HEALTH STATUS AND ITS DETERMINANTS IN URBAN POPULATIONS

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The Sesquicentennial Symposium of the New York Academy of Medicine (NYAM) focused quite appropriately on urban populations. Contrasted with rural and suburban America, US cities have always been melting pots of people from diverse cultures and ethnic origins, the sources of social change, the settings for intellectual ferment, and the sites of development of organized public health services. Our cities are complicated, heterogeneous places, and their multicultural demography increasingly defies simple categorization of people as minority or majority.

The earliest public health organizations in the United States were in the rapidly growing port cities of the eastern seaboard, with a primary focus on protecting the population from epidemic diseases, like the yellow fever epidemic that crippled Philadelphia in 1793. There was a struggle between those who relied on the police function of quarantines and those who wanted to prevent the diseases by cleaning up the filthy conditions of workplaces, food and water, docks, alleys, and streets that made local residents vulnerable.[1] The accepted epidemic diseases then were typhoid, typhus, measles, diphtheria, influenza, tuberculosis, and malaria, which were tolerated with the indifference of familiarity and a sense of helplessness—much as is the case today with regard to drug abuse, violence, teen pregnancy, sexually transmitted diseases, and alcoholism.[2]

At its sesquicentennial symposium, the academy brought prominent public officials together with researchers and public health and medical care providers committed to making a difference. The participants were greatly stimulated by the keynote address offered by Mayor Schmoke of Baltimore, Maryland, and by

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the demonstrable improvements in his city. In New York City, there is a feeling of renewed optimism about living conditions. In other leading cities, mayors who are dedicated to substantial improvement in economic status and in health and to cross-racial cooperation are being re-elected; for example, Mayor Dennis Archer of Detroit. Nevertheless, the cities must overcome a declining population size, a crumbling infrastructure, and the inter-related problems of violence, drug abuse, human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), youth smoking, and environmental contamination.

Our broader goal—an educated, prosperous, sustainable, and civil society—depends on ensuring the conditions for everyone to be healthy enough to grow, to learn, to work, and to care for and about others. Too often, the basic conditions for a healthy life are lacking in subareas of our cities. Too often, their health statistics and health risk factor statistics fail to match even those of poor, developing countries. Too many people are too fearful about their survival to focus on their long-term health.

Since the time of the Carter administration, the US Public Health Service has worked to mobilize public and private sector efforts for health promotion and disease prevention, with measurable objectives and specific actions enunciated in Healthy People 1990 and Healthy People 2000. The agency is already preparing for Healthy People 2010. Practicing René Dubos's dictum, "Think globally, act locally," many states and localities have used these blueprints for their own initiatives, with priorities built on local statistics and local stakeholders' views.

For the nation, the overarching goals of Healthy People 2000 are the following:

1. To increase the span of healthy life.
2. To reduce health disparities among Americans.
3. To achieve access for all Americans to preventive services.

The New York Academy of Medicine (NYAM) symposium focused on Goal 2.

In November 1996, the Centers for Disease Control and Prevention (CDC) published a mid-decade review of progress toward the year 2000 objectives.[3] The report begins with a special chart section of 27 figures with representative data from the 210 total race- and Hispanic-origin population subobjectives. The summary of the results (Table I) shows positive progress on half of the objectives, but worsening for 30% of them.[3]

A local focus on causes of death and risk factors was illustrated on 1 November 1997 in the Detroit area at the Conference on the Survival of the African American Male. The conference was sponsored by the Office of Multicultural Health and the Health Promotion Division of the University of Michigan Health System as part of the Community-Based Partnerships for Life project to reduce cardiovascu-

TABLE I Summary of Results Toward Healthy People 2000 Objectives for Racial and Hispanic-origin Populations

Race or Hispanic origin	Subobjectives and Objectives, No.	Met or Progressed, %	Moved Away from Target, %	Mixed or No Change, %	Cannot Assess, %
Total	210	51.4	29.5	2.4	16.7
Black	87	56.3	29.9	*	13.8
American Indian/ Alaska Native	40	55.0	30.0	7.5	7.5
Asian/Pacific Islander	9	55.6	22.2	11.1	11.1
All Hispanic	42	42.9	31.0	*	26.2
Mexican American	14	64.3	21.4	*	14.3
Puerto Rican	14	35.7	35.7	7.1	21.4
Cuban	4	*	25.0	*	75.0

