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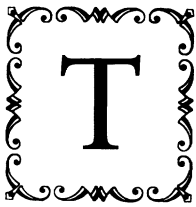
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Health Inequities in the United States: Prospects and Solutions

DENNIS RAPHAEL

 HE purpose of this paper is to consider the issue of health inequities in the USA with particular emphasis on public health responses to such inequities. Much of its content will focus upon the emerging literature on what are termed the social determinants of health (1,2). This literature links health outcomes to how societies are organized and structured. And one of the most important societal factors related to health appears to be the degree of economic inequality within a nation, state/province, or municipality (3,4). Economic inequality affects health directly by creating greater poverty and indirectly by weakening social structures that support health. Recognition of the important role played by the social determinants of health will require public health workers to reconsider and expand their concepts of health and how to work for health. It will also require health workers to consider the economic and political forces that create inequality. To date, such reconsideration of the role of public health in reducing health inequities by considering the social determinants of health has been—with some notable exceptions—uncommon in the USA.

DEFINING HEALTH, HEALTH PROMOTION, SOCIAL DETERMINANTS OF HEALTH, AND ECONOMIC INEQUALITY

There is a difference between a health inequality and a health inequity. A health inequality is simply the existence of health status differences among the population. In contrast, Dahlgren and Whitehead (5) argue that a health inequality becomes an inequity when it is avoidable, unnecessary, and unfair—a clear statement of a values position. Values held by a society and its citizens become especially important

as consideration is given to the source of health inequities and the willingness or unwillingness of a society to address these inequities.

The ideas that shape this consideration of health inequities in the USA are rooted in concepts of health and health promotion as outlined by the World Health Organization (WHO) in the *Ottawa Charter for Health Promotion* (6,7). These concepts have strongly influenced thinking about health in Canada and Europe; less so in the USA. *Health* refers to both the health status of individuals and to the health of communities. Among individuals, health refers to the incidence of illness and premature death as well as the presence of physical, social and personal resources that allow for the achievement of personal goals. Considering communities, health refers to the presence of economic, social and environmental structures that support the physical, psychological, and social well-being of community members (8,9).

Health promotion is the process of enabling people to increase control over, and improve their health (7). It occurs through processes of enabling people, advocacy, and mediating among health and other sectors. Specific actions are developing personal skills, creating supportive environments, strengthening communities, influencing governments to enact healthy public policies, and reorienting and improving health services. Health promotion has a strong values emphasis, an emphasis that is frequently lacking in various conceptions of population health (10).

Social determinants of health are the social and economic conditions within a society that influence whether people are healthy or ill (1,2). There is an emerging consensus concerning what these social determinants might be. There is less consensus on how these determinants can be influenced to improve health. *Economic inequality* refers to the unequal distribution in income and wealth of residents within a nation, state/province, or locality. Increasing economic inequality is becoming a focus of the public policy community in the USA, Canada, and the UK (11-23).

WHY BE CONCERNED ABOUT THE SOCIAL DETERMINANTS OF HEALTH?

While there have been significant improvements in health status among the populations of western industrialized nations as a whole, there continue to be wide disparities in population health between

nations as well as within them (24,25). Access to medical care has been hypothesized as being responsible in part for such differences, and clearly such access is important (26). Nevertheless, to illustrate the limits of considering access to health care as a key determinant of health, in the late 1970s Canadian researchers—in a nation with a universal health care system—found the difference in life expectancy between the lowest and highest quintiles of Canadian income earners to be 4.4 years; for disability-free life expectancy, the difference was 11 years (27).

Differences in heart disease have been shown to be due to elevated serum cholesterol resulting from diets rich in saturated fats, cigarette smoking, hypertension, and lack of physical activity. But studies carried out in the United Kingdom and the United States found that most of the differences in heart disease mortality among occupational and educational classes cannot be accounted for by these factors (28,29). More recently Lantz, et al.'s analyses of data from a nationally representative prospective study of US adults revealed that lifestyle factors of alcohol and tobacco use, body mass index, and activity accounted for a rather small proportion of variance in total mortality rates as compared to income (30). These and other studies indicate that there are additional factors that predict illness and death. What might these other factors be?

Non-medical factors that affect health go by a variety of titles such as prerequisites for health, determinants of health, and social determinants of health, among others. The *Ottawa Charter for Health Promotion* (7) identified the prerequisites for health as being peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice and equity. Clearly, these prerequisites represent a concern with structural issues. From another direction, Health Canada (31) accepted direction from the Canadian Institute for Advanced Research (32) in outlining determinants of health—only some of which are social determinants—of income and social status, social support networks, education, employment and working conditions, physical and social environments, biology and genetic endowment, personal health practices and coping skills, healthy child development, and health services. A British working group specifically identified “social determinants of health” as being the social gradient, stress, early life, social exclusion, work, unemployment, social support, addiction, food, and transport (1,2). The broadest application

of a social determinants of health approach involves analysis of the role political ideology plays in promoting economic inequality and weakening communal social structures (33). In these analyses, social determinants of health involve the overall structure of an economic system and how it allocates economic resources across the population.

In this paper the focus is upon social determinants of health associated with the distribution of economic resources within a jurisdiction (34). Such a focus leads to initial consideration of poverty and its effects upon individuals and communities. But the distribution of economic resources within a society is also associated with whether social supports and health services—also contributors to health—are available to the population. Finally, how a society distributes economic resources may also contribute to overall social cohesion, an additional contributor to the health of the population. After providing an overview of recent work on economic inequality and health inequities, the focus is upon issues related to the USA scene. An analysis of the current situation in Canada is also available (35).

