Health Policy Research Program
Summary of Research Results

Title:	**The Socioeconomic Gradient in Health in Atlantic Canada: Evidence from Newfoundland and Nova Scotia 1985-2001**
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Summary

Despite the relative level of affluence enjoyed by Canadians, numerous studies have identified the existence of a socioeconomic gradient in health. This gradient refers to the empirical observation that individuals of low socioeconomic status, which can be measured by income, educational attainment or occupational skill level, consistently report a greater degree of poor health, a higher incidence of chronic conditions and higher levels of health care utilization than those further up the scale. These persistent inequalities over time pose a challenge for policy makers since their origin in the socioeconomic differences that exist between people implies that they may be avoidable. In order to remedy socioeconomic inequality in health, policy makers require information about what components of socioeconomic circumstance matter the most for the determination of inequality in health between individuals. Traditional approaches used to study the gradient are limited in their ability to perform this task. They can describe the link between socioeconomic status and health but they cannot rank a set of socioeconomic determinants of health in terms of their importance to the determination of socioeconomic health inequality. This makes it difficult for policy makers to establish priorities in terms of the determinants they should target and to assess realistically what results they should expect. This statement holds with even more force if the shape of the gradient is particular to the geographic context.

What does this study do?

This study builds on recent developments in the measurement and decomposition of socioeconomic inequality in health to “unpack” the gradient in Atlantic Canada.

Unpacking the gradient identifies for policy makers which health determinants make the largest contribution to measured health inequality and where efforts to reduce the slope of the gradient should be directed. This task is accomplished with the construction of a concentration index that describes the extent to which health is concentrated in groups of high or low socioeconomic status. The health concentration index is a weighted average of the inequality present in key determinants of health between individuals of high or low socioeconomic status. This information allows the health concentration index to be decomposed, and the contribution of individual health determinants expressed relative to measured inequality. The decomposition allows the identification of which health determinants matter most in the determination of socioeconomic inequality in health and the measurement of the size of their separate contributions. Thus, the methodology used here can inform policy makers about what determinants matter the most, and where they can most effectively direct scarce resources to produce the greatest reductions in health inequalities.

The analytical framework also indicates the channels through which socioeconomic inequality in health can be addressed. For a health determinant to make a contribution to socioeconomic health inequality two conditions must hold. First, the postulated health determinant must have an effect on health so that variations in it produce variations in health status. Second, that determinant must be distributed unequally between different socioeconomic groups. If both these conditions hold, then policy makers can seek to influence the distribution of a health determinant between groups of high or low socioeconomic status and/or they can address the effect of the determinant on health. For example, if low educational attainment is associated with low levels of literacy which, in turn, pose barriers to the assimilation of health information, then policy makers could initiate literacy programs towards affected individuals and/or they could provide health information in innovative ways to low literacy groups. In reality, some health determinants may only be amenable to manipulation through one of these channels.

This study uses data from four health surveys conducted in Newfoundland between 1985 and 2001 and the two GPI Atlantic Community Surveys conducted in Glace Bay and Kings County, Nova Scotia during 2001 to examine socioeconomic inequality in health in Atlantic Canada. Each of these six datasets allows the measurement and decomposition of socioeconomic inequality in health at a particular point in time and space. The three surveys conducted in 2001 allow for the comparison of the degree of socioeconomic inequality in health in Atlantic Canada with that found in other countries. The four Newfoundland datasets permit the study of how socioeconomic inequality in health has evolved in that province between 1985 and 2001, and
whether the relative importance of the various determinants of that inequality has changed over time or not. They also allow for further international comparisons to be made during the same period. From the three datasets that cover the year 2001, the decomposition of measured inequality is used to identify the implications for policy efforts designed to reduce health inequality and thereby to improve overall population health.

What does this study find?

National and international comparisons of the concentration indices constructed from the 2001 data find that the degree of socioeconomic inequality in health in Newfoundland and the two Nova Scotia communities is high compared to that found in Canada as a whole and in Europe and Australia. In fact, the Newfoundland data from 1985, 1990 and 1995 show that socioeconomic health inequality in that province appears to have always been high relative to that found in Europe, Australia and the rest of Canada, and comparable to that found in the United States. Furthermore, measured socioeconomic health inequality appears to have increased over time in Newfoundland, meaning that poor health has become increasingly concentrated among individuals of low socioeconomic status.

The decomposition of measured inequality from the three 2001 datasets reveals that income is the single most important contributor to socioeconomic inequality in health in Newfoundland and in the two Nova Scotian communities. The contribution of income alone accounts for between one-third and one-half of the measured socioeconomic health inequality in the locations studied. This contribution occurs through the positive association of income with individual health status and through inequality in the distribution of income that favours high income individuals. Analysis of the Newfoundland data prior to 2001 reveals that the size the contribution made by income has remained consistent over time.

Other determinants that make a significant contribution to socioeconomic inequality in health include educational attainment and economic status. The contribution of educational attainment to socioeconomic health inequality comes primarily through those who are university educated. Higher levels of educational attainment always make a positive contribution to health status, but only a university education is concentrated in favour of higher socioeconomic groups. A university education is the only level of educational attainment, therefore, that makes a statistically significant contribution to socioeconomic health inequality in the locations under study. Employment is the only category of economic status that makes a consistent contribution to socioeconomic inequality and it is similar in nature and size to that found for a university education.

The presence of a long-term disability or of one or more restrictions on daily activities also makes a significant contribution to socioeconomic inequality in health through a combination of a negative effect on individual health status and the concentration of either condition among low income individuals. The contribution of these two conditions to socioeconomic inequality in health is significant for each location under study and, from the Newfoundland data, it is also observed to persist over time. The data also show that the presence of one or more chronic conditions results in individuals being significantly more likely to report either long-term disability or restriction on daily activities, or both. Disability and activity limitation, therefore,

represent the contribution that chronic conditions make towards socioeconomic inequality in health.

What does this study conclude?

There is sufficient evidence from this study to conclude that socioeconomic inequality in health is present in Atlantic Canada and has persisted over time. Furthermore, the degree of inequality appears to be high compared to that found elsewhere. Among all the socioeconomic health determinants studied, the effect of income on health combined with the inequality in its distribution has made the largest contribution to socioeconomic inequality in health in each of the locations under study and over time. The analytical framework indicates that the contribution of income to socioeconomic inequality in health can be reduced through a more equitable distribution of income and a focus on efforts to improve the income levels of low income individuals. Policies at both the federal and provincial levels have an important role to play in this respect. In most cases, the contribution of the other health determinants to socioeconomic inequality in health can be traced back to differences in income between individuals. Thus, the results of this study serve to underscore the importance of income for health. Efforts to encourage higher educational attainment and reduce the prevalence of chronic conditions should also be strengthened, since these factors make a considerable contribution to the socioeconomic inequality in health that has persisted over time. This study also demonstrates the importance of continued research on the socioeconomic determinants of health. In particular, a variety of policy interventions, aside from the public provision of health care, may be cost effective in achieving improvements in population health and curtailing spiralling health care costs.

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- A print version of the full report in the language of submission can be borrowed from the Departmental Library; requests may be sent to HCLibrary_BibliothequeSC@hc-sc.gc.ca.
- An electronic version of the full report in the language of submission is available upon request from Health Canada by e-mailing the Research Management and Dissemination Division.

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