

When Social Policy is Health Policy

Why Increasing Poverty and Low Income Threatens Canadians' Health and Health Care System

DENNIS RAPHAEL

SCHOOL OF HEALTH POLICY AND MANAGEMENT, YORK UNIVERSITY

Concerns about increasing numbers of Canadians living in poverty and on low incomes have primarily been raised by the social development and social welfare sectors (Yalnizyan, 1998). The health-related consequences of these increases are profound yet the public health and health care communities have been strangely silent concerning these issues (Raphael, 2000a). This is surprising as accumulating evidence indicates that poverty and low income have significant effects upon the health of populations (Raphael, 2001b). The current policy environment in Canada is one where increases in numbers of Canadians living in poverty and on low incomes are not seen by policy makers as particularly problematic. Yet such increases clearly threaten the health of Canadians and the sustainability of the Canadian health care system.

In an earlier paper in *CRSP*, an overview of health-related effects of income inequality—including increasing poverty and low income—was presented (Raphael, 1999). Here, the health-related threats posed to Canadians by increasing levels of poverty and low income are illustrated through the specific example of cardiovascular disease in Canada (Raphael, 2001c). Mechanisms by which poverty and low income contribute to the incidence of cardiovascular disease are outlined. The social and health policy implications of having increasing numbers of Canadians living in poverty and on low incomes are considered with a focus on the sustainability of the public health care system.

The Social Determinants of Health

While significant improvements in health status among the populations of West-
Spring/Summer 2003, No. 51

ern industrialized nations during the past century are apparent, wide disparities in health occur between nations as well as within them (Marmot & Wilkinson, 1999; Evans, Barer & Marmor, 1994). Access to medical care has been hypothesized as being responsible in part for such differences as have differences in lifestyle behaviours (Raphael, 2000b).

For example, the incidence of cardiovascular disease has been related to the risk factors of elevated serum cholesterol hypothesized to result from diets rich in saturated fats, tobacco use, and lack of physical activity. But significant questions about these conclusions have been raised and numerous studies in the United Kingdom, United States, Canada, and elsewhere find that most of the variation in deaths from cardiovascular disease among population groups are not accounted for by these factors (Fitzpatrick, 2001; Taubes, 2001; Marmot, Rose, Shipley & Hamilton, 1978; Lantz, House, Lepkowski, Williams, Mero & Chen, 1998; Feldman, Makuc, Kleinman & Cornoni-Huntley, 1989). What might these other determinants of disease be?

Societal factors that influence health go by a variety of titles such as prerequisites for health, determinants of health, and social determinants of health. And a wealth of research indicates that these factors account for most of the variation in incidence of disease among and between populations. The *Ottawa Charter for Health Promotion* identified the prerequisites for health as being peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice and equity (World Health Organization, 1986). Health Canada (1998) took direction from the Canadian Institute for Advanced Research 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 World Health Organization working group more recently explicitly identified the social determinants of health as being the social [status health] gradient, stress, early life, social exclusion, work, unemployment, social support, addiction, food, and transport (Wilkinson & Marmot, 1998). Common to all of these formulations is income. In addition, income influences the presence and quality of many other health determinants. Income influences the quality of early life, levels of stress, social exclusion, availability of food and transport, incidence of addictions, and so on. In this paper the focus is upon income as the key social determinant of health.

The case of cardiovascular disease in Canada is used to illustrate how the increasing incidence of poverty and low income threatens Canadians' health and health care system. The argument will be made that social policy—especially in regards to income distribution—is in actuality health policy.

Income Distribution and the Health of Populations

Research shows the profound effects upon the health of individuals and populations of how income is distributed within a society. There is continuing debate about whether income inequality—rather than absolute level of average wealth—predicts longevity in Western nations (Lynch, Davey Smith, Hillemeier, Shaw, Raghunathan & Kaplan, 2001). But clearly, the increases in incidence of poverty associated with increasing income inequality is negatively related to a wide number of indicators of health in North American states/provinces and cities (Kawachi, Kennedy & Wilkinson, 1999).

Canada's death rates from diseases are strikingly lower than comparable US rates as are provincial and city levels of poverty, low income and income inequality (Ross, Wolfson, Dunn, Berthelot, Kaplan & Lynch, 2000). As of 1991, however, overall distribution of income did not contribute additional predictability of degree of illness than that provided by absolute income levels among Canadian cities and provinces. Within these jurisdictions however, income level is a potent predictor of health and the incidence of disease. A variety of hypotheses have been advanced to explain the findings that income inequality differences among U.S. jurisdictions—and potentially among Canadian jurisdictions as Canada moves towards U.S. models of social policy—contributes to poor health. The most obvious one is that jurisdictions with unequal distribution of incomes are those with greater numbers of poor and low-income people. And it has been known since the nineteenth century that these individuals are the ones most likely to experience disease and premature death (Sram & Ashton, 1998).

A second hypothesis is that even individuals not living in poverty or on low incomes in unequal communities experience stress associated with comparisons of their life situations with that of others. In this psycho-social view, the material needs of people may be met, yet they suffer health effects related to these comparisons. Related to this is the view that this distancing of citizens from each other leads to a weakening of social cohesion and the social capital of jurisdictions with associated health effects (Kawachi & Kennedy, 1997).

The third hypothesis is that unequal jurisdictions are also the ones that—in addition to having greater numbers of poor and low-income people—spend less on, and therefore have weaker social infrastructures and social safety nets. The lack of these resources damages the health of both low- and not-low-income persons within these jurisdictions. This neo-materialist interpretation also focuses on the differences in material resources that accrue to individuals across the socioeconomic spectrum rather than on perceptions of relative deprivation (Lynch, Davey Smith, Kaplan & House, 2000). Whatever interpretation proves most accurate, the one shared conclusion is that societies with higher numbers of people living in poverty and low income will show evidence of poorer population health.

