

Informing Investment to reduce health Inequalities (III) in Scotland

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Outline

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- Aims
- Methods
- Results
 - 10 / 20 year
- Discussion
 - Strengths
 - Weaknesses
- Conclusions



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Background

- Health inequalities:
 - "...the systematic differences in the health of people occupying unequal positions in society" (Graham, 2009)
- Occur across a range of social dimensions including income, social class, deprivation, caste, ethnicity and geography.
- Health inequalities in Scotland are wider than in the rest of West and Central Europe and increasing on many measures



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Reducing health inequalities

- Policy priority...
 - “reducing inequalities in health is critical to achieving the Scottish Government's aim of making Scotland a better, healthier place for everyone” (Scottish Government, 2008)*
- Demand re ‘what works’?
- Broad principles of inequalities reduction are understood, but...
 - there is a lack of quantitative evidence about the relative impact of specific interventions.



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Aims

1. To quantify and model the capacity for a range of public health interventions to reduce health inequalities in Scotland, based on realistic scenarios for the delivery of downstream interventions to individuals in deprived groups.
2. To compare such downstream interventions with universal, population-level approaches in terms of their potential impact on population health & health inequalities.
3. To augment an existing suite of practical tools for informing decisions about how to reduce health inequalities in Scotland through the addition of further interventions and outcomes.
4. To provide decision-makers with comparisons of the effectiveness of differing strategies to tackle health inequalities.



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Methods

- Literature reviews
 - Interventions >>>> changes in all-cause mortality / hospitalisations
- Parametric models
 - Cumulative mortality (YLL) / hospitalisations (CIS)
 - Changes in inequality (RII)
- User tools
 - Excel-based
 - Allows variation of assumptions over short (2 year), medium (10 year) and long-term (20 year)



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Informing Investment to tackle health Inequalities in Scotland (III) - Smoking Cessation

What is the nature of the intervention? Scotland's national smoking cessation programme, which delivers universal smoking cessation services across all NHS Boards. The model assumes that the maximum number of people who could be reached is 74% (all those smokers who want to quit) (Source: Knowledge Attitudes and Motivations to health module of the Scottish Health Survey 2010).

Users can change the geography of interest, the number of people to 'treat' with the intervention (except for tobacco tax and income, where these are "given") and the targeting strategy here.

1. Choose geography	Scotland
2. Enter number treated	50000
3. Choose targeting strategy	Proportionate to need
	Total direct cost of intervention (£m, 2012 prices) 5,000

Baseline Information: Smoking Cessation	2 years	10 years	20 years
Baseline year	2012		
Age group	16+		
Estimated no. of smokers (2012)	992425		
Of which, Q1 only:	298435		
Of which, Q1 & Q2:	539482		
Estimated no. smokers who want to quit	734394		
Of which, Q1 only:	220842		
Of which, Q1 & Q2:	399216		
Annual continuous inpatient stays (2012)	1082362		
Of which, Q1 only:	270251		
Of which, Q1 & Q2:	508745		
Annual cessation service quit attempts: (2008-12)	87400		
Of which, Q1 only:	32593		
Of which, Q1 & Q2:	54269		
Direct financial costs of intervention			
Cost per intervention (£, 2012 prices)	100		

Model Outcomes (whole population)	2 years	10 years	20 years
Years of life gained	320	2490	4519
Continuous inpatient stays prevented	191	1535	2845

Model Outcomes (Most deprived SIMD quintile)	2 years	10 years	20 years
Years of life gained	129	947	1638
Continuous inpatient stays prevented	69	528	933

Model Outcomes (comparative health inequalities)	2 years	10 years	20 years
RII: Years of life lost (without intervention)	1,210	1,093	1,004
RII: Years of life lost (with intervention)	1,210	1,093	1,004
RII: years of life lost (difference)	-0.0002	-0.0002	-0.0002
RII: continuous inpatient stays (without intervention)	0.5988	0.5870	0.4735
RII: continuous inpatient stays (with intervention)	0.5988	0.5868	0.4734
RII: continuous inpatient stays (difference)	-0.0002	-0.0002	-0.0001

