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# Development of tools to measure and explain changes in health inequalities in Scotland and benchmark performance


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## The Problem

Every human being has the fundamental right to enjoy "the highest attainable standard of health" (Preamble to the World Health Organization constitution). However in Scotland, as in many other countries, it is often found that good health is concentrated among the rich compared to the poor. In Scotland the presence of these income-related health inequalities are seen as a major policy challenge, having been identified by the Scottish Government as a key priority. However, there is a lack of evidence on the underlying causes of health inequalities and how to tackle them. Thus, the recent Ministerial Taskforce Report on Health Inequalities (Scottish Government, 2008) recognises the need "to develop a wider range of approaches to outcome and impact evaluation, appropriate for specific interventions and for complex and comprehensive packages of actions designed to reduce health inequalities." In particular, there is a need for a consistent measurement and modelling framework in order to benchmark performance and evaluate the effect of policy interventions on reducing health inequalities.

Evidence from successive cross-sectional surveys is often used to compare the level of income-related health inequality over time. However, there are important aspects of the evolution of income-health related inequalities that are not revealed by examining such changes. In particular, it is not possible to track the experience of individuals but only of groups, such as the poor or those in a particular geographic area, whose composition may change over time. Thus it is not possible to determine to what extent a fall in income-related health inequality over time might be due to a relative improvement in the health of those who were initially poor as opposed to an improvement of their position in the income distribution, where the former might be due to healthcare interventions targeted at the poor and the latter to broader changes in welfare provision and economic conditions.

In order to better understand the dynamics of health and evaluate the impact of specific interventions on health inequalities, longitudinal or follow-up studies on individuals are required. In particular, longitudinal data are required to distinguish between income-related health inequalities arising from chronic or persistent social disadvantage as opposed to those due to transitory episodes of poverty and sickness, where the former would call for policies to tackle the structural problems that trap some individuals in deprivation and ill-health while the latter might demand measures such as improvements in acute health services or temporary welfare assistance. Longitudinal databases, such as the British Household Panel Survey (BHPS), do exist but as yet are poorly utilised due to a lack of appropriate methodologies to measure and explain the dynamic links between health, income, socioeconomic status and lifestyle choices.

Our approach is based on the observation that any change in income-related health inequality over time must arise from some combination of changes in health outcomes (i.e. "health mobility") and changes in individuals' positions in the income distribution (i.e. "income mobility"). By decomposing the change in the income-related health inequality between two periods, we provide an index of income-related health mobility that captures the effect on cross-sectional income-related health inequality of differences in relative health changes between individuals with different levels of initial income. This index addresses the question of whether the pattern of health changes favour those with initially high or low incomes, providing a natural counterpart to measures of income-related health inequality that address the issue of whether those with better health tend to be the rich or poor. In addition we obtain an index of health-related income mobility that captures the effect of the reshuffling of individuals within the income distribution on cross-sectional socioeconomic inequalities in health.

## Project Aims

This project will develop a modelling framework to explain changes in income-related health inequalities and benchmark the performance of Scotland in tackling income-related health inequalities, both over time and relative to that of England and Wales. There are four key aims:

*1* To develop summary measures of income-related health mobility and health-related income mobility, in order to track changes in health inequalities due to both morbidity and mortality.

*2* To model the dynamic links between health, income, socioeconomic status and lifestyle choices in order to determine the factors that explain individual changes in morbidity and mortality.

*3* To use the above tools to benchmark the past performance of Scotland in tackling health inequalities relative to that in England and Wales.

*4* To assess the adequacy of current data sets to support robust policy conclusions from the longitudinal analysis of income-related health inequalities in Scotland.

## Future Work

This is the start of a larger research project which aims to establish a framework for evaluating the cost-effectiveness of interventions both in terms of their ability to improve health and reduce health inequalities. This will provide policy makers with the information necessary to make difficult resource allocation decisions.

### Further information

A working paper on the more technical aspects involved in the measurement framework mentioned here can be found at http://ideas.repec.org/p/dun/dpaper/214.html.

If you would like to receive updates on this project or if you have any questions please contact:

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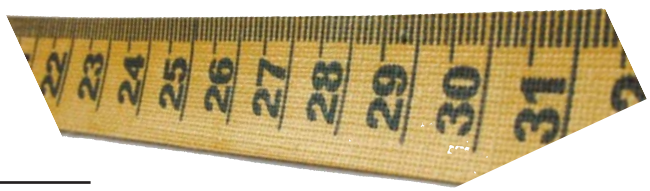


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