Resource allocation policies to reduce avoidable health inequalities between Primary Care Trusts in England

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Summary: Modelling of expressed demand for health care services rests on a presumption that illness and healthiness align along a common linear dimension. Hence conventional modelling has divided the population into two categories; the ‘well not ill’, and the ‘unwell ill’. However, if we take seriously the objective to be a health service rather than an illness service then this implies that ‘being well’ is not the same as ‘not becoming ill’. Hence there are two further population categories; the ‘well ill’, and the ‘unwell not ill’. This brief article first looks at whether ‘wellness’ can be identified as a distinct dimension from ‘illness’. Drawing on data from the Health Survey for England it then considers whether it is possible to demonstrate systematically higher health and mortality risk in the ‘unwell not ill’, and lower health and mortality risk in the ‘well ill’.

Keywords: health inequalities, resource allocation, wellness, unmet need, England

The task of sharing national revenue resources among successive operational health areas (Health Authorities, Primary Care Groups, Primary Care Trusts) has since 1996/97 been guided by the application of a series of target allocation formulae: the York Formula (1994),\(^1\) the AREA (Allocation of Resources to English Areas) formula (2002)\(^2\) and the CARAN (Combining Age-Related and Additional Needs) formula (2008).\(^3\) These formulae are not translated directly into resource shares, instead each area’s current allocation is compared against its formula target; and a differential growth is assessed on the basis of ‘distance from target’, with most growth going to areas most under target, and least to those most over target.

Successive formulae have had the explicit objective of seeking to achieve equal access to health care for equal need, and as such continued from a series of previous formulae with the same objective, but which had been applied at the regional, rather than the operational area level, including the RAWP (Resource Allocation Working Party) formula.\(^4\) The calibration of these formulae relied on modelling measures of expressed demand (chiefly hospital treatments) against population counts, age and socio-demographic characteristics.

With the introduction of the AREA model formula, Ministers added an additional explicit objective; to help reduce avoidable health inequalities. The AREA formula sought to fulfill this objective through the incorporation of terms relating to a locality assessment of ‘unmet need’; and in consequence, the AREA formula was more redistributive in favour of areas with a high degree of deprivation than had been the case with previous formulae. The consultants for the CARAN formula, however, recommended that the calibration of these integral ‘unmet need’ terms could not be regarded as robust at the local level, a view accepted by Ministers, who determined to apply a distinct health inequalities adjustment to formula targets.

Consequently the elements of the current formula fall into two distinct categories; a local expressed demand model, derived from past service utilisation rates; and a health inequalities term, derived from a measure of differential local population morbidity and mortality (Disability Free Life Expectancy).

Why not simply apply expressed demand?

But why not simply apply an expressed demand formula as it stands? Those concerned about health inequalities have advanced two reasons for not doing so.

‘The inverse care law’: the belief that more affluent populations are differentially better able to obtain access to and derive benefit from health resources.

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‘Unmet need’: the belief that less affluent populations are differentially less likely to present early with illness, or are otherwise systematically more likely to face inhibitions on achieving hospital treatment due to resource constraints (for example, if under-served by primary care facilities).

Modelling of expressed demand rests on a presumption that illness and healthiness align along a common linear dimension (or otherwise that the duty of health services is overwhelmingly to treat illness; and that the commonly asserted additional task of promoting positive health is of minimal significance). Hence conventional modelling has divided the population into two categories; the ‘well not ill’, and the ‘unwell ill’, and we have calibrated resource targets in proportion to the predicted ratio of the second category to the total.

However, if we take seriously the objective to be a health service rather than an illness service then this implies that ‘being well’ is not the same as ‘not becoming ill’, and hence that there will be two further population categories; the ‘well ill’, and the ‘unwell not ill’. The category ‘well ill’ provides a more systematic expression of the phenomena asserted above as the ‘inverse care law’, while the category ‘unwell not ill’ provides a more systematic expression of ‘unmet need’.

Identifying wellness

This generates a conceptual framework for health inequalities, but can we empirically identify ‘wellness’ as a distinct dimension from ‘illness’; and if we can, can we demonstrate systematically higher health and mortality risk in the ‘unwell not ill’, and lower health and mortality risk in the ‘well ill’?

Inherently, such a task requires a population dataset, rather than a health user dataset, and accordingly we used the 14,142 anonymised records of adults in the 2006 Health Survey for England (HSE). This defines ‘becoming ill’ as having reported any ‘limiting longstanding illness.’ A summary score on ‘being well’ for each person is estimated using Categorical Principal Component Analysis reducing 46 characteristics in the HSE data to two summary dimensions. One extracted dimension is clearly ‘ageing’. We have taken the second dimension as being a proxy for ‘being well’. This dimension of ‘wellness’ aligns exactly with characteristics of household material affluence and disadvantage (equivalised income quintiles, socioeconomic classification of household), but also with individual scores on the General Health Questionnaire (GHQ) scale (which is an indicator of poor mental wellbeing).

We then cross-tabulated illness and wellness. The illness dimension is binary, whereas the wellness dimension is a continuous score. For simplicity therefore, we converted wellness into a binary characteristic (well – unwell) with the threshold at 20% unwell, 80% well. Applying this to the adults in the HSE, 64% are classified well not ill; 16% are classified well ill; 10% are classified unwell ill; and 10% are classified unwell not ill.

In the 2006 Health Survey, adults were also asked to report past doctor diagnoses of certain specific conditions related to cardiovascular risk (for example, angina, heart attack, stroke, high blood pressure, diabetes), and their recorded answers can be compared with the same respondents’ assessments of any long-term illnesses. Analysing the reported prevalence of hypertensive illness according to our four categories – we found that, of those who have previously been diagnosed with high blood pressure, the ‘unwell not ill’ are the least likely subsequently to report hypertension as a long-term illness (18%), as compared to the sample average of 26% (Figure 1). We repeated the exercise for diabetes. 83% of those reporting a past diabetes diagnosis also reported diabetes as a current long-term illness but the rate for the ‘unwell not ill’ was only 68%. In both cases, the highest levels of reported illness were in the ‘well ill’ (33% and 85% respectively) (Figure 2).
How do welfare policies contribute to the reduction of health inequalities?

Olle Lundberg

Summary: While the provision of health care is important for public health, public health policies are much more than health care policies. Since a range of social factors and living conditions throughout the life course are of importance for health and survival, welfare policies that aim at improving such conditions and tackling social problems are of importance for health as well. It is important to consider both macro- and micro-level policies when we try to assess what works; the fact that micro level interventions are easier to evaluate should not stop us from trying to understand the health impacts of macro level welfare policies.

Key words: welfare policy, health inequalities, social protection

Welfare policies and public health

One may ask why we should be interested in welfare policies as a way to improve public health and reduce health inequalities. A fundamental reason is that while the provision of health care is important for public health, public health policies are much more than health care policies. Since a range of social factors and living conditions throughout the life course are of importance for health and survival, policies that aim at improving such conditions and tackling social problems are of importance for health as well.

One can also observe that many welfare policies and programmes are in fact motivated by health problems, disabilities and their economic consequences. Pensions, sickness insurance or work injuries insurance schemes are basically implemented to reduce or eliminate the risk of poverty associated with illnesses due to the loss of opportunity to generate a market income. In addition, it is important that we consider both macro- and micro-level policies when we try to assess what works; the fact that micro-level interventions are

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