POVERTY AND ITS EFFECTS ON HEALTH

Poverty is the most obvious manifestation of inequality in distribution of economic resources and potentially the strongest determinant of health (36). The effects of poverty on health have been known since the 19th century (37), but recent interest in its effects on health was spurred by the publication in the United Kingdom of the *Black* and the *Health Divide* reports (38). These reports documented how those in the lowest employment-level groups showed a greater likelihood of suffering from a wide range of diseases and having a greater likelihood of death from illness or injury at every stage of the life cycle. Differences in health were seen across the socioeconomic range from professional status to manual labor.

Interest in poverty and its health effects have continued unabated in the UK, and updates on health inequities within Britain and means of addressing such inequities are available (39–42). Indeed, British work in the health inequities area is the most advanced among industrialized nations and an excellent source of research ideas and potential courses of action. Canadian work on the social determinants of health and means of addressing health inequities resulting from these determinants are provided by Raphael (35,43,44) and Townsend (20).

A recent USA Department of Health and Human Services report

(26) documented the wide range of income-related health differences that exist between poor and not poor children, adults, and seniors. In addition to mortality and many morbidity differences, disparities are also seen for activity limitation among children and adults as well as cigarette smoking and being overweight. To illustrate the magnitude of these health differences, heart disease death rates reported for Americans between the ages of 25–64 earning <\$10,000 was 318 per 100,000; for those earning \$10,000–14,999, 251 per 100,000; for those earning \$15,000–\$24,900, 142 per 100,000, and those earning \$25,000 or more, 126 per 100,000. Similar findings were obtained for deaths from lung cancer and diabetes. Additionally, poverty has consequences in terms of performance in school, use of the health care system, and quality of attained employment.

No examination of the health effects of poverty can ignore the relationship between economic inequality and poverty. Societies that are economically unequal have higher levels of poverty. Recent re-analysis of data from the *Luxembourg Income Study* (45) found the relationship between degree of income inequality within a nation (as measured by the Gini index) with child poverty for 16 industrialized Western nations was strong, positive, and reliable ($r=.77$). The USA has both the highest levels of economic inequality and the greatest level of child poverty. The Gini index is a measure of economic inequality and considers how economic resources are distributed across the population. If all the wealth within a population was owned by one person, the index would be 1.00. If there was complete equality the index would be .00. A number of economic inequality indices have been developed and are described in Kawachi and Kennedy (46).

ECONOMICALLY UNEQUAL SOCIETIES PROVIDE FEWER SOCIAL SAFETY NETS

A second approach, moving the level of analysis from the individual to the societal, discloses that economic inequality directly affects poor people as more of a society's resources get shifted to the well-off. This occurs through the organization of the income tax system by which the well-off have—as compared to other nations—lower tax rates. Additionally, benefits to the poor in the form of social assistance benefits and social services may also be reduced (45). Nations, states/provinces, and municipalities with greater economic inequality

have weaker social safety nets (47), an important determinant of health for all individuals, but especially for the poor (48,49). The USA has the lowest percentage of tax revenues as a percentage of gross domestic product of all Organization for Economic Cooperation and Development (OECD) nations, and it provides less services and supports than most OECD nations (50).

The importance of social infrastructure to health is recognized as a basic principle of the *Healthy Cities Movement* (51). *Healthy Cities* projects emphasize developing healthy municipal public policy by recognizing health as involving the interaction of physical, mental, social, and spiritual dimensions. There is also a commitment to the view that “Since housing, environment, education, social services, and other city programs have a major effect on health in cities, strengthening these are important” (51, p. 8).

Consistent with this analysis, two intensive community-based ethnographic studies recently carried out in Toronto showed the profound importance of community agencies and resources for low-income people (52). When provided with simple open-ended questions about factors that influenced community members’ health and well-being, not only service providers, but community members and elected representatives saw reductions in funding to these agencies and to other supports for citizens as threatening the health of community members (53).

ECONOMICALLY UNEQUAL SOCIETIES HAVE HIGHER MORTALITY RATES

The third way economic inequality affects health is through weakening overall population health through mechanisms that are just beginning to be investigated. Wilkinson (25) brought together much of the research showing that societies with greater economic inequality have higher mortality rates. For example, after decades of rapidly increasing economic inequality—itsself correlated with increasing disparity in mortality rates—the most well-off in Britain now have higher death rates among infants and adult males than the least well-off in Sweden (54,55).

There are also findings that the well-off in economically unequal American communities have greater mortality rates than the well-off in relatively equal communities (56). To illustrate the magnitude of these effects, the differences in death rates from all causes between cities with high income inequality and low per capita income (926 per

100,000), and those with low income inequality and high per capita income (786 per 100,000), is 140 per 100,000, a figure that exceeds the overall rate of USA deaths from heart disease, 130.5 per 100,000 (57). Similarly, homicide rates in the 50 USA states are correlated with degree of economic inequality even after controls for absolute level of income, poverty, and race are applied (58).

Additionally, a just published analysis by Wolfson et al. confirms that differences in mortality between American states are best predicted from the degree of overall economic inequality rather than absolute income levels of individuals within the state (59). Findings like these led the *British Medical Journal* to editorialize: "What matters in determining mortality and health in a society is less the overall wealth of that society and more how evenly wealth is distributed. The more equally wealth is distributed the better the health of that society" (60). Why should this be the case?