The Cardiovascular Health Effects of Poverty and Low Income

Numerous reports from the UK, U.S., and Canada document how the lowest income groups have a greater likelihood of suffering and dying from a wide range of diseases at every stage of the life cycle (Acheson, 1998; U.S. Department of Health and Human Services, 1998; Wilkins, Adams & Brancker, 1989). And cardiovascular diseases are especially sensitive to income effects. The magnitude of the differences among income groups differ between nations with gradients especially steep in unequal nations such as the UK and the U.S. and less so in more equalitarian nations such as Sweden and Finland (Raphael, 2001c).

In Canada, data on individuals' social and income status is not routinely collected at death, so national analyses rely upon residence census tracts to estimate neighbourhood income level which is then correlated with incidence and cause of death. In 1986, it was estimated that 21 per cent of premature years of life lost prior to age 75 in Canada were associated with income differences and this estimate increased to 23 per cent by 1996 (Wilkins et al., 1989; Wilkins, Ng & Berthelot, 2001). In both 1986 and 1996 the diseases most related to income differences were cardiovascular diseases. In 1996, 22 per cent of years lost related to income differences were caused by cardiovascular disease. These estimates are very similar to those obtained in Australia and Holland (Turrell & Mathers, 2000; Middelkoop, Struben, Burger & Vroom-Jongerden, 2000).

There were significant declines in deaths from 1986 to 1996 caused by cardiovascular disease in Canada (Statistics Canada, 2001). Death rates declined the most for males living in the lowest income neighbourhoods. Nevertheless, the income differences were still steeped from richest to poorest neighbourhoods and the differences between quintiles were still very large. For females, differences between income quintiles were smaller than for males but still large, with successively higher rates in poorer quintiles. Figure 1 shows the death rates from cardiovascular disease for urban men and women as a function of income quintile of neighbourhood.

It should be noted that the ratio of death rates from cardiovascular disease between the lowest income quintile and the highest income quintile declined for men from 1.35 in 1991 to 1.32 in 1996. But the same ratio increased for women from 1.12 in 1991 to 1.20 in 1996. Overall, it is estimated that income differences account for an excess in premature deaths (death prior to 75 years) from cardiovascular disease among Canadians of 23.7 per cent. Were all Canadians' rates of death from cardiovascular disease equal to those living in the wealthiest quintile of neighbourhoods, there would be 6,366 less annual premature deaths from cardiovascular disease.

The 1996 analysis also revealed that within each income quintile of neighbourhoods, the percentage of low income people increased from 1991 to 1996 with

Figure 1: Cardiovascular Deaths Per 100,000, Urban Canada, 1996

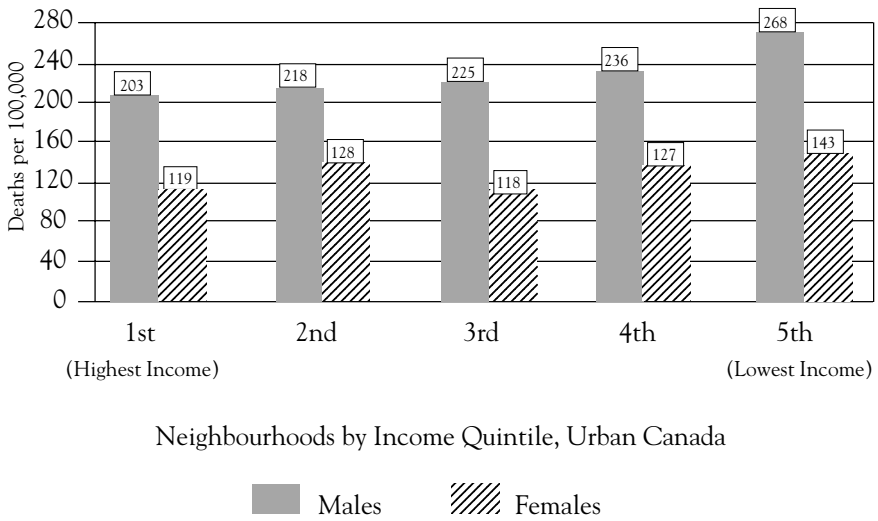
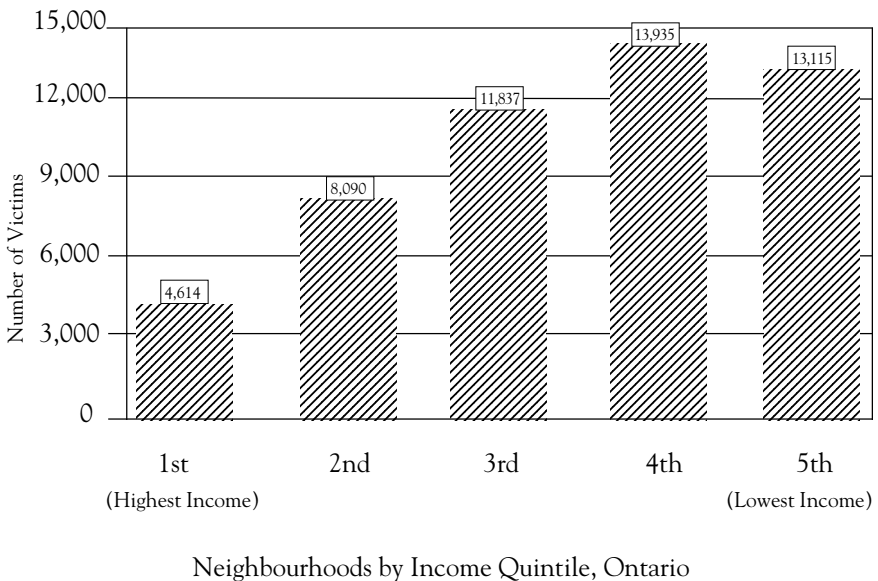


Figure 2: Heat Attack Hospital Admissions by Area Income, Ontario, 1994-97



the greatest increases occurring in lower income neighbourhoods. The implications of greater numbers of Canadians living on low incomes for cardiovascular health are discussed in later sections.

