

## **SECTION D: PAYING FOR INEQUALITY**

In previous sections, this report has argued that there is good evidence that there is a strong relationship between individual socio-economic status and health. There is also evidence that at the level of populations, a more egalitarian distribution of income is associated with better average health. A recent comparative study of the relationship between population-level income inequality and health in Canadian and U.S. metropolitan areas suggests that as of 1991, Canada may have enjoyed a degree of immunity from the ill effects of the wide distribution of income experienced by the United States.

What is it about Canadian society that could account for the difference in the relationship between income inequality and population health? This report identifies Canadian social policies that redistribute income and ensure a high quality of everyday life for all Canadians that may be influential upon the good health of Canadians. The preceding sections of this report also showed evidence that since 1991 inequalities in income and wealth have increased substantially in Canada. If the relationship between income inequality and mortality is characterized by a threshold, above which income inequality is damaging to health and below which it is not, then the widening inequalities Canadians have witnessed in the past decade could indeed have the capacity to undermine our nation's health. Moreover, even though population-level measures of income inequality did not show an association with average population health, within Canada there still exists an underlying individual socio-economic gradient in health, with individuals of lower socio-economic status experiencing poorer health, at all levels of the social ladder. This means that poverty and deprivation already compromises individual Canadians' health, just not to the same extent as it does for our neighbours to the south. It follows that while aggregate inequality measures may not show an association with average population health, insofar as inequality may undermine the socio-economic status of poorer Canadians, it undermines their health status as well.

But many would argue that income inequality is a necessary evil that we must tolerate if we are to maximize the performance of the Canadian economy. Previous sections of this report

have presented evidence that economic growth is not necessarily weakened by egalitarian social policies. There is some evidence, in fact, that greater equality in the distribution of national income may enhance growth, as it can enhance social cohesion and participation and can help to encourage investment in human capital.

The possibility that inequality in the distribution of income compromises our national health may be surprising to some Canadians, but those convinced that income inequality compromises economic growth may argue that the health compromise may too be a necessary evil in the drive to maintain our national prosperity. But with such health costs also come substantial economic costs.

### ***Economic Burden of Illness in Canada***

Although it is a somewhat under-researched area, there is some good evidence on the economic burden of illness in Canada. A report by Health Canada<sup>64</sup> based on 1993 data suggests that the costs of illness in Canadian society are very large. Figure 22 shows the direct and indirect costs of Canada's leading illnesses for 1993. Cardiovascular disease accounted for the largest economic burden of illness in 1993, with combined direct and indirect costs approaching nearly \$20 billion.

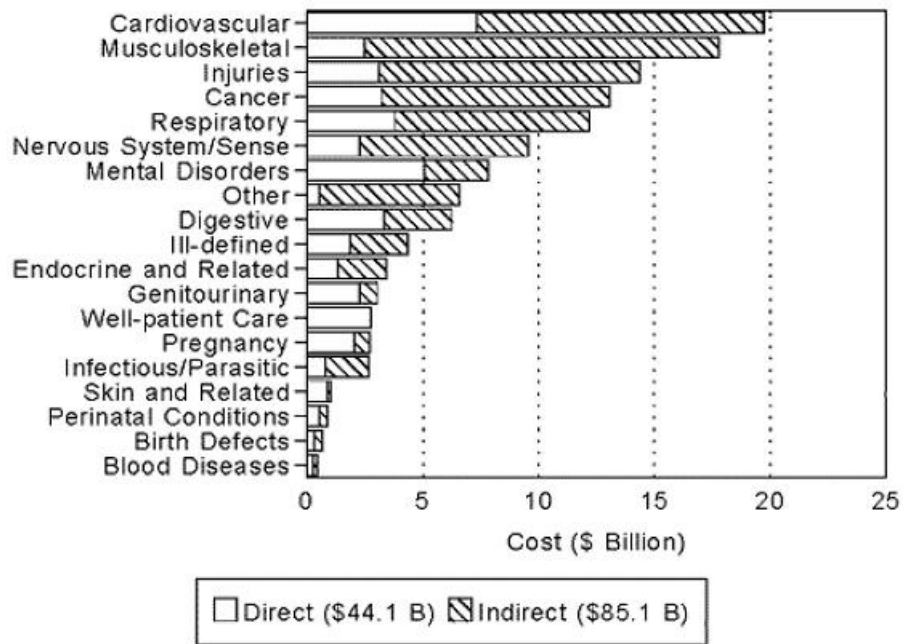
Health Canada's calculations include both direct and indirect costs of illness. Indirect costs are often forgotten, but as Figure 22 shows, their impact is large. Direct costs are defined as those resulting from drug expenditures, physician care expenditures, hospital care expenditures (including acute care, long-term care, and psychiatric hospitals), expenditures for care in other institutions (usually residential care facilities) and health science research expenditures. Indirect costs of illness in the Health Canada report include mortality costs (lost productivity due to premature death), morbidity costs due to long-term disability (lost

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<sup>64</sup> Moore, R, Mao, Y., Zhang, J. and Clarke, K. 1993. *Economic Burden of Illness in Canada*. Health Canada, Health Protection Branch. <http://www.hc-sc.gc.ca/hpb/lcdc/publicat/burden/>

productivity), and morbidity costs due to short-term disability (lost productivity for paid and unpaid work).