Direct financial savings	2 years	10 years	20 years
Reduced continuous inpatient stays (£m) - all	0.5	3.9	7.0
Reduced continuous inpatient stays (£m) - MIDQ	0.2		

How are costs and financial savings estimated?
 The cost per smoking cessation intervention was estimated at £98 in 2011, based on Evaluation of quit4u, NHS (http://www.healthscotland.com/documents/5527.aspx). This has been adjusted to 2012 prices. Give et al. inpatient stay at £2113 in 2006/07 - this has been adjusted to 2012/13 prices.

Where do I get more information?
 The 'Notes' tab describes the purpose of each worksheet.
 For more details, including a commentary, user guide and technical report please see: <http://www.healthscotland.com/documents/5527.aspx>

Baseline information on the number of people 'at risk', the plausible maximum who might actually benefit from the intervention, and other summary information is displayed here.

This pale blue section shows **outcomes** from the model, including years of life gained, hospitalisations prevented and comparative health inequalities. It also estimates the direct financial savings from the intervention.

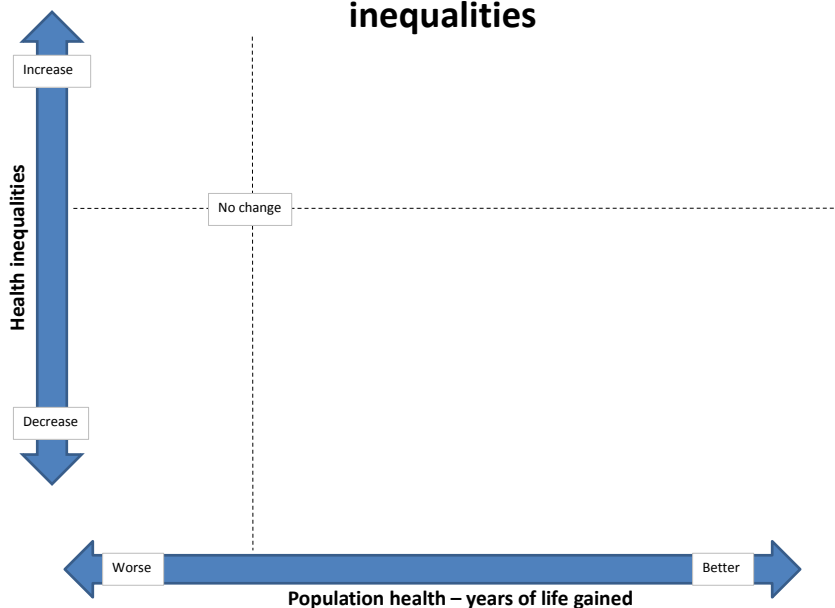
Interventions

1. Changes to taxation (1p on the Scottish rate of income tax, a 10% rise council tax)
2. Changes to benefits (a 10% increase in the value of job seekers' allowance and income support, a 10% increase in basic and 30-hour working tax credits)
3. Introduction of a 'living wage';
4. An increase in the level of tobacco tax;
5. Greater provision of smoking cessation services;
6. Greater provision of alcohol brief interventions (ABIs);
7. Greater provision of a 'Counterweight' weight management service;
8. Changes in levels of employment; and
9. Changes in the extent of active commuting (walking and cycling to work).