A particularly striking example of the relationship between income level and heart disease is provided by an Ontario study which looked at the relationship of median income of neighbourhood and the incidence of—rather than death from—acute myocardial infarction (heart attack) among 51,000 Ontario patients admitted to hospital (Alter, Naylor, Austin & Tu, 1999). Ontario neighbourhoods were categorized into five quintiles as a function of average income. Anyone who had suffered a heart attack within the previous year was excluded as were those less than 20 or more than 105 years of age. Figure 2 shows how the overwhelming proportion of victims came from lower income neighbourhoods.

The Costs to Canada of Income-Related Differences in Cardiovascular Disease

Increasing numbers of Canadians living in poverty and low income pose a threat to the sustainability of the health care system. Very little work has calculated the costs to the health care system of income-related differences in cardiovascular and other diseases. One analysis carried out in Southeast Toronto compared hospital admissions and associated costs for neighbourhoods that differed in income level (Glazier, Badley, Gilbert & Rothman, 2000). Admissions from the highest income quintile of neighbourhoods averaged 60 per 1,000 population. However, the admission rate was 85 per 1,000 or almost 50 per cent higher for those residing in the lowest income quintile of neighbourhoods.

Since cardiovascular diseases are the ones most associated with income differences, it can be hypothesized that excess costs associated with hospital use for cardiovascular disease of low income people are similar to those for hospital use in general—that is, about 50 per cent.

Actually, the data that are available suggests that the annual cardiovascular health costs associated with the lowest income quintile of citizens compared to the highest income quintile may actually be higher than the 50 per cent figure suggested by these Toronto researchers. The *ICES Atlas for Cardiovascular Health and Services* tracked hospitalization rates for heart attack, congestive heart failure, angina, and chest pains in Ontario from 1992/93 until 1996/1997 (Basinski, 1999). The place of residence for each patient was used to identify them as being from neighbourhoods that were ranked from highest to lowest in income. Figure 3 shows hospitalization rate by neighbourhood.

The hospitalization rates for the lowest income quintile of neighbourhoods were 69 per cent higher for heart attacks, 65 per cent higher for congestive heart failure, 97 per cent higher for angina, and 121 per cent higher for chest pain than

Figure 3: Hospitalization Rates by Area Income, Ontario, 1992-97

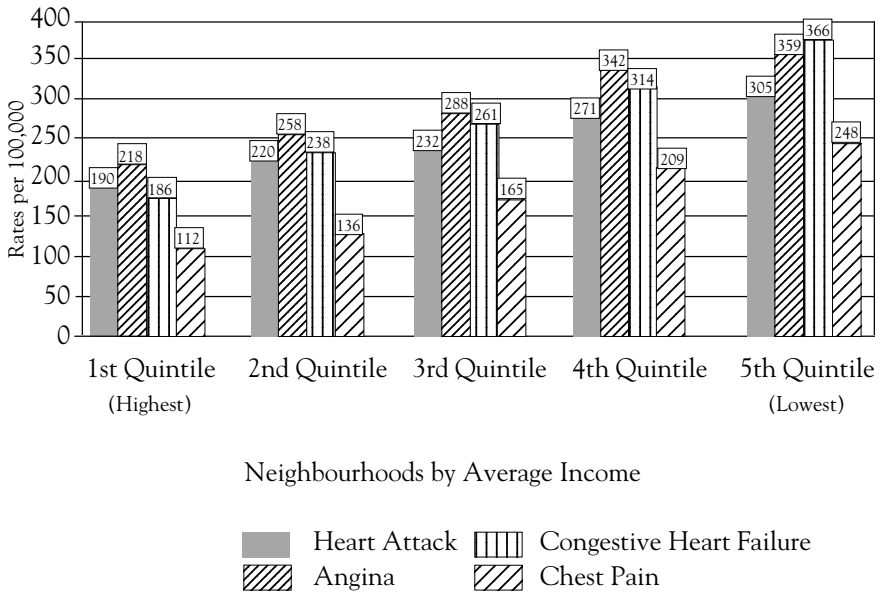
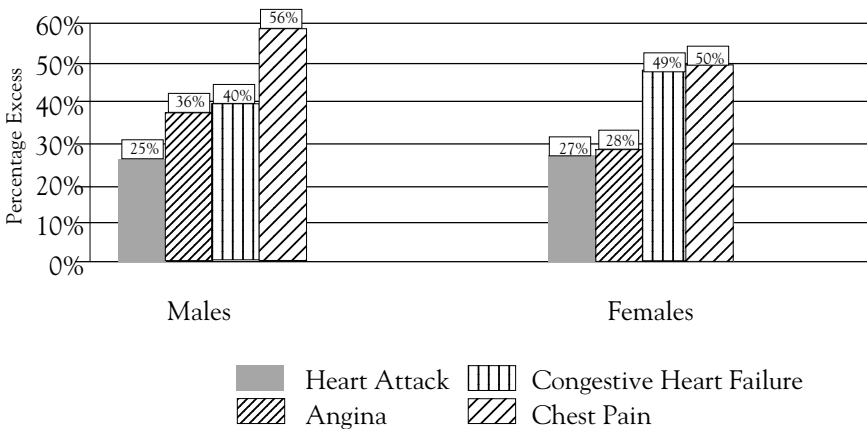


Figure 4: Excess Hospitalization Rates Related to Income, Ontario, 1992-97



those living in the highest income quintile of neighbourhoods. I used the highest income quintile of neighbourhoods as the baseline group—the levels of health to which we can reasonably aspire—to calculate an estimate of excess cardiovascular disease associated with income differences.

The overall age/sex specific hospitalization rates in Ontario for men and women for heart attacks from 1992-1997 was 240/100,000. The specific rate for those residents in the highest income quintile of neighbourhoods was 190/100,000. The difference of 50/100,000 between the possible rate and the observed overall rate represents a 26 per cent excess over the baseline rate for the highest income residents of Ontario. Using this process, observed hospitalization rates for the Ontario population related to income differences represent a 26 per cent excess for heart attacks, 24 per cent for congestive heart failure, 44 per cent for angina, and 53 per cent for chest pain. Figure 4 shows the percentage excess for these four ailments for Ontario men and women related to income differences calculated in this manner.

