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NHS Foundation Trust



Health Status and Determinants of Child and Adolescent Health in Europe

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University of Liverpool

Krems
June 2017

INFANT AND CHILD MORTALITY
CHILD HEALTH INEQUALITIES IN UK
DETERMINANTS
SMOKING EXAMPLE
POLICIES
WHAT CAN BE DONE?

HISTORY



**65,000 children's lives
lost each year
unnecessarily in
England**

Farr 1864

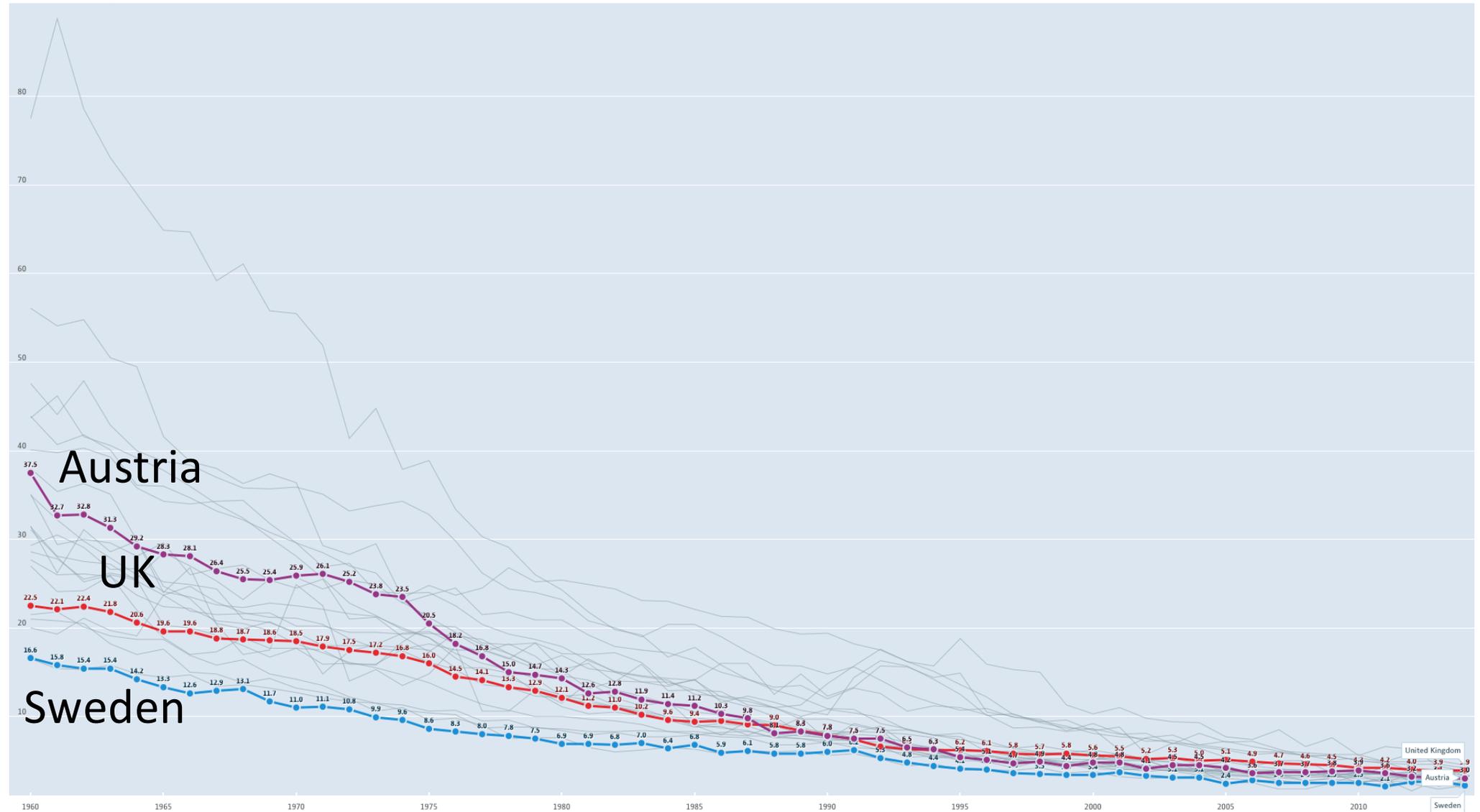
“Annual sacrifice of children’s lives”