ECONOMICALLY UNEQUAL SOCIETIES HAVE WEAKER SOCIAL COHESION

In *Unhealthy Societies: the Afflictions of Inequality*, Wilkinson argues that societies with greater economic inequality begin to "disintegrate"—that is, they show evidence of decreased social cohesion and increased individual malaise (25). These are hypothesized to be precursors of increased illness and death. Kawachi and Kennedy (61) make the case that economic inequality contributes to the deteriorating of what has been termed social capital, or the degree of social cohesion or citizen commitment to society (62,63). When the level of analysis is shifted to the societal level from the individual, the economic inequality and health relationship can be considered in terms of societal structures and public policy rather than as problems of individual health status and coping. As one example, these kinds of analysis can perhaps illuminate how differences between the USA and Canada in economic inequality may help explain mortality differences between the two nations (64). Canadian mortality rates are strikingly lower than those in the USA, as is the degree of economic inequality.

Two main schools of thought have emerged concerning the mechanisms by which economic inequality contributes to poor health. Kawachi, Kennedy and Wilkinson in the recently published collection of readings, *Income Inequality and Health*, emphasize the "Wilkin-

son hypothesis” of psychosocial and social cohesion explanations for health inequities (4). An emphasis is placed upon how perceptions of relative deprivation among citizens in unequal societies foster poor health and well-being. They pay rather less attention to the material deprivation issues and the role social policy decisions play in supporting health. While the hypothesis of the strong role of relative deprivation is compelling, it has been severely critiqued for its lack of emphasis on the material conditions of societies (36,65). It should also be noted that there has been little empirical research that specifically tests the relative deprivation hypothesis.

The British authors of the *Widening Gap*, however, explain socioeconomic differences in health in terms of how “. . . the social structure is characterized by a finely graded scale of advantage and disadvantage, with individuals differing in terms of the length and level of their exposure to a particular factor and in terms of the number of factors to which they are exposed” (42, p. 102). They bring together empirical research that links material deprivation during childhood and adulthood with the incidence of illness and death. The British workers emphasize 13 key critical periods of the life course during which people are especially vulnerable to social disadvantage. These include fetal development, nutritional growth and health in childhood, entering the labor market, job loss or insecurity, and episodes of illness, among others. Material disadvantage and the absence of societal supports during these key periods work against health. Recent work by Lynch et al. provide longitudinal support for the impact of material deprivation during childhood on adult health status (66).

SHOULD PUBLIC HEALTH CONSIDER ECONOMIC INEQUALITY AS A HEALTH ISSUE?

Considering the clear evidence that poverty and economic inequality lead to health problems, what is the role for public health in addressing these issues? Public health responses will be determined by the frame of reference through which these findings are considered (43). Labonte outlines three approaches toward considering and promoting health: the biomedical, lifestyle, and socio-environmental (67). In the biomedical approach, emphasis is on high-risk groups, screening of one sort or another, and health care delivery. The behavioural approach focuses on high risk attitudes and behaviours and developing programs that educate and support individuals to change behav-

ious. The socio-environmental approach focuses on high-risk conditions and considers how individuals adjust to these conditions or move to change them. Another way of thinking about focus is whether interest is on the individual (including biomedical and lifestyle aspects), community (including social supports and connections), or structural (including community resources, policy decisions, and distribution of economic resources) (44).

How does an individual or organization adopt a frame of reference? Sylvia Tesh argues that the approach one takes may be based more on ideology and values than the objective evidence associated with each theory (68). In current debates about the determinants of health, ideology plays itself out in debates about the relative importance of personal and structural factors in determining health (69,70).

One striking example of the role that ideology can play in public health action is the contrast between the ten tips for better health provided by the British Medical Officer Liam Donaldson (71) and by Professor David Gordon of Bristol University (72) (Table 1).

The former sees the determinants of health as primarily involving lifestyle choices and individual control; the latter conceptualizes health determinants as primarily structural and beyond individual control. Actually, both approaches should be used. In the case of tobacco, for example, societal policies with regard to the funding and character of educational programs are important, and structural policies such as clean air acts and taxation of tobacco products are crucial. Generally, however, the public health emphasis in the USA has been so focused on lifestyle aspects of health as to virtually ignore structural issues such as those raised by Gordon.

It is possible to accept the importance of income as a determinant of health but decide to focus on interventions for people with low incomes without addressing the income issue. An illustrative example is an editorial in the *Journal of the American Medical Association* that called for limited public health action towards improving the parenting skills of low income parents and working to communicate high expectations to poor children (73). It is also possible to focus on improving social networks among low income people without addressing the income issue (74).

This paper advances the position that public health should deal with poverty and low income as a major risk factor, just as it deals

TABLE 1

Ideology and Public Health

Ten Tips For Better Health (Donaldson, 1999)

1. Don't smoke. If you can, stop. If you can't, cut down.
2. Follow a balanced diet with plenty of fruit and vegetables.
3. Keep physically active.
4. Manage stress by, for example, talking things through and making time to relax.
5. If you drink alcohol, do so in moderation.
6. Cover up in the sun, and protect children from sunburn.
7. Practise safer sex.
8. Take up cancer screening opportunities.
9. Be safe on the roads: follow the Highway Code.
10. Learn the First Aid ABC—airways, breathing, circulation.