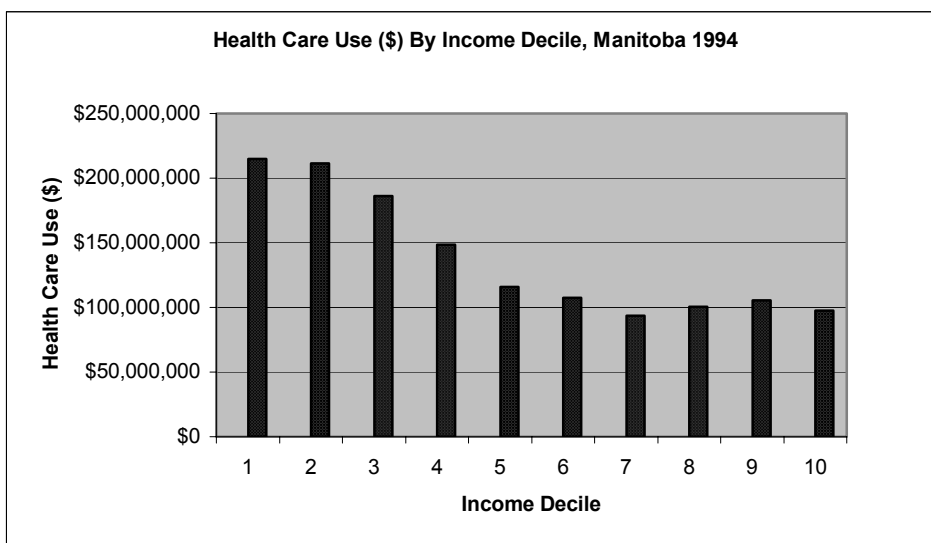
**Distribution of Direct and Indirect Costs by Diagnostic Category, Canada, 1993**



**Figure 22:** Direct and Indirect Costs of Major Illnesses in Canada  
 Source: Health Canada, 1993.

Cardiovascular diseases are the leading cause of death in Canada, have the largest economic burden of illness, and typically exhibit a steep social gradient, with poorer people suffering from these diseases more often. Paying attention to the causes of cardiovascular diseases and other diseases with a social gradient makes good economic sense. It is not enough to encourage people to stop smoking, eat better and exercise more (although these are important things to do), because as was shown above in Figure 4, the socio-economic determinants of health exert an even stronger effect on cardiovascular diseases than behavioural factors. It follows that it makes good economic sense to improve the socio-economic conditions of everyday life for all Canadians, especially those with lower incomes. It will improve their health and probably save money too. This same argument could be extended to some of the other diseases which represent large components of the economic burden of illness in Canada.

Taking an approach based strictly on the total costs of health care use, without reference to specific diseases, it is possible to add up the dollar value of health care use by people in the lower socio-economic groups and compare their health services utilization to the median, for example. Data published by Mustard, *et al.*<sup>65</sup> allow such an analysis to be done. They added up the dollar value of all health care services used by all insured individuals in Manitoba in 1994, and estimated each individual's income level by using the median household income of their neighbourhood of residence as a proxy measure (neighbourhood income has been shown to provide good estimates of individual income).<sup>66</sup> They were then able to estimate the total health care services used by individuals by income decile. These results are shown in Figure 23.



**Figure 23:** Dollar Value of Health Care Services Used, By Income Decile, Manitoba, 1994. Data from: Mustard, et al. (1998)<sup>65</sup>

Not surprisingly, the use of health care services is distributed across income groups in a roughly similar fashion to the social gradient in health status seen in previous sections, with people in lower income groups using more health services (each income decile has the

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<sup>65</sup> Calculations by the author, based on data reported in: Mustard, C., Barer, M., Evans, R.G., Horne, J., Mayer, T., and Derksen, S. 1998. *Paying Taxes and Using Health Care Services: The Distributional Consequences of Tax Financed Universal Health Insurance in a Canadian Province*. Ottawa: CSLS Conference on the State of Living Standards and the Quality of Life in Canada.

same number of people in it). The lowest income decile (\$0-\$15,600 annual income) used services valued at \$216 million in 1994 (representing 12.2% of all expenditures), while the top income decile (\$86,200+) used health care services valued at \$97 million (representing 5.5% of all expenditures).<sup>67</sup> Earlier in this report, it was acknowledged that some of the health status differences between people in different income groups could be attributed to 'reverse causation'. Some people, in other words, may become sick first, and unable to work, reducing their income. But previous studies have shown that only a small proportion (roughly 5%)<sup>68</sup> of income differences in health can be attributed to reverse causation. The majority of the relationship between income and health is attributable to the health effects of relative deprivation.