*Quantity zero.
Source: Centers for Disease Control and Prevention, National Center for Health Statistics.[3]

lar disease risk. Spike Lee and Malik Yoba were headliner guests. Table II presents statistics for Michigan and for suburban Washtenaw County, where the University of Michigan is located. The data for African-American males reveal that, compared with whites, homicide rates are increased more than 20 times and all common causes of death are increased. As is often true for local data, the table is incomplete. Nevertheless, the available statistics can be considered sentinels

TABLE II Mortality Statistics for Michigan and for Washtenaw County. From the Conference on the Survival of the African-American Male: Leading Causes of Death Among African-American Males

	Michigan			Washtenaw County		
Cause of death (per 100,000)	African-American	White	Risk Ratio	African-American	White	Risk Ratio
1. Heart disease	296	203	1.5	476	353	1.4
2. Malignant neoplasm	232	155	1.5	NA	NA	NA
3. Homicide	101	4	25.3	52.2	2.56	20.4
4. Cerebrovascular disease	52	28	1.9	204	167	1.22
5. Unintentional injuries	49	35	1.4	NA	NA	NA
6. Pneumonia/ influenza	31	18	1.7	NA	NA	NA
7. Chronic obstructive pulmonary disease and allied complications	28	27	1.0	NA	NA	NA
8. Chronic liver disease	28	10	2.8	NA	NA	NA
9. Diabetes mellitus	23	14	1.6	544.0	27.2	20
10. Suicide	17	19	0.9	NA	NA	NA

Sources: Michigan: Michigan Department of Public Health, Michigan Health Statistics, 1993; Washtenaw County: Health Improvement Plan Assessment, 1996.

for the general health of the population. The meeting used a cultural competency model for health promotion and adopted a broad definition of health, emphasized social functioning and mental health, and addressed substance abuse, youth or gang violence, domestic violence, depression, and stress associated with poverty and discrimination. Practical discussions led by lay participants dominated the program.

The overarching aim of such community efforts is to mobilize partnerships that go beyond the public health agency and physicians and hospitals in the area to engage neighborhood and community not-for-profit organizations, businesses, workers and unions, environmentalists, and public officials. Health is everyone's business. As documented in the *Oxford Textbook of Public Health*[4] and as demonstrated by panelists at the NYAM symposium, the determinants of health, illness, and injury are social, economic, genetic, perinatal, nutritional, behavioral, infectious, and environmental. With regard to genetics[5] and to environmental exposures (from chemicals to cockroach allergens),[6] we should put an end to debates of nature versus nurture and genetics versus environment, and focus instead on the interactions of genetic and environmental risk factors. Images presented on television programs and in advertising are powerful forces. Moreover, peer relationships, racial conflict and racial stereotypes, and criminal elements may be overwhelming "determinants of the determinants."

It is crucial for us to recognize that the interaction of many negative factors multiplies the risks. Productive action lies in identifying each significant factor, reducing those most important and most amenable to intervention in each subgroup, and ensuring that interventions are real, not just a wringing of hands about the problems.

At the national level, McGinnis and Foege[7] produced the lists in Table III, which compare the 10 leading "official" causes of death with the underlying "real" causes of death—the modifiable, preventable conditions of smoking, physical inactivity, poor diets, alcohol, sexually transmitted diseases, chemical exposures, guns, vehicular injuries, and illicit drug use.

In Washington State, a broad coalition, led by Dr. Frederick Connell of the University of Washington School of Public Health and Community Medicine, has created and published five annual reports called *The State of Washington's Children*.[8] These reports indicate that the perspective is much broader than "health"; it includes measures of the family and community, education, economy, and safety and security. These data are illustrated most effectively in Table IV, which places almost anecdotal numerator data for terrible outcomes alongside large statistical estimates of underlying conditions or events.[8] These reports have been quite influential with editorial writers and with the Washington legislature.

TABLE III Official Causes of Death and "Real Causes" of Death, 1993

	No. of Deaths
The 10 leading medical causes of death	
Heart disease	720,000
Cancer	505,000
Cerebrovascular disease	144,000
Chronic pulmonary disease	92,000
Pneumonia and influenzia	87,000
Diabetes	48,000
Suicide	31,000
Liver disease, cirrhosis	26,000
AIDS	25,000
Total	2,148,000
Lifestyle factors leading to half of the medical causes of death*	
Tobacco	400,000
Diet, sedentary lifestyle	300,000
Alcohol	100,000
Infections	90,000
Toxic agents	60,000
Firearms	35,000
Sexual behavior	30,000
Motor vehicles	25,000
Illicit drug use	20,000
Total	1,060,000

Sources: National Center for Health Services, estimates for 1990 by Department of Health and Human Services, the Carter Center (adapted from ref. 7).

*The nation's investment in prevention is estimated at less than 5% of the total annual health care cost.