“A strict investigation of all the circumstances of the children’s lives might lead to important discoveries, and may suggest remedies for evils of which it is difficult to exaggerate the magnitude”

Farr 1864

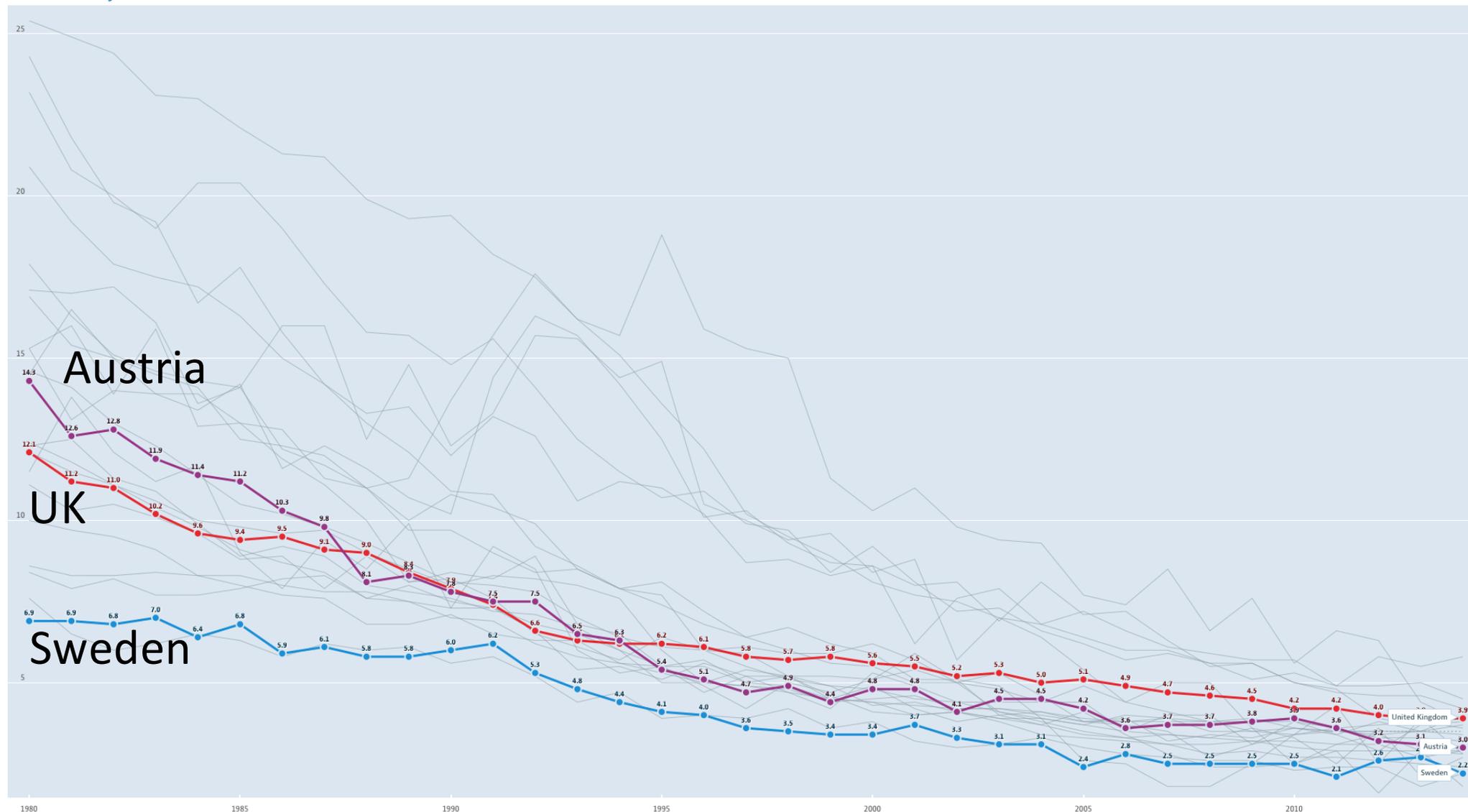
INFANT MORTALITY RATE EU 1960-2010