Nevertheless, in the Manitoba data, it is reasonable to estimate that the use of health services in the lower income groups is partly due to the effects of low income on health and partly due to the opposite effect: poor health on income. It is difficult to conclude with precision from these data, therefore, what the impact of low income is on health care costs. But if the gradient in health care consumed is similar to the gradient in health status, then it is possible to speculate that only a small proportion of income differences in health care utilization are attributable to sick people becoming poor.

After acknowledging this important qualification, the impact of income inequality on health care costs can be seen in a simple calculation. If all individuals in the bottom 5 income deciles (the least well-off half of the population) used the same amount of health care (measured in dollars) as the median, the Manitoba government would have reduced overall health care costs by 23.1%, or \$319 million in 1994, on a total budget of \$1.38 billion. Projected forwards to 1999 dollars, this would have represented a savings of \$345 million. If the same calculation was performed on national data, a 23.1% savings in health care

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<sup>66</sup> Mustard, C., Derksen, S., Berthelot, J-M. and Wolfson, M.C. 1999. Assessing ecologic proxies for household income: a comparison of household and neighbourhood level income measures in the study of population health status. *Health and Place*, 5(1999): 157-171.

<sup>67</sup> It is worth pointing out that 21.4% of all health care expenditures in Manitoba in 1994 went to institutionalized individuals (in psychiatric hospitals, long-term care homes, etc.).

<sup>68</sup> Wilkinson, R.G. 1996. *Unhealthy Societies: The Afflictions of Inequality*. London: Routledge. Page 59.

expenditures would have reduced total *public* spending on health care services in Canada by \$12.5 billion in 1997.<sup>69</sup>

As mentioned above, there have been relatively few studies of the economic burden of illness created by income inequality.<sup>70</sup> Some evidence has been presented suggesting that income-related differences in costs associated with illness are substantial. The following section presents an extended example of the impacts of a particular set of conditions, mental illness, upon Canada's economy.

### ***Economic Inequality and the Economic Burden of Mental Illness***

To date there has been little research on the relationship between income inequality and mental health at the population level, but there are reasons to believe that there could be a strong connection, and that unequal societies may bear a substantial economic burden of mental illness. Professor George Davey-Smith, of the University of Bristol in the UK, argues that it is likely that "Inequality may make people miserable long before it kills them".<sup>71</sup> If Davey-Smith's argument is sound, then income inequality could be contributing to substantial economic costs due to mental illness.

The Business and Economic Roundtable for Mental Health<sup>72</sup>, based in Toronto, has been studying the economic burden of illness created by mental health and the estimates are staggering. Consider the following estimates by the BECRMH:

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<sup>69</sup> Calculations by the author, based on data reported in: *Health Indicators 2000*. Ottawa: Canadian Institute for Health Information and Statistics Canada. [www.cihi.ca](http://www.cihi.ca)

<sup>70</sup> A recent report acknowledged this lack of evidence and estimated that the costs of income-related differences in cardiovascular disease to be \$4 billion annually. See: Raphael, D. 2001. *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.

<sup>71</sup> Davey-Smith, G. 1996. Income inequality and mortality: why are they related? *British Medical Journal*. 312:987-988

<sup>72</sup> Information on the BECRMH can be found at: <http://www.gpcinternational.com/insights/roundtable.html>

- depression afflicts one-in-ten Canadians at any given time and upwards of 20 per cent of the population at least once in their lives
- today, 20 per cent of the patients seeing their family doctor present symptoms of mental anxiety and low-grade depression
- BECRMH estimates that in a company of 1,000 employees, it is predictable that at any given time, 100 individuals are suffering depression. But only 25 of those will be diagnosed and, among those, only six will be properly treated
- according to a canvass of medical leaders by the BECRMH, “the number of people occupying hospital beds with undiagnosed addictions and mental health problems in Ontario alone may be as high as one-third of the total hospital patient population” (Bill Wilkerson, President of the BECRMH)
- over the next 20 years, depression will disable more people than AIDS, cancer and cardiovascular disease combined.
- estimates of the economic cost of mental disorders ranges from \$8 billion a year in Canada to what former Finance Minister Michael Wilson, Honorary Chairman of the BECRMH, says may be twice that figure or 13.8 per cent of the net operating income of all business enterprise in Canada.
- mental health disorders are costing businesses in North America about \$80 billion (US) annually in lost productivity. About two-thirds of that is related to depression. By comparison, at stake in the softwood lumber dispute is a marketplace estimated to be (in the US) \$10 billion (Cdn).