An Alternative Ten Tips for Better Health (Gordon, 1999)

1. Don't be poor. If you can, stop. If you can't, try not to be poor for long.
2. Don't have poor parents.
3. Own a car.
4. Don't work in a stressful, low paid manual job.
5. Don't live in damp, low quality housing.
6. Be able to afford to go on a foreign holiday and sunbathe.
7. Practice not losing your job and don't become unemployed.
8. Take up all benefits you are entitled to, if you are unemployed, retired or sick or disabled.
9. Don't live next to a busy major road or near a polluting factory.
10. Learn how to fill in the complex housing benefit/asylum application forms before you become homeless and destitute.

with all other important risk factors such as tobacco, alcohol, and saturated fats. Indeed, economic inequality is an important constraint on educational campaigns to reduce the prevalence of these risk factors. In the case of tobacco, Terris (75) has pointed out that in 1993 the gradient for age-adjusted prevalence of cigarette smoking ranged from 36% in the least educated to 14% in the most educated. He commented that:

More attention must be paid to the great majority of the people of the United States who are not in the social class which has 16 or more years of education. Only 14% of that social class are

current cigarette smokers. Among the rest of the American people, 25% to 36% are still current smokers. It is essential that we make every effort to close this inequality gap, that we pay special attention to the working class population, that we involve labor unions in our campaigns rather than continue to work solely with corporate elites, that we enlist the assistance of the numerous labor and minority publications, that we devise educational approaches and materials that are geared to the interests and concerns of low-income blue collar and white-collar workers, and that we speak the language of the people instead of the jargon of academia. (75, pp. 433-34)

WHAT EVIDENCE IS AVAILABLE CONCERNING ECONOMIC INEQUALITY AND HEALTH IN THE USA?

The hypotheses outlined suggest that greater economic inequality will be associated with greater incidence of poverty, greater evidence of poor health, and greater likelihood of signs of societal disintegration. What USA evidence is available concerning these hypotheses?

Despite spending a greater percentage of GDP (13.5%) on health care than any other industrialized nation, the USA performs poorly in international health status comparisons: "For nearly all available outcome measures, the United States ranked near the bottom of the OECD countries in 1996, and the rate of improvement for most of the indicators has been slower than the median OECD country" (76, p. 6). Among the 29 Organization for Economic Cooperation and Development nations, USA life expectancy ranked 19th for females and 22nd for males (77). A recent report from the WHO calculated "Healthy Life Expectancy" among 139 nations, and the USA placed 24th in these rankings (78). The reasons given for this low ranking included the very poor health status of native Americans, rural African-Americans, and the inner city poor. The USA also has very high levels of cancers related to tobacco use, a high coronary heart disease rate, and high levels of violence, especially homicide, when compared to other industrialized nations.

The Fordham Institute for Innovation in Social Policy has for the past 12 years reported overall USA and state scores on an Index of Social Health (79). The index consists of 16 indicators of health and well-being. Overall scores on the *Index* have been declining in the USA since the mid-1970s even as GDP has increased. Using the

period of 1970–1996, four indicators improved: infant mortality, high school dropouts, poverty for those 65+ years, and life expectancy for those aged 65+. However, there are seven indicators for which performance worsened: child abuse, child poverty, teenage suicide, number of health care uninsured, average weekly wages, income inequality, and violent crime. Six indicators show variable performance for the period: teenage drug use, teenage births, alcohol-related traffic fatalities, affordable housing, and unemployment.

What is particularly illuminating are comparisons of USA indicators with those of other nations. The following are rankings of the USA as compared to selected industrial nations culled from various international sources (79). Outside of unemployment rates, the USA compares unfavorably to other industrialized nations (Table 2).

TABLE 2

USA Rankings on Various Social Indicators
as Compared to Other Industrialized Nations

<i>Measure</i>	<i>USA Ranking (1 is best)</i>
Child Poverty (1990)	17 of 17
Elderly Poverty (1990)	15 of 17
High School Dropouts (1996)	17 of 17
Income Inequality (1990)	18 of 18
Infant Mortality (1995–1996)	21 of 23
Life Expectancy (1990)	17 of 23
Teenage Births (1991–1995)	5 of 5
Unemployment (1996)	2 of 10
Wages (1996)	13 of 23
Youth Homicide (1992–1995)	22 of 22
Youth Suicide (1992–1995)	15 of 22

The USA has the highest level of child poverty among western industrialized nations. These issues are complicated by the USA spending less than most other industrialized nations on social services and other program spending.

ECONOMIC INEQUALITY IS INCREASING IN
THE UNITED STATES

The USA has witnessed an unprecedented increase in income and wealth inequality in the past two decades (80,81). Former Secretary

of Labor, Robert Reich, observes: “Almost two decades ago, inequality of income, wealth, and opportunity in the United States began to widen, and today the gap is greater than at any time in living memory. All the rungs on the economic ladder are farther apart than they were a generation ago and the space between them continues to spread” (82, p. 1).

In international comparisons, “Measures of social distance and overall inequality indicate that the United States has the most unequal distribution of adjusted household income among all 22 countries covered in the [Luxembourg Income] study” (50, p. 201). In an analysis of OECD countries’ degree of inequality, Smeeding notes that “Thus the United States, which had the most unequal income distribution in 1979, also had the most unequal distribution in 1994, with inequality growing rapidly through the mid 1990s” (50, p. 212). Most of the inequality is due to the lower living standards and wages of the least well-off in American society. “American low income families are at a distinct disadvantage compared with similarly situated families in other nations” (50, p. 201). The poor living conditions of low-income Americans are seen as resulting from low wages and low social spending by the USA.

In the volume within which Reich’s and Smeeding’s chapters are contained, editors Auerbach and Belous (11) identify three main factors contributing to the increase of income disparity: a) labor market forces including shifts due to globalization and in relative demands of different types of labor and the decline of unionization; b) growing diversity in the composition of households such as the rise of single-parent families and families with dual earners; and c) political policy changes including changes in the tax structure and in social welfare programs.