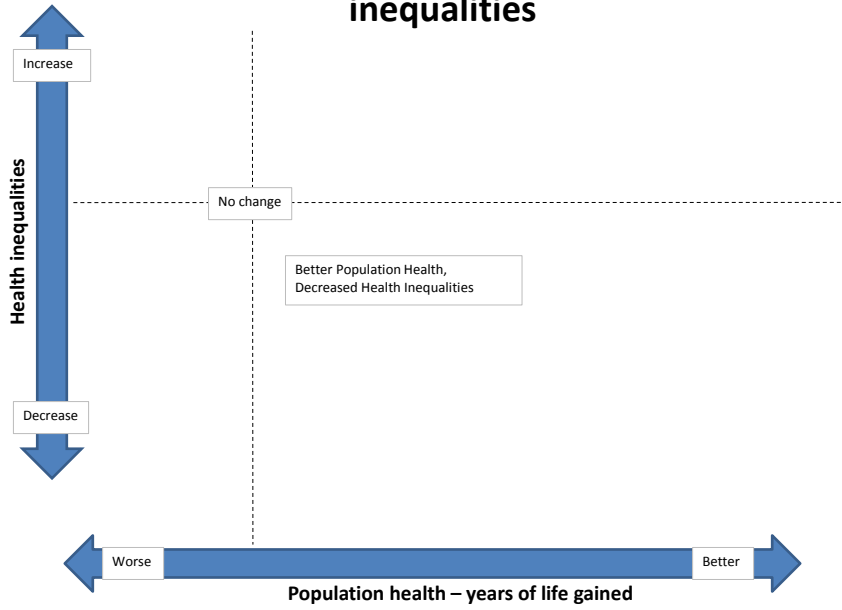


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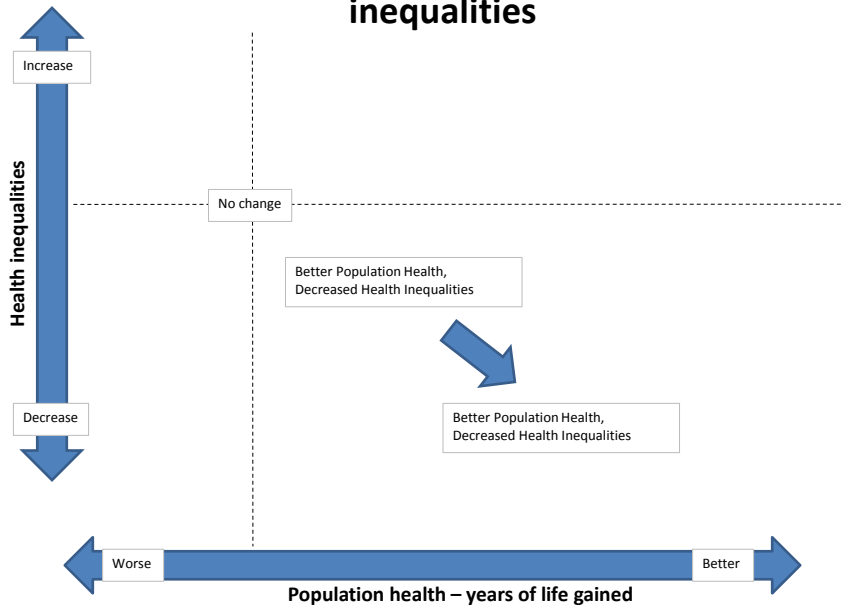
Impact of interventions on health and health inequalities