These figures suggest the importance of designing policy to address the determinants of mental health and illness. Of course a good deal of serious mental illness, like schizophrenia, is believed to have a substantial genetic component, but many of the more common mental illnesses like minor depression and anxiety have a substantial environmental component. Given the estimates of the BECRMH, it seems crucial to the prosperity of our country and the health of Canadians that policies address the socio-economic determinants of mental health and well-being.

Job stress and economic pressures are well-known factors that increase the likelihood of mental illness. The Whitehall study, described in detail in Section A, has shown a

substantial social gradient in sickness absence amongst British civil servants. Lower-grade workers, in other words, have higher rates of sickness absence than higher-grade workers, and are more likely to have sickness absence periods that exceed seven days.<sup>73</sup> Recall that the people in the Whitehall study are all securely-employed office workers living in greater London, so the sickness absences are not likely to be the result of exposure to physical hazards. The findings of the Whitehall study and the estimates of the BECRMH underscore the need for policy to address the socio-economic determinants of mental health. This is further emphasized by Dr. Sharyn Salsberg Ezrin, a member of the Business and Economic Roundtable on Mental Health, who argues that: “the new economy depends on the mental performance of working people in every walk of life.”

The emphasis placed on mental health in this section also has a connection to physical health. Recent medical evidence suggests that the body and the mind are much more closely linked than we are usually inclined to admit. A study of 3,000 individuals showed that people with pre-existing heart disease who were depressed were up to four times more likely to suffer a fatal heart attack than heart patients without psychological disorders.<sup>74</sup> The effect was greater in people who had no heart disease at the start of the study: they were four times more likely to die of a heart attack if they were seriously depressed, compared to people with neither heart nor psychological problems. The results of this study suggest that doctors will have to take depression as seriously as smoking and high cholesterol in cardiac patients. They also reinforce the importance of understanding the socio-economic determinants of mental health and well-being: mental illness may have physical consequences (for heart disease). Recall that cardiovascular disease is the leading cause of death and has the leading economic burden of illness in Canada.

## ***Discussion***

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<sup>73</sup> North, F. and Syme, S.L. 1996. Psychosocial work environment and sickness absence among British civil servants: The Whitehall II Study. *American Journal of Public Health*. 86(3):332-340.

<sup>74</sup> Penninx, B.W. *et al.* 2001. Depression and cardiac mortality: results from a community-based longitudinal study. *Archives of General Psychiatry*. 58(3):221-227.

These arguments suggest that the loss of population health (or slowing of health gains) that may result from economic inequality in Canada is not economically neutral. There are substantial direct and indirect costs associated with both mental and physical illness, and there is preliminary evidence that such costs could be reduced by narrowing income differences and reducing the health impacts of inequality. It is true that a large proportion of health costs associated with economic inequality are borne directly by governments through expenditures on health and social services, but those services are funded by the taxes paid by individuals and corporations. It follows that it is not only poor people who stand to benefit from narrowing inequality and reducing the economic burden of illnesses in Canada. Moreover, there are substantial indirect costs associated with income-related differences in illness, mainly related to lost productivity, that are borne by business. As the Business and Economic Roundtable on Mental Health has shown, these indirect costs are very large, and they undermine national productivity and economic growth.

The evidence is very strong that individuals who have lower incomes have poorer health, and that it is people's poor economic circumstances that undermine their health, and not the other way around. This relationship has existed in the industrialized countries for over a century. A summary measure of income inequality, however, (the share of (1991) income held by the least well-off half of the population) did not show an association with average mortality in Canadian metropolitan areas, while in the U.S., the degree of inequality in the distribution of income is strongly associated with average population health. The results from the United States suggest that as income inequalities widen in Canada, our health will be compromised.

When faced with the Canada-U.S. paradox of population-level income inequality and health it is important not to lose sight of the fact that there still exists an underlying individual socio-economic gradient in health, with individuals of lower socio-economic status experiencing poorer health, at all levels of the social ladder in *both* countries. It follows that while aggregate inequality measures may not show an association with average population health, insofar widening inequalities undermine the socio-economic status of poorer Canadians, it undermines their health status as well.

An approach to policy based on prudence in the absence of proof would demand that policy levers be used to preserve our substantial health advantage. With all indications pointing to Canada's strength as a competitor in the international economy, it is important that Canadians be urged to think what must be done to maintain our standards of health and well-being. This demands that we pay careful attention to preserving and enhancing public policies that are believed to contribute to the country's superior health status.