Documentation is widely available of the growing gaps in income and wealth among Americans (12,13,80,81). The recent report, *Divided Decade: Economic Disparity at the Century’s Turn* (12), presents a striking contrast in the distribution of income growth between two recent periods of USA history (Table 3).

Further, changes in after-tax family income from 1977–1999 were bottom 20% (-9%); second 20% (+1%); middle 20% (+8%), fourth 20% (+14%); top 20% (+43%); top 1% (+115%). Wealth differences among Americans are even greater. By 1997, the top 1% of the

TABLE 3

Changes in American Family Income for Periods 1947-1979 and 1979-1998, by Income Quintile and Top 5%

	1947-1979	1979-1998
Bottom 20%	+116%	-5%
Next 20%	+100%	+3%
Middle 20%	+111%	+8%
Next 20%	+114%	+15%
Top 20%	+99%	+38%
Top 5%	+86%	+64%

USA population controlled 40% of American wealth. The top 5% controlled 62% of wealth (13). The trends have caused even the *US News and World Report* and the *New York Times Magazine* to take notice and consider the implications of such concentration of wealth for the well-being of society (83,84).

HEALTH DIFFERENCES IN THE USA RELATED TO RACE

It was noted earlier that health differences are strongly related to income differences. Issues of economic resource allocation and health inequities in the USA are complicated by increasing racial segregation within American communities. In 1985 the USA Department of Health and Human Services identified six causes of death that collectively accounted for more than 80% of excess mortality among non-white populations: cancer, cardiovascular disease and stroke, chemical dependency, diabetes, homicides, suicides and unintentional injuries (85). Indeed, health differences among blacks and whites in the USA have been known for over 150 years (86). Table 4 shows USA mortality rates by income class and race for 1986 as calculated by Pappas, et al. (87). Terris (24) noted that “very large differences by income class occur in each of the four groups studied, and that these differences are much greater than the differences by race. Indeed the authors report that ‘the differences in overall mortality rates according to race were eliminated after adjustment for income, marital status, and household size.’”

TABLE 4

Age-adjusted Death Rates by Income Class, Black and White Men and Women Age 25-64, U.S.A., 1986

Income	Men		Women	
	White	Black	White	Black
Under \$9,000	16.0	19.5	6.5	7.6
\$9,000-14,999	10.2	10.8	3.4	4.5
\$15,000-18,999	5.7	9.8	3.3	3.7
\$19,000-24,999	4.6	4.7	3.0	2.8
\$25,000 or more	2.4	3.6	1.6	2.3

More recent data contained in *Health, United States, 1998: Socio-economic Status and Health Chartbook* reinforce the continuing role race plays in both health status and the determinants of health status (26). Median family income for white families for 1996 was \$38,800; for black families \$23,500, and for Hispanic families \$25,000. Similar racial patterns were seen for percent of persons poor and not poor (p. 144), educational attainment of persons 25-64 (p. 145), heart disease death rates among adults 25-64 (p. 152), health insurance coverage among adults 18-64 (p. 158), and unmet needs for health care during the past year among adults 18-64 (p. 159).

The racial wealth gap in the USA is striking. Recent statistics indicate that in 1995 the median household net worth of white families was \$61,000, that of black families \$7,400, and Hispanic families \$5,000. Financial worth, excluding ownership of a residence, was \$18,100 for white families, \$200 for black families, and \$0 for Hispanic families (13).

To put the income, race, and health issues into some perspective, Williams, Yu, and Jackson recently studied the relationship of income, race, education level, and perceived discrimination to self-reported health, bed days, well-being, and psychological distress among 520 Detroit area whites, 586 blacks, and 33 other minority group members (88). Not surprisingly, there were profound differences in education, household income, class, and race-related stress between black and whites. Blacks reported significantly more health-related problems than whites. Many of these differences could be accounted for statistically by differences in income. Indeed, racial differences for self-reported ill health and for bed-days were reduced to

trend levels ($p < .10$) once income was considered, and became non-significant for well-being and psychological distress. The role of discrimination in producing differences in levels of the social determinants of health for differing racial groups is not considered in this research.

Up-to-date discussions of the role racism and discrimination plays in population health are available (89–91). But it appears that race, as well as gender and social class, influences health through four principal pathways:

The new research holds that these social relations [social class, race, gender] are determinants of population health and disease through four principle pathways: (1) by shaping exposure and susceptibility to risk factors, events, and processes; (2) by shaping exposure and susceptibility to protective factors, events, and processes; (3) by shaping access to, and type of, health care received; and (4) by shaping health research and health pathways (92, p. 100).

SIGNS OF DISINTEGRATION

It has been argued that societies with high levels of economic inequality show symptoms of societal disintegration. The form that societal disintegration takes in each society may be unique. In Britain, increasing economic inequality has been associated with increased alcoholism, crime rates, and deaths by road accidents and infectious diseases, poorer reading scores, increased drug offences, decaying family functioning, and decreased voter turnout, among others (25). In the United States economic inequality among the 50 states has been related to a mixed bag of indicators that may be seen as involving indicators of disintegration. Degree of inequality was related to levels of unemployment, proportion of the population incarcerated, use of income vouchers, food stamps, and proportion of the population with no health insurance. Similar findings were reported for having no high school education, high school leaving, reading and math proficiency, education spending, and library books per capita (58).