During the past year, the W. K. Kellogg Foundation and the Robert Wood Johnson Foundation (RWJF), through national program offices at the National Association of City and County Health Officials (NACCHO) and the University of Washington School of Public Health and Community Medicine, have mounted a new program: Turning Point: Collaborating for a New Century in Public Health. Local and statewide coalitions and partnerships are the intended instruments of social change and health improvements for this initiative. These foundations are building on related programs, including the Kellogg Community-Based Public Health Initiative and the America's Promise/Urban Health Initiative in eight cities (headed by Charles Royer of the University of Washington) and the multifaceted

TABLE IV "Tip of the Iceberg" Indicators of the State of Washington's Children in 1996

The Tip of the Iceberg	The Iceberg
15 children will die from abuse or neglect	85,000 reports of child abuse and neglect will be reported to Child Protective Services
50 children will commit suicide	11,000 children will make a suicide attempt serious enough to cause injury
50 children will die from cancer	55,000 children will smoke regularly
75 children will be murdered	2,800 children will be arrested for violent crimes
95 children will die from gunshot wounds	11,000 children will carry a gun
100 teenagers will die in car wrecks	150,000 teenagers will ride with a driver who has been drinking or using drugs
450 newborns will die in the first year of life	21,000 newborns will survive to live in poverty
1,200 children will live in jail	550,000 children will live in homes without sufficient economic resources to meet basic needs
3,200 children will be born to school-age mothers	22,000 babies will be born to unwed mothers, and 27,500 children will experience the divorce of their parents
10,000 children will live away from their parents	350,000 children will not live in a two-parent home

Source: From ref. 8.

smoking prevention and smoking cessation initiatives of RWJF. In New York City, the Commonwealth Fund has long led well-focused efforts on health improvements at the local level. The Carnegie Corporation has issued a call for broad community actions to prevent life-long damage to children in the age ranges 0 to 3, 3 to 10, and 10 to 14.[9] Such a program could address the need for neighborhood-by-neighborhood social cohesion, as advocated by Sampson and colleagues[10] in their report of survey results about violence in 343 neighborhoods in Chicago. Such studies indicate that generalizations about whole cities or about whole ethnic groups should not be trusted. Social cohesion is the focus of a CDC-sponsored urban health program in Detroit, Michigan, one of three such programs nationally; the other two are in Seattle, Washington (for asthma), and in New York City.

In most cities, the official public health role increasingly should lie in the responsibilities Lester Breslow and his colleagues outlined in the Institute of Medicine report, *The Future of Public Health*:[11] these responsibilities include assessment and policy development and ensuring conditions that enable people to be healthy. Table V shows the essential public health functions needed to meet those responsibilities; political leaders and community leaders must encourage health care providers and institutions to provide medical services to everyone and not leave those most needy to the public health clinics. Los Angeles, Califor-

TABLE V Essential Public Health Functions

- Prevent epidemics
- Protect the environment, workplaces, housing
- Promote healthy behaviors
- Monitor health status of population(s)
- Mobilize community action
- Reach out to high-risk/hard-to-reach subgroups
- Train the current and future public health workforce
- Conduct community-based research
- Ensure quality, accessibility, accountability of medical care
- Lead development of sound health policy and implementation
- Respond to disasters

nia, may be an exception; there, both medical and public health services are provided in the public sector. We must distinguish between public health and public medicine; the public certainly does. According to public-opinion polls commissioned by the Kellogg Foundation, 80% to 90% of Americans value the essential public health functions listed in Table V, but only 25% support funding for "public health." When asked what they mean by public health, the overwhelming response is, "medical care for the indigent." Of course, medical care for the indigent should be highly valued, but there can be little doubt that the role of public health as a medical care provider of last resort has confused the public about primary public health functions.

Public health professionals and our many partners must utilize the full range of analytical, communication, and health-protection skills and programs to make a difference in the health of people in our communities. We also should not neglect environmental health problems. In fact, we should put environmental problems in a public health context and engage community stakeholders to identify and accomplish effective reductions in exposures and risks (Figure 1), as recommended by the President's Commission on Risk Assessment and Risk Management.[12–14] In the cities, we also need to address environmental equity and environmental justice issues. One of the most constructive developments is called *brownfields*, the redevelopment of abandoned, contaminated, inner-city zones to make them environmentally safe and to create jobs. Such urban redevelopment can also help to protect the green fields in rural and suburban areas that otherwise would be claimed for industrial purposes.