The Heart and Stroke Foundation of Canada (2000) estimates the total annual cost to Canada of cardiovascular disease as close to \$20 billion. Since it is estimated that 23.7 per cent of premature deaths from cardiovascular disease can be attributed to income differences, this figure can be used as a conservative—as demonstrated by the ICES data on income-related differences in hospitalization—estimate of excess burden in cardiovascular disease costs related to income differences. Since one-year survival rates show relatively small differences among income groups—that is, poor people do not die more quickly and therefore save health care costs—it can be expected that the rapidly increasing costs of new technologies for treating heart disease will continue. Lowering even this estimate to a 20 per cent excess burden, it can be estimated that the cost to Canada of cardiovascular illness related to income differences is at least 20 per cent of the total cost of cardiovascular disease of \$20 billion—\$4 billion a year.

These excess costs associated with low income and income inequality are just for cardiovascular disease. Income differences are also related to the incidence of premature deaths and premature years of life due to injuries, cancers, and a variety of other diseases such as diabetes. The true dollar cost of income differences in health between the wealthy, middle class, and poor in Canada is tremendous. Increasing the number of poor and low-income people will only increase the health and health care cost burden to Canadians, thereby threatening the sustainability of the public health care system.

Mechanisms by Which Poverty and Low Income Lead to Cardiovascular Disease and Death

The fact that poverty and low income is associated with disease in general and

cardiovascular disease in particular is not in dispute. While the exact mechanisms by which cardiovascular disease results from poverty and low income is a focus of research, current evidence is converging around three main explanations. All three explanations contribute to understanding how poverty and low income lead to cardiovascular disease.

First, poverty and low income leads to material deprivation during early life and adulthood that create a cardiovascular health burden that is carried from childhood and added to during adulthood. Second, living in poverty or on low income leads to psycho-social stress by which bodily functions, including the immune system, are compromised. Third, living in poverty and on low income lead to the acquisition of health threatening behaviours.

Material Deprivation Leads to Cardiovascular Disease

People going hungry, lacking housing or shelter, or unable to buy warm clothing suffer clear material deprivation. The data showing strong increases the past decade in Canadians use of food banks, shelters for the homeless, and living below low income cut-offs provides ample evidence of the presence of such absolute material deprivation. However, material deprivation is increasingly seen as a graded phenomena by which members of a society lack in varying degrees the life circumstances and resources that support health and development. This approach allows for the consideration of how material resources differ not only between the poor and not-poor but also across the entire income range. Mary Shaw, Don Dorling, David Gordon and George Davey Smith (1999) argue:

More accurately, 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. (p. 102)

It should be noted that while each level of the income scale shows different levels of developing cardiovascular disease, the greatest burden is concentrated on the lower end of the income range (Wilkins et al., 1989; Wilkins et al., 2001; Lynch, 2000). Income effects—especially among those with lower incomes—play their greatest health role during important life transitions such as fetal development, nutritional growth and health in childhood, entering the labour market, job loss or insecurity, and episodes of illness among others. Health burdens resulting from low income and the absence of societal supports during these periods accumulate over the life span and increase the risk of cardiovascular disease (Davey Smith, Ben-Shlomo & Lynch, 2002; Davey Smith, Grunnett & Ben-Shlomo, 2001).

Material deprivation during very early life has especially important implica-

tions for the development of cardiovascular disease. Numerous studies show that low birth weight—itself strongly associated with low income—is associated with greater incidence of cardiovascular disease in later life (Barker, Osmond & Simmonds, 1989; Forsen, Eriksson, Tuomilehto, Osmond & Barker, 1999; Eriksson, Forsen, Tuomilehto, Winter, Osmond & Barker, 1999; Eriksson, Forsen, Tuomilehto, Osmond & Barker, 2001). Since material conditions in childhood and adulthood make independent contributions to death by illness over the life span, the cardiovascular health consequences of increasing numbers of Canadian families living on low incomes may be manifest for the entire next generation. And considering the magnitude of the increases in the incidence of poverty and low income among children and families, such consequences pose direct threats to the sustainability of the health care system.

Excessive Psychosocial Stress Leads to Cardiovascular Disease

Living on low income creates uncertainty, insecurity, and lack of control over one's life; these are all conditions that have powerful effects on health. The National Population Health Survey found that among Canadians in the lower third of the income distribution, 47 per cent reported seeing the world as not being meaningful, events as being incomprehensible, and life's challenges as being unmanageable. The comparable figure for the middle third of Canadians was 33 per cent and for the highest third income group, 26 per cent. Similarly, people in the lower income group were 2.6 times more likely to have a low sense of control over their lives than the higher income third (31 per cent vs. 12 per cent) (Health Canada, 1998).

Plausible models of how stress leads to disease and death have been developed (Stansfeld & Marmot, 2002). The social environment can create adverse conditions that produce the “fight or flight” reaction. This works through the sympathetic nervous system and the hypothalamic pituitary-adrenal axis to produce lipid abnormalities, high blood pressure, and clotting disturbances (Brunner & Marmot, 1999).

Additionally, animal researchers have identified the mechanisms by which chronic stress and hierarchy creates illness and eventually death. These stress models are consistent with many studies that describe the experience of living on low incomes and provide plausible models that explain the low income and cardiovascular disease relationship (Shivey, Laird & Anton, 1997; Sapolsky & Share, 1994).