As noted, scores on the Fordham *Social Health Index* have been declining in the USA since the mid-1970s even as Gross Domestic Product has increased. Glyn & Millibrant consider the social and economic costs of economic inequality to society; as noted previously,

the USA has the greatest degree of economic inequality among industrialized nations (93). One area that can be recognized as a sign of disintegration is increasing economic and racial segregation of American communities. Orfield describes how polarization in income contributes to decaying inner cities and suburbs in American cities (94).

ECONOMIC AND RACIAL SEGREGATION AND POTENTIAL HEALTH EFFECTS

Another complicating situation in the USA is the degree of economic and racial segregation in American cities and the potential adverse health effects associated with such segregation (95,96). In *Metropolitics: A Regional Agenda for Community and Stability*, Orfield lays bare the dilemmas faced by major American cities in general and Minneapolis in particular:

It couldn't happen here . . . The Twin Cities were immune to urban decline, inner suburban decay, urban sprawl—and the polarization that has devastated and divided older, larger regions. After all, we were not Chicago, Detroit, or Milwaukee . . . If it could happen here, no American region is immune. Once polarization occurs, the concentration of poverty, disinvestment, middle class flight and urban sprawl grow more and more severe. (94, p. 1)

Orfield documents how poverty and racial composition have become concentrated within specific areas of the Twin Cities region. He also describes how competing interests that arise among central cities, surrounding suburban rings, and developing suburbs both reflect these changes and serve to accentuate them. Confirming Orfield's observations, the *New York Times* recently reported that the overall probability of a black American student having white classmates was reduced from 34.7% in 1989–1990 to 32.4% in 1997–1998 (97). Minnesota, however, showed the second greatest increase in rates of racial segregation in the nation, with the probability of a black student having white classmates decreasing 15.2%, from 61.2% in 1989–1990 to 46% in 1997–1998.

The validity of Orfield's observations concerning economic and racial segregation were confirmed by a survey by the Fannie Mae Foundation of 149 leading USA urban historians, planners and architects who were asked to identify the top 10 influences on American

cities over the next 50 years (98). Ranked first and second were “growing disparities of wealth” and “suburban political majority.” Ranked fourth was “perpetual underclass in central cities and inner-ring suburbs.” Ranked seventh was “deterioration of the ‘first-ring’ post-1945 suburbs.” Health workers cannot ignore how these developments have the potential to influence the health and well-being of individuals and the communities within which people live and work.

Finally, recent work, drawing on data from the National Longitudinal Mortality Study, found that the degree of minority residential segregation predicted mortality rates among black men aged 25–44 years, non-black men and women aged 45–64 years, and black women 65 years and older (99). Once controls for family income were introduced, black men aged 25–44 who lived in the most segregated areas had almost three times higher risk, and among black women in this age group the risk of death was almost twice the rate for those in less segregated areas.

Clearly, the literature concerned with urban issues has much to offer health workers concerned with the social determinants of health. Such work directs attention to structural issues associated with public policy and the conflicts between differing communities that may increasingly arise as a result of increasing economic and racial segregation. Identifying sources of resistance to necessary policy changes helps to illuminate the forces maintaining inequality and suggests avenues for action (100,101).

The recently published volume, *Developmental Health and the Wealth of Nations*, outlines biological, psychological and social mechanisms by which income differences influence health (102). Of most relevance for the present discussion is the statement by Brooks-Gunn et al.:

Comparing across chapters in this volume suggests that income gradients during childhood are steeper in the United States than in Canada or the United Kingdom . . . First, as we just stated, more U.S. children are in deep poverty than in the two comparison nations. Second, the income disparities between the rich and poor and near poor are much larger in the United States than in Canada or the United Kingdom. Unless policies address these inequities . . . it is likely that the SES gradient will remain steeper for US children than for Canadian or British children, with the

consequent risks for the developmental health of the American population that we have identified. (103, p. 122)

PUBLIC HEALTH RESPONSES TO HEALTH INEQUITIES:
THE CANADIAN SCENE

In the USA population health researchers have documented the strong association between degree of economic inequality and a number of indicators of population health. There are also a number of organizations that have raised the issue of economic inequality such as United for a Fair Economy (12,13). A particularly interesting USA response has been the development of the Living Wage Movement—a movement that has scored a number of victories (104).

However, considering the magnitude of increasing economic inequality in the USA and the rather limited public health response to the issue, it seems valuable to consider—in addition to USA responses—how Canadian health workers have responded to increasing economic inequality.

A recent review considered the current state of Canadian public health responses to health inequities (44). Concern about increasing economic inequality in Canada has been raised primarily by the social development rather than the public health sector. This is surprising since Canada has been a world leader in the development of theory related to health promotion and the “new public health” (105,106). Studies indicate that while the health-related effects of economic inequality and poverty are known to many public health professionals, public health responses—with few notable exceptions—are limited to the delivery of ameliorative programs to those living in poverty. While federal, provincial, and public health association documents include economic inequality as a determinant of health (6,31,107–109), discussions of the role that economic inequality plays in creating poverty, its impact upon community structures that support health, and the causes of increasing inequality, have been, for the most part, isolated from public health discourse and practice.

One exception to this tendency was the City of Montreal’s report, *Social Inequalities in Health*, in which the director of public health presented an extensive discussion of the role that social inequalities, specifically economic resources, played in determining the health of Montrealers (110). In the report’s final chapter, *Counteracting Poverty and its Consequences*, avenues of action open to the Depart-

ment of Public Health were outlined. These actions included monitoring, research and evaluation, transmission of knowledge, regional programming, and strategic action. Concerning strategic action, this includes keeping decision-makers and public opinion informed of the department's concerns about social issues important to the health and well-being of residents.