I hope that the NYAM symposium will lead to a mandate that we should work with others to set ambitious, yet feasible, goals and to measure ourselves against those goals. We need to help activate what Felton Earls terms individual and collective efficacy, which empower communities to have effective informal controls on undesired activities and to provide more healthy conditions for our

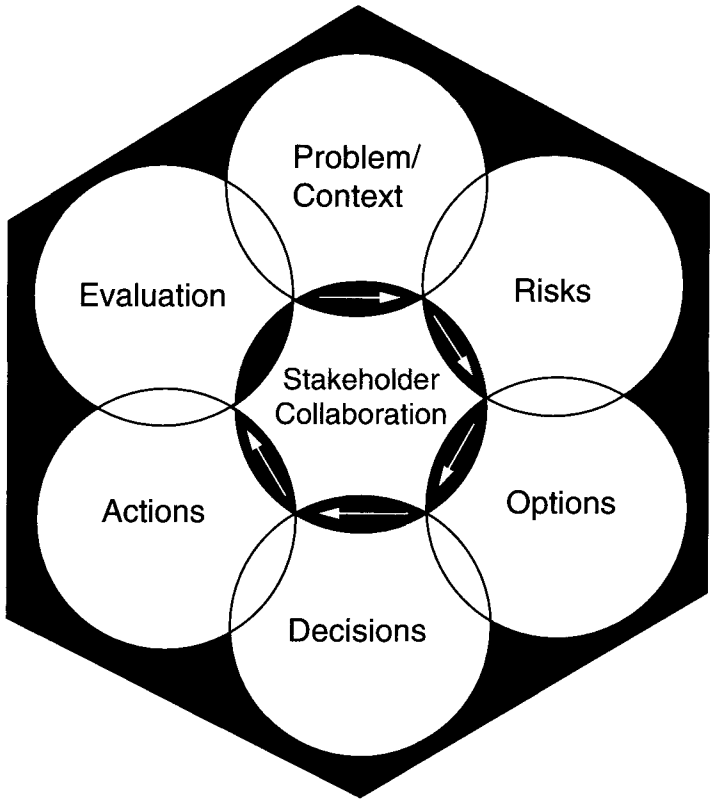

FIG. 1 Framework for risk management according to the President's Commission on Risk Assessment and Risk Management.[12–14]

children and youth and for all of us. The present and future generations of people in our cities and throughout the country depend on such professional, personal, and community commitments.

REFERENCES

1. Fee E. The origins and development of public health in the United States. In Detels R, Holland WW, McEwen J, Omenn GS, eds. *Oxford Textbook of Public Health.* Vol 1. 3rd ed. New York: Oxford University Press; 1997:35–54.
2. Omenn GS. The context for a future school of public health committed to urban needs. In Hogness J, McLaughlin C, Osterweis M, eds. *The University in the Urban Community: Responsibilities for Public Health.* Washington, DC: Association of Academic Health Centers; 1995:93–116.
3. National Center for Health Statistics. Department of Health and Human Services. *Healthy People 2000 Review, 1995–96.* Hyattsville, Md: Public Health Service; 1996. DHHS Publ. No. (PHS) 96-1256.
4. Detels R, Holland WW, McEwen J, Omenn GS, eds. *Oxford Textbook of Public Health.* Vol 1. 3rd ed. New York: Oxford University Press; 1997:73–236.
5. Omenn GS. Genetics and public health. *Am J Public Health.* 1996;86:1701–1703.
6. Rosenstreich DL, Eggleston P, Kattan M, et al. The role of cockroach allergy and exposure to cockroach allergen in causing morbidity among inner-city children with asthma. *New Engl J Med.* 1997;336:1356–1363.
7. McGinnis JM, Foege WH. Actual causes of death in the United States. *JAMA.* 1993; 2207–2212.

8. *Kids Count. The State of Washington's Children, 5th Annual Report.* Seattle, Wash: University of Washington School of Public Health and Community Medicine; 1996.
9. Hamburg DA. A developmental strategy to prevent lifelong damage. In *1995 Annual Report, Carnegie Corporation of New York.* New York: Carnegie Corporation; 1996.
10. Sampson RJ, Raudenbush SW, Earls F. Neighborhoods and violent crime: a multilevel study of collective efficacy. *Science.* 1997;277:918–924.
11. Institute of Medicine. *The Future of Public Health.* Washington, DC: National Academy Press; 1988.
12. Omenn GS. Putting environmental health risks in a public health context. *Public Health Rep.* 1996;111:514–516.
13. President's Commission on Risk Assessment and Risk Management. *Framework for Risk Management.* Washington, DC: Risk Commission; 1997.
14. President's Commission on Risk Assessment and Risk Management. *Final Report.* Washington DC: Risk Commission; 1997.