Adoption of Health Threatening Behaviours Leads to Cardiovascular Disease

The behavioural risk factors for cardiovascular disease—tobacco smoking, exces-

sive alcohol use, poor diet, and inactivity—are associated with lower income. However, much of the cardiovascular health literature assumes these behavioural patterns are adopted through voluntary lifestyle choices. Researchers increasingly view these patterns of health behaviours as being heavily structured by the social and economic environments in which people live. High levels of stress lead to behaviours aimed at ameliorating tension such as eating food rich in carbohydrates and fat, using tobacco, and excessive alcohol consumption. Poor and low-income individuals engage in these high-risk activities to cope with needs unfulfilled by society. The following conclusion concerns use of tobacco—an important contributor to cardiovascular disease—but also applies to excessive alcohol use, poor diet, and inactivity:

The factors that predict smoking involve material circumstances, cultural deprivation, and indicators of stressful marital, personal, and household circumstances. This illustrates what might be proposed as a general law of Western industrialized society; namely that any marker or disadvantage that can be envisaged and measured, whether personal, material or cultural is likely to have an independent association with cigarette smoking. (Jarvis & Wardle, 1999, p. 242)

A recent analysis of the determinants of adults' health-related behaviours such as cigarette smoking, physical activity, excessive alcohol consumption, and healthy diets, found these behaviours were predicted by poor childhood conditions, low levels of education, and lower status employment (Lynch, Kaplan & Salonen, 1997). The study found childhood factors also predicted adult rates of feelings of hopelessness, cynical hostility, and low sense of coherence—all factors related to health status. The authors concluded:

Given the disturbing increases in income inequality in the United States, Great Britain, and other industrial countries, it is vital to consider the impact of placing ever larger numbers of families with children into lower SES groups. In addition to placing children into conditions which are detrimental to their immediate health status, there may well be a negative behavioural and psychosocial health dividend to be reaped in the future. (Lynch et al., 1997, p. 817)

The Spill-Over Health Effects of Poverty and Low Income

It is not surprising then that societies with greater numbers of people with low incomes show poorer population health. There is also evidence that some societies with greater numbers of low income people begin to show a spillover effect by which

the health of those not living on low incomes begin to deteriorate as well. For example, after decades of rapidly increasing economic inequality, the most well-off in Britain now have higher infant and adult male death rates than the less well-off in Sweden (Leon, Vagero & Otterblad, 1992). The well-off in economically unequal American communities have greater rates of health problems—including deaths from cardiovascular disease—than the well-off in relatively equal communities (Lynch, Kaplan, Pamuk, Cohen, Heck, Balfour & Yen, 1998).

Societies with high levels of poverty, low income, and income inequality show symptoms of societal disintegration. The form this takes in each society may be unique. In Britain these effects have included increased alcoholism, crime rates, deaths by road accidents and infectious diseases, lowered reading scores, drug offences, family functioning, and decreased voter turnout among others (Wilkinson, 1996). In the U.S. economic inequality among the states and between communities is related to levels of homicide, low birth weight, smoking, and disability (Kennedy, Kawachi, Glass & Prothrow-Stith, 1998; Diez-Roux, Link & Northridge, 2000). In Canada, relatively little attention has been paid to considering the economic inequality and health relationship beyond documenting the lower health status of those living in poverty.

Poverty is Increasing in Canada

The explosive increases in numbers of Canadians living on low incomes have been documented elsewhere (Yalnizyan, 1998; Hurtig, 1999). More recently, a Statistics Canada study of neighbourhood income inequality found increases in income inequality from 1980 to 1995 in Quebec City, Montreal, Ottawa-Hull, Toronto, Winnipeg, Calgary, Edmonton and Vancouver:

In most cities the inequality indexes rose more or less continually between 1980 and 1995 with the exception of Ottawa-Hull and Vancouver. Quebec City also displayed relatively little increase in equality. The cities with the largest proportional increases included Edmonton, Calgary, Winnipeg, and Toronto, where the Theil index increased by between 50 per cent and 60 per cent during the 1980-1996 period and the Gini index by between 24 per cent and 31 per cent. (Myles, Picot & Pyper, 2000, p. 9)

The Theil and Gini indices are standard measures of income inequality with the Theil being more sensitive to changes at the bottom of the distribution. The average family pretax income in the poorest neighbourhoods in all cities, except Ottawa-Hull, fell by 8-18 per cent while in the highest income neighbourhoods, income rose by 2-10 per cent. Calculations using after tax income also show that income inequality increased in Toronto, Montreal, and Vancouver by 8-10 per

cent using the Gini index and from 9-21 per cent using the Theil index.

In Britain, such increases in income concentration have been associated with increases in death rates between citizens for a range of diseases. Data from the 2001 census will examine the hypothesis that increasing number of poor and low income people in Canada will be associated with either a greater incidence of a range of deaths from diseases including cardiovascular diseases or a weakening of the trend towards lower rates that have occurred the past few decades.

Are there signs of disintegrating health in Toronto, Canada's largest city? There has been a doubling of families living on low incomes since 1989, much of this a result of policy decisions related to provincial government reductions in social assistance, elimination of new social housing, and the elimination of rent control (Raphael, 2001d).

The Federation of Canadian Municipalities' March 2001 *Quality of Life* indicators report found that while there was a recent decrease in low birth weight babies and infant mortality, the City of Toronto showed an increase, counter to overall Canadian trends, in premature mortality rate—death before the age of 75 years—during the period 1991 to 1997. There was also an increase from 1996 to 1998 in work hours lost to illness or disability among workers. If research from other jurisdictions apply in Canada, increasing evidence of poor health may be expected to appear in Toronto and other Canadian cities following similar social policies that increase poverty and the numbers of citizens living on low incomes.

Barriers to Making the Links Between Social Policy and Health Policy

Despite numerous federal and provincial documents that emphasize the importance of the social determinants of health—including income—on population health, there is remarkably little evidence of any influence of such knowledge on the development of social policy (Raphael 2001a). Numerous authors have documented how federal and provincial policy decisions have systematically increased income inequality with the result being growing numbers of Canadians living in poverty and on low incomes (Yalnizyan, 1998; Raphael, 1999; Raphael, 2001c). In addition, there is extensive documentation concerning Canadian governments' lack of commitment to supporting social infrastructure and the social safety net (National Council of Welfare, 2000). This is being done in spite of the accumulating evidence that such actions are threats to population health. And it is being done in spite of the ongoing expression by Canadians of the importance of health and sustaining the public health care system.