A number of developments are cause for optimism in Canada. Economic inequality is a continuing focus of many social development and anti-poverty organizations. Statistics Canada provides ongoing reports of the degree of economic inequality, and The Federation of Canadian Municipalities (111) has instituted a Quality of Life Index project that uses measures that should be sensitive to increasing economic inequality such as income, affordability of housing, and presence of social infrastructure. In this analysis of the Canadian situation, a number of action areas were suggested to move the economic inequality, poverty, and health agenda forward. These were: a) develop communication between various sectors concerned with economic inequality; b) contribute papers to academic and professional journals on income-related developments and their potential for affecting the health of Canadians; c) use the media to educate citizens about the consequences of increasing economic inequality and poverty upon health; d) lobby local health departments to begin taking seriously a determinants of health approach which includes consideration of the importance of economic inequality and poverty; e) lobby governments to maintain the community and service structures that help to maintain health and well-being; and f) begin to understand the forces that create economic inequality and poverty.

POLICY OPTIONS

If USA public health workers were to highlight policy options to reduce economic inequality, what would some of these look like? One of the few policy programs outlined by a USA public health professional is also one of the most complete. In 1994, Milton Terris, the editor of the *Journal of Public Health Policy* (24), presented 12 recommendations that if implemented would totally alter the social environment in the USA. These recommendations are presented in the Appendix. The centrepiece of this program is a massive government effort to assure that all Americans are provided with the health prerequisites outlined in the *Ottawa Charter for Health Promotion*.

Terris also noted that profound changes in USA public policy are responsible for much of the increase in economic inequality. While the maximum income tax rate as of 1989 for 86 countries averaged 47%, in the USA the maximum had been reduced to 28%. He comments:

Inequities in income in the United States have been deliberately widened by federal, state, and local tax policy. The maximum federal income tax rates stayed at 91% during the fifties, fell to 70% during the sixties and seventies, and were reduced to 28% in the eighties. This sharp decline in the progressive character of the income tax was accompanied by a sharp increase in the regressive social security tax rates from 3% in 1955 to 15% in 1989 . . . Furthermore, state and local taxes need to be drastically revised. Currently only 26% of their tax revenues come from income taxes, as compared with 72% for the federal government. Regressive taxes—sales, excise and property taxes—account for 74% of local and state taxes. The situation needs to be reversed in order to achieve a more equitable tax policy and to further narrow the incredibly wide income disparities in our population. (24, p. 14)

The New York Times also noted that “States are cutting taxes, but taxes that fall most heavily on the poor, like those on sales and gasoline, are being cut the least” (112).

In Canada, the *Growing Gap* report outlined a number of “Ways to Close the Gap.” Yalnizyan (22) recommended closing the five gaps that exist between rich and poor as follows:

- *Employment Gap*: create a better distribution of working time; provide publicly needed goods and services; adopt procurement policies; improve access to capital; ensure high quality, low cost education and child care; enforce employment equity legislation; undo the bias in the tax system; and enact a review investment mechanism with teeth.
- *Value Gap*: join a union, support a union, form a union; raise minimum wage to a living wage; call for ‘maximum salaries’; improve pay equity, and demand better corporate behavior.
- *Income Gap*: supplement low wages; restore and improve income supports; and provide a guaranteed minimum income.

- *Common Goods Gap*: make housing more affordable; create a system of universally accessible, high quality child care; restore the health of the health system; expand universal health provisions; improve public education and access to higher education; enhance parks, libraries and community services.
- *Wealth Gap*: reinstate the inheritance tax; review family trust provisions; and prevent increased concentration of ownership.

British researchers have recommended strong government action to close the widening health gap. In the volume, *The Widening Gap*, Shaw et al. make three main points in their discussion of how to narrow the health gap (42).

- The key policy that will reduce inequalities in health is the alleviation of poverty through the reduction of inequalities in income and wealth.
- There is widespread public support for poverty reduction in Britain and the government has pledged to eliminate child poverty by 2020.
- Poverty can be reduced by raising the standards of living of poor people through increasing their incomes in cash or “in kind.” The costs would be borne by the rich and would reduce inequalities overall—simultaneously reducing inequalities in health.

In a follow-up volume, *Tackling Inequalities*, Pantazis and Gordon provide detailed policy prescriptions for addressing health inequities in Britain (41). Also in Britain, the *Acheson Independent Inquiry into Inequalities in Health* outlined 39 sets of recommendation that provide a rich source of ideas for reducing health inequities (39). Thirteen of these sets of recommendation are presented under the following headings with one example of each type of action presented.

- *General Recommendations*: We recommend that as part of health impact assessment, all policies likely to have a direct or indirect impact on health should be evaluated in terms of their impact on health inequalities, and should be formulated in such a way that by favouring the less well off they will, wherever possible, reduce such inequalities.
- *Poverty, Tax and Benefits*: We recommend that further reductions in poverty of women of child-bearing age, expectant

mothers, young children and older people should be made by increasing benefits in cash or in kind to them.

