by the year 2010: infant mortality, cancer screening and management, cardiovascular disease, diabetes, HIV infection/AIDS, and immunizations.

Another initiative aimed at reducing disparities is the DHHS community-based initiative Zero Percent Disparities, One Hundred Percent Access, promoted by the Health Resources and Services Administration. Also at the federal level, in 2000 the National Institutes of Health (NIH) established the Center on Minority Health and Health Disparities, which has implemented a five-year Strategic Plan to Reduce and Ultimately Eliminate Health Disparities.[33] The NIH Strategic Plan, which focuses on the key areas of research, research infrastructure and public information, and outreach and education, is incorporated into the NIH 2002 budget document. This budgetary allocation underscores the commitment and imperative to translate research into action at the community level. This strategic plan is expected to fund research institutions and yield research that has demonstrated effects on reducing disparities.

These federal directives have promoted state and local investments in reducing disparities affecting vulnerable populations. In addition, professional associations such as the National Association of County and City Health Officials, the Association of State and Territorial Health Officers, the American Public Health Association, and the Association of Schools of Public Health have collaborated with federal agencies in advancing initiatives directed at reducing health disparities.

The National Medical Association, in its December 2001 journal supplement, entitled *Health Disparities: Are Clinical Trials the Answer?,* comments that lack of participation of African Americans in appropriate clinical trials of new medicines has contributed to health disparities observed in the past, and will continue to affect the health and well-being of African-Americans if not addressed.[34] The authors indicate that the National Medical Association will support the goal of improved participation by pursuing a multifaceted approach of educating the community and physicians on the issues and training physicians to assume the role of clinical investigator.[34]

Private foundations have also been instrumental in developing focused efforts to affect public health at the state and local level. One example is the Turning Point initiative, a national initiative sponsored by the W. K. Kellogg Foundation and the Robert Wood Johnson Foundation to strengthen and sustain partnerships that result in improved health outcomes.[35] These selected initiatives illustrate the extent to which collaborations across sectors—public and private, academic, research, and community practice—serve to heighten successful and sustainable health outcomes.

RESEARCH AND ACADEMIC LINKAGES

Linkages and partnerships as a way of doing public health business were stimulated in the 1980s by the creation of the Prevention Research Centers (sponsored by the Centers for Disease Control, now the Centers for Disease Control and Prevention [CDC]) and with the release of *The Future of Public Health.*[36–39] Specifically, academic and public health practice and community linkages have been utilized to accomplish identified research agendas.[40–45] Indeed, the past four supplements of *Research Linkages Between Academia and Practice* published in the *American Journal of Preventive Medicine* have highlighted outcomes of theses linkages. But as Clark notes, even with 20 years of experience in collaborations, obstacles to effective collaboration continue to exist.[45] Given the complexity of the problems, a comprehensive approach is an imperative and the public and government demand for "practical" research, linkages, and partnerships remains a successful approach in many circumstances, despite the limitations.

Perhaps it is time to ask again some critical questions about the relationship among the partners and what might be the most promising alliances. As Linder notes, a variety of attributes characterize the development of partnerships.[38] The notions of fair division of responsibilities and burdens and a sense of achieving partnerships are essential. However, often alliances among academe, practice, and the community belie the tenets of both fairness and symmetry.[38,45,46] Partnerships that are not mutually beneficial are likely to have limited utility. How can linkages align expectations of researchers and practitioners? How can a common language be developed to effectively communicate research questions and approaches? How can linkages create access to the appropriate resources to initiate and sustain research studies and interventions? How can linkages promote mutual respect that supports the credibility of the partners? The articles in this issue expose these questions and present research and partnership experiences that inform the discussion of partnerships.