Barriers to Effective Action by the Health Sector

In the public health area, health workers decide whether to identify poverty and

low income or the health effects of poverty and low income as action areas. Clearly, Canadian public health practice is focussed—with some notable exceptions—on the latter with a proliferation of programs designed to address issues of tobacco use, inactivity, poor diet, and excessive alcohol use (Raphael, in press). If public health responses to the core problem of poverty and low income have been sporadic, health care sector responses have been virtually non-existent.

The reasons for this include competition between varying concepts of health and health determinants; political issues related to the actions of government masters; institutional issues related to what are appropriate health promotion activities; issues of knowledge and competence in policy analysis and community development; and attitudinal issues related to the motivation and commitment of health workers to address these issues. Each of these reasons is considered in turn.

Ideological Issues. The concepts of health, health determinants, and actions to improve health are contested. Differences exist among health workers as to medical, lifestyle, and societal explanations for health and means to improve it. This is particularly the case in regards to cardiovascular disease. There is also the ongoing dispute as to the importance of public health versus health care action in relation to the maintaining the health of Canadians.

Political Issues. Many health workers are employed or funded by the very governments whose policies threaten health. Many workers proceed in their activities supported by government and agency documents that at least on paper sanction their activities. The Medical Officer of Health of the Montreal Region has raised poverty and low income as a key public health issue (Lessard, 1997). Such focus on poverty and low income as a public health issue is uncommon in Canada.

Institutional Issues. Related to the first two issues is the role that an institution sees itself playing in supporting health. Clearly, it is less contentious for hospitals to offer medical treatments and public health workers to offer clients lifestyle programs than to focus upon social conditions and government actions that create health-threatening environments. Such courses of least resistance are certainly means of generating institutional activity. Whether they serve to enhance the health of Canadians is less clear.

Personal Issues of Knowledge and Competence. Moving beyond providing medical treatments and lifestyle programs involves skills of community development and policy analysis. Many health workers feel they do not possess the knowledge to challenge policy decisions that affect health.

Attitudinal and Motivational Issues. Health workers, like many others, find it difficult to buck the forces that control their work environments. Public health workers know that poverty and low income are key determinants of health but feel helpless to raise these issues in the face of pressures to downplay them.

Implications for the Social Welfare Sector

The social welfare sector has been in the forefront of highlighting the increasing incidence of poverty and low income among Canadians. It has also been successful in securing media coverage concerning the growing gap in income among Canadians. Drawing upon the emerging literature concerning the health effects of poverty and income could reinforce the message that poverty and low income is not good for Canadians, whether poor or not-poor.

Health is a highly prized value among Canadians and pointing out health effects may help communicate the implications of increasing poverty and incidence of low income for Canadians. The health focus may also provide an appeal to enlightened self interest which may be more effective than appeals based upon fairness and justice. Numerous overviews of the poverty, low income, income inequality and health relationship in Canada are available (Raphael, 1999, 2000a, 2001b, 2001c).

Of course, barriers to such action may exist. Social welfare workers may feel they do not possess expertise in the health field. The media may not afford them much credibility if they venture into the health field. Additionally, they must be cautious concerning the reaction of policy makers and the media to a health message that is being delivered by the social welfare sector rather than the health sector.

One of the greatest barriers to having the public understand the importance of the social determinants of health has been the unwillingness or inability of the media to cover this story. It has been the author's experience that any media coverage that occurs concerning these issues is likely to come from columnists rather than health or medical reporters. It may be that social policy reporters may be more receptive to the message that social policy is health policy. At least this avenue to educating the public should be tried.

Towards the Future

There is no shortage of literature concerning the increasing incidence of poverty and low income in Canada (Ross, Shillington, Lochhead, 2000). At the same time, there is increasing concern about the sustainability of the health care system (Romanow, 2002). Canadian policy makers, the media, and the public need to be made aware of the links between increasing income inequality and the threats to the health care system. The case of cardiovascular disease may be one means of doing this. Cardiovascular disease is a leading killer of Canadians and a major contributor to health care system costs. It is also the disease most sensitive to the effects of poverty and low income. It may be the one disease most sensitive to the societal disintegration associated with growing poverty and income inequality.

The report *Inequality is Bad for Our Hearts: Why Low Income and Social Exclusion are Major Causes of Heart Disease in Canada* (Raphael, 2001c) provides extensive documentation of the roles poverty and low income play in causing cardiovascular disease. It should prove useful for those concerned with helping to place the issue of increasing poverty and low income on the social and health policy agenda.

This paper was presented at the Tenth Biennial Conference on Social Welfare Policy, June 18, 2001, Calgary, Alberta. The preparation of this paper and the extended report Inequality is Bad for Our Hearts: Why Low Income and Social Exclusion are Major Causes of Heart Disease in Canada was supported by funding provided by the North York Heart Health Network.

Dennis Raphael, Ph.D., is an Associate Professor in the School of Health Policy and Management at York University in Toronto, Canada. His recent work has focused on the health effects of income inequality and poverty, the quality of life of communities and individuals, and the impact of government decisions on North American's health and well-being.