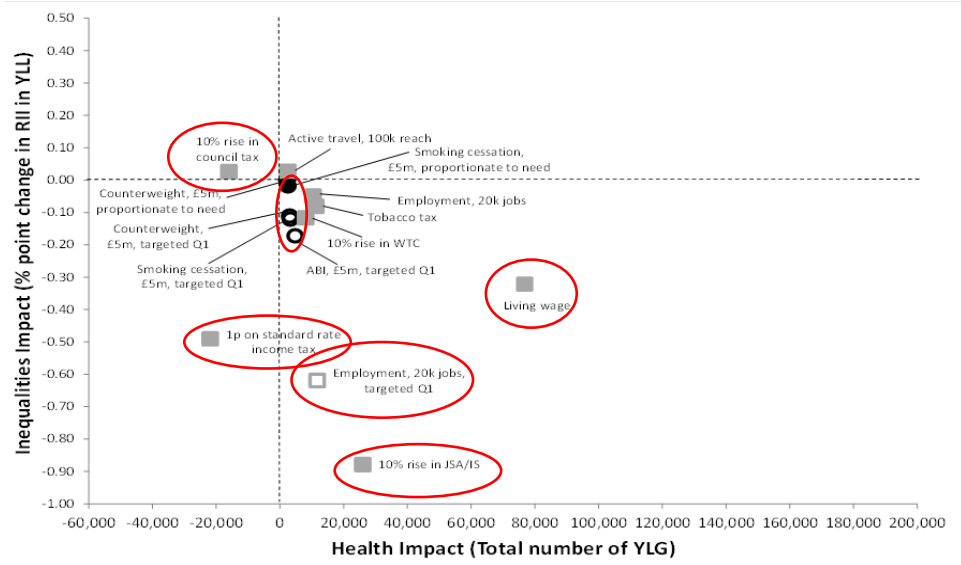
Impact of interventions on health and health inequalities



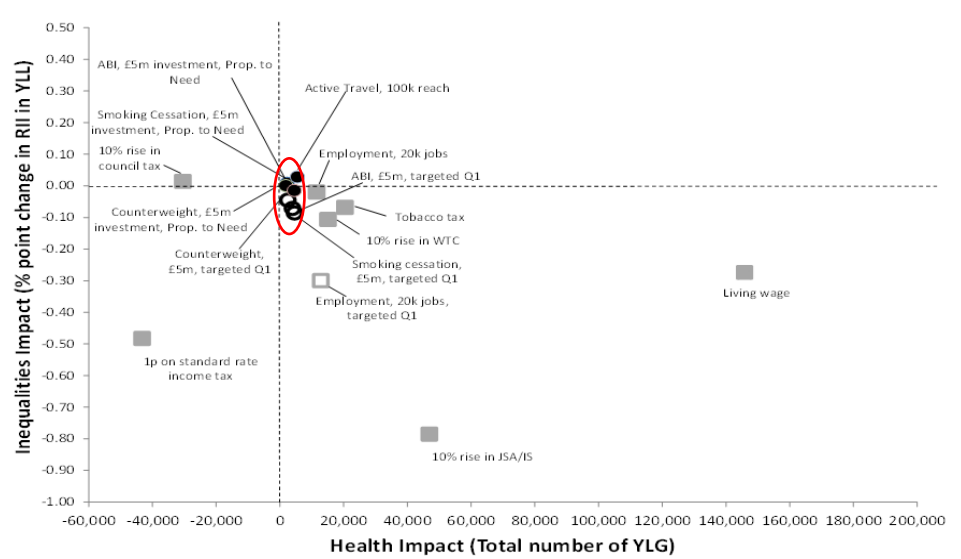
Impact of interventions on health and health inequalities



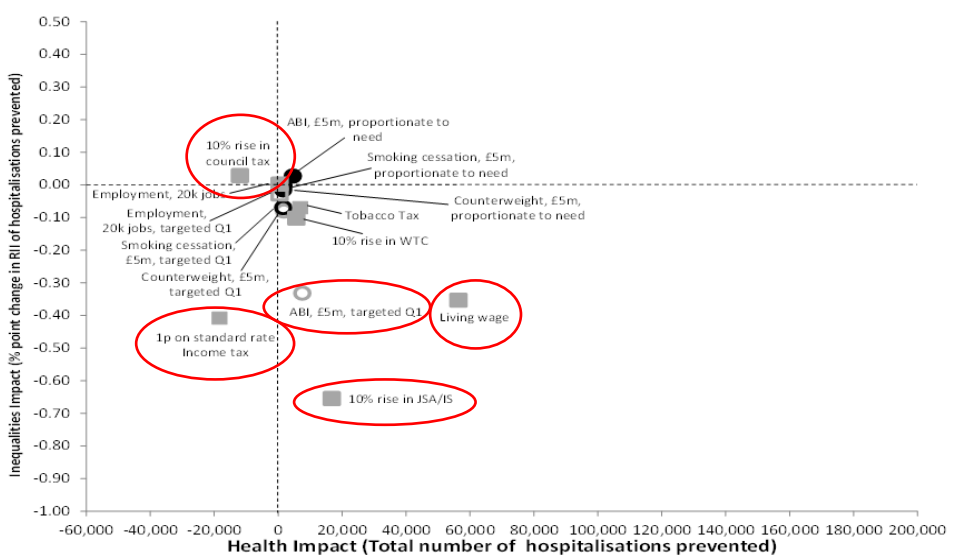
Modelled changes on mortality and inequalities after 10 years