Community-centered public health research provides an example of collaborative research that equitably involves community members, organizations, and researchers in the process. Israel identifies seven principles to guide collaborative research: 1) recognize the community as a unit of identity, 2) build on strengths and resources within the community, 3) facilitate collaborative partnerships in all phases of the research, 4) integrate knowledge and action for mutual benefit of all partners, 5) promote a co-learning and empowering process that attends to social inequities, 6) address health from both a positive and ecological perspective, and 7) disseminate findings and knowledge gained by all partners.[46] Adherence to these principles underscores the optimism of collaboration. In the face of the merits of collaboration, additional research on the linkages themselves will offer additional insight into when, how, and to what extent linkages/partnership models can create effects and positive change for populations at risk. Emphasis on research collaboration and the translation of research is a fundamental building block to advancing the science of public health.

This issue is framed by provocative Commentaries from CDC (see Baker et al.) and NIH (see Kirschstein and Ruffin) that describe the need to build a stronger scientific foundation for studying health disparities and linking federal agencies, academics, and local practitioners to advance the translation of research into tangible results—elimination of health disparities.

Viewpoints presents selected approaches to reducing health disparities in vulnerable populations with different disease manifestations. The articles that follow represent the important underpinning of health disparities—disparities defined by chronic and infectious diseases (tuberculosis, HIV, STD, prostate cancer, cervical cancer); age (children and disadvantaged adults); gender; race/ethnicity; geography; and social circumstances. These articles describe the needs of vulnerable populations (incarcerated residents, urban and rural residents) experiencing barriers in access to health services or medical care. These articles reveal the crosscutting nature of health disparities and the social influences contributing to health or illness.

Presented in the context of collaborative research and academic linkages, with partnerships acting as a catalyst for action and remediation, the articles in this issue provide a lens for viewing the complex relationships inherent in defining, understanding, integrating, and evaluating approaches to reducing health disparities—a milestone along the road to achieving the elimination of health disparities.

These articles inform and provide lessons about a variety of topics, including:

- The range of factors contributing to health of vulnerable populations and to health disparities and the complex interplay of factors.
- How collaborative research can enhance the health status, diminish barriers to care, and reduce the risk of diseases of vulnerable populations.
- How public health tools and methods support collaborative research and community intervention to improve the health of at-risk populations.
- The nature of multilevel collaboration in changing systems of delivery of services and policy affecting vulnerable populations.
- How health disparities compromise the national asset of health, and how public leadership of partnerships supports and provides a national agenda to eliminating health disparities.

IMPLICATIONS

The journey to reduce health disparities is a long and challenging one. First, the conceptual framework for understanding health disparities must be broad and encompass the concepts of vulnerability, susceptibility, and cumulative risks across populations. In addition, the complexity of the interrelationship of the individual and society must be appreciated to explore causative or associative relationships. Recent emphasis on social determinants of health has been instrumental in illustrating the relationship of income, employment, education, and other social parameters in the evolution of disease in specific populations. Equally important is investigating the factors that are "protective," or offer resilience to illness, in some groups. A perspective embracing a comprehensive approach offers an important backdrop for ongoing research.

Defining the problem is the next major challenge. The scientific tools of epidemiology and the social sciences have been enormously helpful. Yet many methodological barriers obscure complete enumeration of health disparities. Inadequate information and often the wrong information is collected. And to date, efforts have been fragmented, lacking a systematic way to link appropriate methodologies, surveillance, and targeted interventions. With changing census data, numerator and denominator data will change and raise questions about the true extent of disease among particular groups. In addition, changes in classifications that form the basis of trend data, a fundamental tool for public health professionals, becomes of limited value. However, under this new system there will be the emergence of new baselines that are more reflective of diversity within and across racial and ethnic groups. Thus, qualitative and quantitative data that capture social characteristics must be included in public health surveillance efforts.

Finally, government initiatives, currently so prominent, must be coordinated, comprehensive, rely on evidence of successful interventions, and resist the one-size-fits-all approach that might be comfortable for some, but is unlikely to yield results in the most vulnerable of populations. Government must also collaborate with private foundations and professional associations to achieve national health objectives. Research and policy must go hand in hand, guided by community experience. The best of research linkages among academia, communities, and public health practice must emerge. Scientific wealth amidst poverty and disproportionate disease in selected groups is an inexcusable paradox.

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