References

- Acheson, D. (1998). *Independent inquiry into inequalities in health*. London: Stationary Office. Online at <http://www.doh.gov.uk/ih/ih.htm>.
- Alter, D. A., Naylor, C. D., Austin, P. & Tu, J. (1999). Effects of socioeconomic status on access to invasive cardiac procedures and on mortality after acute myocardial infarction. *New England Journal of Medicine*, 341, 1360-1367.
- Barker, D. J., Osmond, C. & Simmonds, M. (1989). Weight in infancy and death from ischemic heart disease. *Lancet*, 2, 577-580.
- Basinski, A. S. (1999). Hospitalization for Cardiovascular Medical Diagnoses. In C. D. Naylor & P.M. Slaughter (Eds.). *Cardiovascular health and services in Ontario: An ICES atlas*. Toronto: Institute for Clinical Evaluative Services and Heart and Stroke Foundation.
- Brunner, E. & Marmot, M. (1999). Social Organization, Stress, and Health. In M. G. Marmot & R. G. Wilkinson (Eds.). *Social determinants of health*. Oxford: Oxford University Press.
- Davey Smith, G., Ben-Shlomo, Y. & Lynch, J. (2002). Life course approaches to inequalities in coronary heart disease risk. In S.A. Stansfeld & M. Marmot, M. (Eds.). *Stress and the heart: Psychosocial pathways to coronary heart disease*. London: BMJ Books.
- Davey Smith, G., Grunell, D. & Ben-Shlomo, Y. (2001). Life-course approaches to socioeconomic differentials in cause-specific adult mortality. In D. Leon & G. Walt (Eds.). *Poverty, inequality and health: An international perspective*. New York: Oxford University Press.

- Diez-Roux, A. V., Link, B. G. & Northridge, M. E. (2000). A multi-level analysis of income inequality and cardiovascular disease risk factors. *Social Science and Medicine*, 50, 673-687.
- Eriksson, J. G., Forsen, T., Tuomilehto, J., Osmond, C., & Barker, D. J. (2001). Early growth and coronary heart disease in later life: Longitudinal study. *British Medical Journal*, 322, 949-953.
- Eriksson, J. G., Forsen, T., Tuomilehto, J., Winter, P. D., Osmond, C. & Barker, D. J. (1999). Catch-up growth in childhood and death from coronary heart disease: Longitudinal study. *British Medical Journal*, 318, 427-431.
- Evans, R. G., Barer, M. L. & Marmor T. R. (Eds). (1994). *Why are some people healthy and others not? The determinants of health of populations*. New York: Aldine de Gruyter.
- Federation of Canadian Municipalities. (2001). *Second report: Quality of life in Canadian communities*. Ottawa: Federation of Canadian Municipalities.
- Feldman, J. J., Makuc, D. M., Kleinman, J. C., & Cornoni-Huntley, J. (1989). National trends in educational differentials in mortality. *American Journal of Epidemiology*, 129, 919-933.
- Fitzpatrick, M. (2001). *The tyranny of health: Doctors and the regulation of lifestyle*. London: Routledge.
- Forsen, T., Eriksson, J. G., Tuomilehto, T., Osmond, C., & Barker, B. J. (1999). Growth in utero and during childhood among women who develop coronary heart disease: Longitudinal study. *British Medical Journal*, 319, 1403-1407.
- Glazier, R. H., Badley, E. M., Gilbert, J. E. & Rothman, L. (2000). The nature of increased hospital use in poor neighbourhoods: Findings from a Canadian inner city. *Canadian Journal of Public Health*, 91, 268-273.
- Health Canada. (1998). *Taking action on population health: A Position paper for health promotion and programs branch staff*. Ottawa: Health Canada. On-line at <http://www.hc-sc.gc.ca/main/hppb/phdd/resource.htm>.
- Health Canada. (1998). *The statistical report on the health of Canadians*. Ottawa: Health Canada, Online at <http://www.hc-sc.gc.ca/main/hppb/phdd/resource.htm>.
- Heart and Stroke Foundation of Canada. (1999). *The changing face of heart disease and stroke in Canada 2000*. Ottawa: Heart and Stroke Foundation of Canada. Online at <http://www.hc-sc.gc.ca/hpb/lcdc/bcrdd/hdsc2000/>.
- Hurtig, M. (1999). *Pay the rent or feed the kids: The tragedy and disgrace of poverty in Canada*. Toronto: McClelland and Stewart.
- Jarvis, M. J. & Wardle, J. (1999). Social patterning of individual health behaviours: The case of cigarette smoking. In M. G. Marmot & R. G. Wilkinson (Eds.). *Social determinants of health*. Oxford: Oxford University Press.
- Kawachi, I. & Kennedy, B. P. (1997). Socioeconomic determinants of health: Health and social cohesion, why care about income inequality? *British Medical Journal*, 314, 1037-1045.
- Kawachi, I., Kennedy, B. O. & Wilkinson, R. G. (Eds.). (1999). *The society and population health reader. Volume I: Income inequality and health*. New York: The New Press.
- Kennedy, B. P., Kawachi, I., Glass, R., & Prothrow-Stith, D. (1998). Income distribution, socioeconomic status, and self-rated health in the United States: Multi-level Analysis. *British Medical Journal*, 317, 917-921.