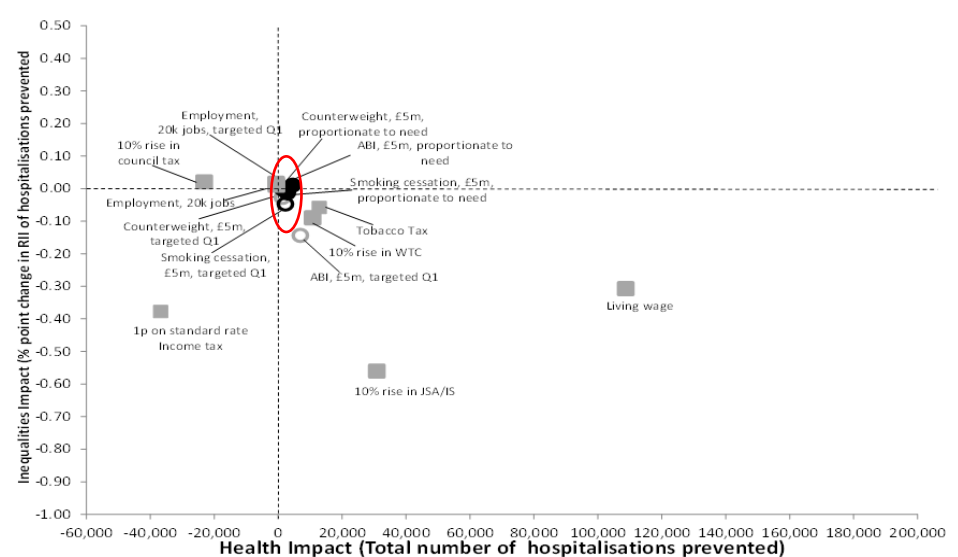
Modelled changes on mortality and inequalities after 20 years



Modelled changes on hospitalisations and inequalities after 10 years



Modelled changes on hospitalisations and inequalities after 20 years



Discussion (1)

- Strengths
 - Uniquely compares impacts of a range of interventions across the determinants of health;
 - Utilises the best available evidence relevant to the Scottish context;
 - Assumptions can be varied as better evidence becomes available or as local contexts require;
 - Sensitivity analyses allow uncertainty around the estimates to be made explicit;
 - Significantly enhances the support available to decision-makers when allocating resources and when planning interventions and policies to improve health and reduce health inequalities.



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Discussion (2)

- Weaknesses
 - Limited number of modelled interventions;
 - Limited number of outcomes;
 - Impacts confined to the 'fixed cohort';
 - Limited evidence of differential impacts across population strata;
 - Reliance on observational and self report data



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Conclusions

- Ill models provide a means for decision makers to understand the likely impacts of a variety of interventions on health and health inequalities.
- Interventions have markedly different effects on mortality, hospitalisations and inequalities.
- The most effective (and cost effective) interventions for reducing inequalities were regulatory and tax options.
- Interventions focussed on individual agency were much less likely to impact on inequalities



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Thank you

***Informing Investment to reduce health
Inequalities (III) in Scotland, main
report and intervention tools published
at: www.scotpho.org.uk***



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