- *Education*: We recommend the provision of additional resources for schools serving children from less well off groups to enhance their educational achievement. The Revenue Support Grant formula and other funding mechanisms should be more strongly weighted to reflect need and socioeconomic disadvantage.
- *Employment*: We recommend further investment in high quality training for young and long-term unemployed people.
- *Housing and Environment*: We recommend policies which improve housing provision and access to health care for both officially and unofficially homeless people.
- *Mobility, Transport, and Pollution*: We recommend the further development of a high quality public transport system which is integrated with other forms of transport and is affordable to the user.
- *Nutrition and the Common Agricultural Policy*: We recommend strengthening the CAP Surplus Food Scheme to improve the nutritional position of the less well off.
- *Mothers, Children, and Families*: We recommend an integrated policy for the provision of affordable, high quality day care and pre-school education with extra resources for disadvantaged communities.
- *Young People and Adults of Working Ages*: We recommend measures to prevent suicide among young people, especially among young men and seriously mentally ill people.
- *Older People*: We recommend policies which will further reduce income inequalities, and improve the living standards of households in receipt of social security benefits.
- *Ethnicity*: We recommend that the needs of minority ethnic groups be specifically considered in the development and implementation of policies aimed at reducing socioeconomic inequalities.
- *Gender*: We recommend policies which reduce the excess mortality from accidents and suicide in young men. Specifically, improve the opportunities for work which will ameliorate the health consequences of unemployment.
- *The National Health System*: We recommend that providing equitable access to effective care in relation to need should be a governing principle of all policies in the NHS. Priority should

be given to the achievement of equity in the planning, implementation, and delivery of services at every level of the NHS.

The policy recommendations which have been proposed in Canada, the United Kingdom, and the United States indicate the need to move from epidemiologic research to public health action, from demonstrating the major impact of economic inequality on community health, to the development and implementation of specific policies and programs to reverse the continuing increase in economic inequality. In the USA, which has the most unequal income distribution among the industrial nations, the public health movement has been willing to make general statements on the social determinants of health, but there has been little or no attempt to concretize these general statements through advocacy and action on the specific policies and programs identified in this paper. It is time to move forward.

APPENDIX

Determinants of Health: A Progressive Political Platform

Excerpted from Terris, M., *Journal of Public Health Policy* 15 (1994): 5-17.

Recommendation 1: That the United States adopt the policy of Free Public Education for All the People, including all levels of education; that it correct the current methods of financing public education to guarantee equity in the annual spending per pupil in all school districts of the nation, whether rich or poor, urban or rural; and that it achieve such equity, as well as major improvement in the quality of public education, through a large scale program of federal grants-in-aid to the states, based on state plans that guarantee equity in spending per pupil in all school districts and that meet national standards of educational quality.

Recommendation 2: That the federal, state and local governments provide funds for a massive housing program which will not only eliminate homelessness but will provide decent, affordable housing for everyone in the United States. This will not only resurrect the construction industry from its current desperate situation, but will provide large numbers of construction workers with increased purchasing power that will help other American industries to recover from depression. Such a program must include full protection of labor's right to organize, effective affirmative action to employ blacks and other minorities as well as women, and close monitoring of expenditures and quality.

Recommendation 3: That a similar large scale program be instituted for the renewal and expansion of the nation's neglected and decaying public infrastructure: public buildings, schools, hospitals, health centers, water supply and sewage disposal systems, roads, bridges, railways, subways and other necessary public facilities.

Recommendation 4: That it be made national policy to move from the current norm of the 8-hour day to a 6-hour day with full protection of wage and salary levels, in all branches of industry, and that the federal, state and local governments take the initiative by instituting the 6-hour day for all government employees and for those employed in private industries where the funding for their wages and salaries comes from governmental grants and contracts.

Recommendation 5: That obstacles to employment of women be removed by the development of a large scale program of child care centers of good quality, financed by federal, state, and local governments; by national legislation mandating paid maternity leave for all women, which has long been established throughout Europe; by enforcement of the principle of equal pay for equal work by men and women; and by affirmative action to overcome all other forms of gender discrimination.

Recommendation 6: That education and training programs be developed in all communities to enlarge the knowledge and skills of unemployed persons and to provide counseling and assistance in obtaining employment; such programs should be funded with federal financial support and meet national educational standards.

Recommendation 7: Raise the current totally inadequate minimum wage so that full-time workers who receive that wage have incomes above the poverty level.

Recommendation 8: Revise the Social Security program to guarantee a level of benefits for low-income retirees which is above the poverty level.

Recommendation 9: Persons unable to work because of physical or mental impairments should receive government subsidy adequate to keep them from falling below the poverty level.

Recommendation 10: Initiatives to strengthen the development of third world countries and their achievement of higher living standards are essential to full employment and higher living standards in the United States. One such initiative is the Pan American Health Organization's environmental health plan.

Recommendation 11: That the federal maximum income tax rate be set at 70%, and that the share of local and state revenues raised by progressive, graduated income taxes be increased to 75%, in order to provide equity in

taxation policy, help narrow the very wide income disparities, and provide the funds needed to implement a progressive political program.

Recommendation 12: That the military budget be cut by 50% now, with further cuts to follow, and that funds so released be used exclusively to provide jobs, housing, and health for all Americans.

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ABSTRACT

An overview of the role that social determinants of health play in influencing health is provided. Emphasis is on the impact of economic inequality in creating health inequities among Americans. Economic inequality is seen as impacting health in three ways: increasing economic inequality weakens population health by creating poverty; weakening communal social structures that support health such as social and health services; and decreasing social cohesion and civil commitment. Documentation is provided of the growing degree of economic inequality in the USA and complicating issues of racial segregation are considered. Specific recommendations for addressing economic inequality, from USA, British, and Canadian sources, are presented. These recommendations indicate the need to move from epidemiologic research to public health action, from demonstrating the major impact of economic inequality on community health to the development and implementation of specific policies and programs to reverse the continuing increase in economic inequality.