- Lantz, P. M., House, J. S., Lepkowski, J. M., Williams, D. R., Mero, R. P. & Chen, J. J. (1998). Socioeconomic factors, health behaviors, and mortality. *Journal of the American Medical Association*, 279, 1703-1708.
- Leon, D. A., Vagero, D. & Otterblad, O. (1992). Social class differences in infant mortality in Sweden: A comparison with England and Wales. *British Medical Journal*, 305, 687-691.
- Lessard, R. (1997). *Social inequalities in health: Annual report of the health of the population*. Montreal: Direction De La Sante Publique.
- Lynch, J. W., Kaplan, G. A., Pamuk, E. R., Cohen, R., Heck, C., Balfour, J. & Yen, I. (1998). Income inequality and mortality in metropolitan areas of the United States. *American Journal of Public Health*, 88, 1074-1080.
- Lynch, J. W., Kaplan, G. A., & Salonen, J. T. (1997). Why do poor people behave poorly? Variation in adult health behaviours and psychosocial characteristics by stages of the socioeconomic life course. *Social Science and Medicine*, 44, 809-819.
- Lynch, J. W. (2000). Income inequality and health: expanding the debate. *Social Science and Medicine*, 51, 1001-1005.
- Lynch, J. W., Davey Smith, G., Hillemeier, M., Shaw, M., Raghunathan, T. & Kaplan, G. (2001). Income inequality, the psycho-social environment and health comparisons of wealthy nations. *Lancet*, 358, 358-366.
- Lynch, J. W., Davey Smith, G., Kaplan, G. A. & House, J. S. (2000). Income inequality and mortality: Importance to health of individual income, psychosocial environment, or material conditions. *British Medical Journal*, 320, 1220-1204.
- Marmot, M. G., Rose, G., Shipley, M. & Hamilton, P. J. S. (1978). Employment grade and coronary heart disease in British civil servants. *Journal of Epidemiology and Community Health*, 32, 244-249.
- Marmot, M. G. & Wilkinson R.G. (Eds.). (1999). *Social determinants of health*. Oxford: Oxford University Press.
- Middelkoop, B., Struben, H., Burger, I., & Vroom-Jongerden, J. (2000). Urban cause-specific socioeconomic mortality differences. Which causes of death contribute most? *International Journal of Epidemiology*, 29, 240-247.
- Myles, J., Picot, G. & Pyper, W. (2000). *Neighbourhood inequality in Canadian cities*. Ottawa: Statistics Canada Business and Labour Market Analysis Division.
- National Council of Welfare. (2000). *Poverty profile, 1998*. Ottawa: National Council of Welfare.
- Raphael, D. (1999). Health effects of economic inequality. *Canadian Review of Social Policy*, 44, 25-40.
- Raphael, D. (2000a). Health inequalities in Canada: Current discourses and implications for public health action. *Critical Public Health*, 10, 193-216.
- Raphael, D. (2000b). Health inequities in the United States: Prospects and solutions. *Journal of Public Health Policy*, 21, 392-425.
- Raphael, D. (2001a). Canadian policy statements on income and health: Sound and fury—signifying nothing. *Canadian Review of Social Policy*, 48, 121-125.
- Raphael, D. (2001b). From increasing poverty to societal disintegration: How economic inequality affects the health of individuals and communities. In H. Armstrong, P. Armstrong, & D. Coburn (Eds.). *Unhealthy times: The political economy of health and care*

- in Canada. Toronto: Oxford University Press.
- Raphael, D. (2001c). *Inequality is bad for our hearts: Why low income and social exclusion are major causes of heart disease in Canada*. Toronto: North York Heart Health Network. Online : <http://www.yorku.ca/wellness/heart.pdf>.
- Raphael, D. (2001d). Letter From Canada: Paradigms, Politics, and Principles: An End-of-the-millennium Update From the Birthplace of the Healthy Cities Movement. *Health Promotion International*, 16, 99-101.
- Raphael, D. (in press) *Barriers to addressing the determinants of health: Public health units and poverty in Ontario, Canada*. Health Promotion International.
- Romanow, R. (2002). *Interim report*. Saskatoon: Commission on the Future of Health Care.
- Ross, D. P., Shillington, E. R. & Lochhead, C. (2000). *The Canadian fact book on poverty*. Ottawa: Canadian Council on Social Development.
- Ross, N., Wolfson, M.C., Dunn, J. R., Berthelot, J. M., Kaplan, G. A. & Lynch, J. M. (2000). Income inequality and mortality in Canada and the United States. *British Medical Journal*, 320, 898-902.
- Sapolsky, R. M., & Share, L. J. (1994). Rank-related differences in cardiovascular function among wild baboons: role of sensitivity to glucocorticoids. *American Journal of Primatology*, 32, 261-275.
- Shaw, M., Dorling, D., Gordon, D. & Davey Smith, G. (1999). *The widening gap: Health inequalities and policy in Britain*. Bristol, UK: The Policy Press.
- Shivey, C. A., Laird, K. L., & Anton, R. F. (1997). The behavior and physiology of social stress and depression in female cynomolgus monkeys. *Biological Psychiatry*, 41, 871-872.
- Sram, J. & Ashton, I. (1998). Millennium report to Sir Edwin Chadwick. *British Medical Journal*, 317, 592-596.
- Stansfeld, S. A. & Marmot, M. (2002). *Stress and the heart: Psychosocial pathways to coronary heart disease*. London: BMJ Books.
- Statistics Canada. (2001). *Estimates of premature deaths (prior to age 75) due to cardiovascular disease among Canadians*. Ottawa: Special Run of 1996 Census Data by Statistics Canada.
- Taubes, G. (2001). The soft science of dietary fat. *Science*, 291, 2536-2545.
- Turrell, G. & Mathers, S. (2000). Socioeconomic inequalities in all-cause and specific-cause mortality in Australia: 1985-1987 and 1995-1997. *International Journal of Epidemiology*, 29, 231-239.
- U.S. Department of Health and Human Services. (1998). *Health, United States, 1998: Socioeconomic status and health chartbook*. Washington, DC: U.S. Department of Health and Human Services. Online at <http://www.cdc.gov/nchs/products/pubs/pubd/hsu/2010/98chtbk.htm>.
- Wilkins, R., Adams, O. & Brancker, A. (1989). Changes in mortality by income in urban Canada from 1971 to 1986. *Health Reports*, 1, (2), 137-174.
- Wilkins, R., Ng, E., & Berthelot, J. (2001, March 29-31). *Trends in mortality by income in Urban Canada From 1971 to 1996*. Presentation made at the 2001 Annual Meeting of the Population Association of America, Washington, DC.
- Wilkinson R. G. (1996). *Unhealthy societies: The afflictions of inequality*. New York: Routledge.
- Wilkinson, R. G. & Marmot, M. G. (1998). *Social determinants of health: The solid facts*. Copenhagen: The World Health Organization. Available online at <http://www.who.dk/>

healthy-cities.

World Health Organization. (1986). *Ottawa Charter for Health Promotion*. Geneva: World Health Organization. Online at <http://www.who.dk/policy/ottawa.htm>.

Yalnizyan, A. (1998). *The growing gap: a report on growing inequality between the rich and poor in Canada*. Toronto: Centre for Social Justice.