Infant mortality rates Total, Deaths/1 000 live births, 1960 - 2014



INFANT MORTALITY RATE 1980-2010

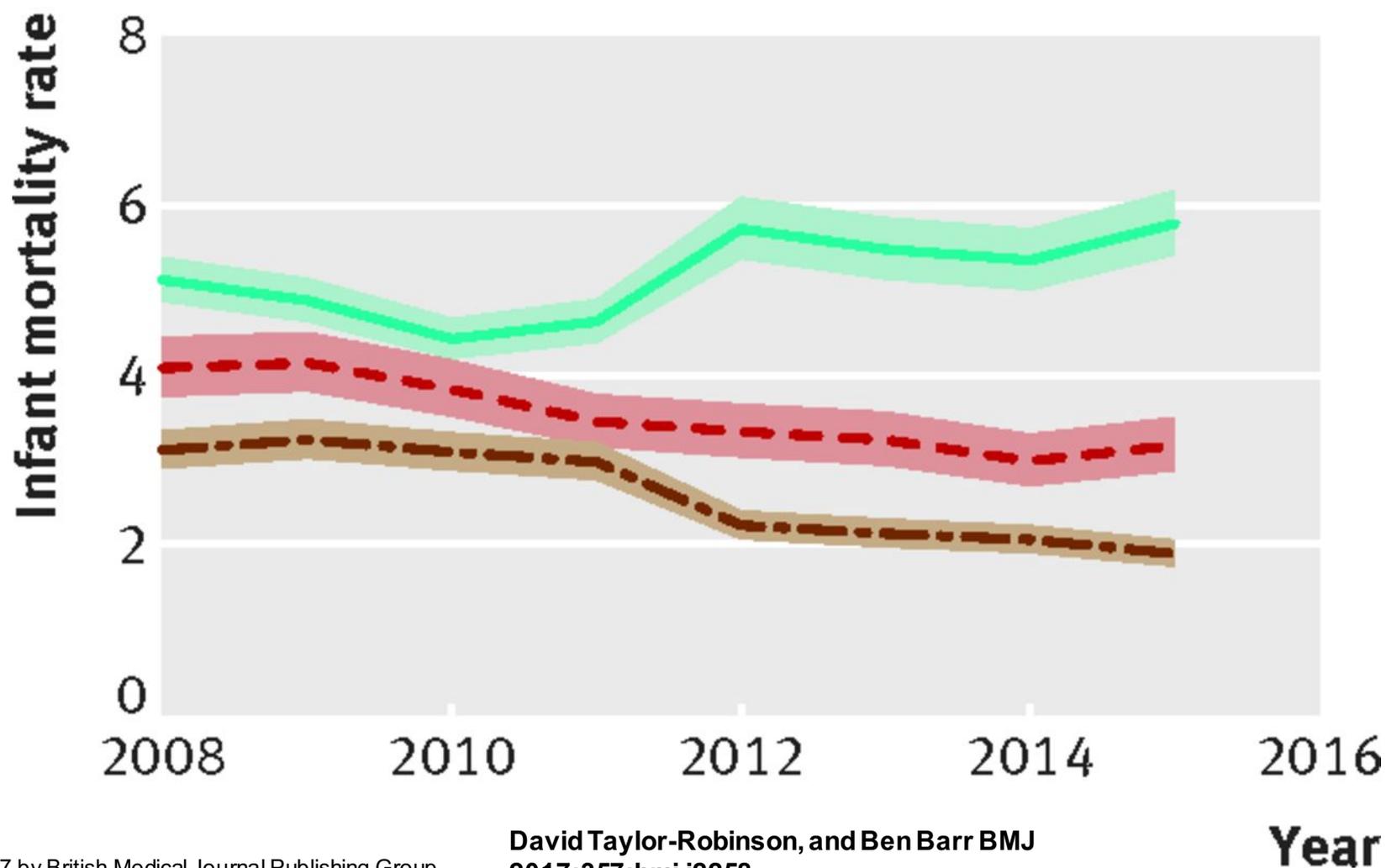
Infant mortality rates Total, Deaths/1 000 live births, 1980 - 2014



Infant mortality rate England and Wales 2008-15

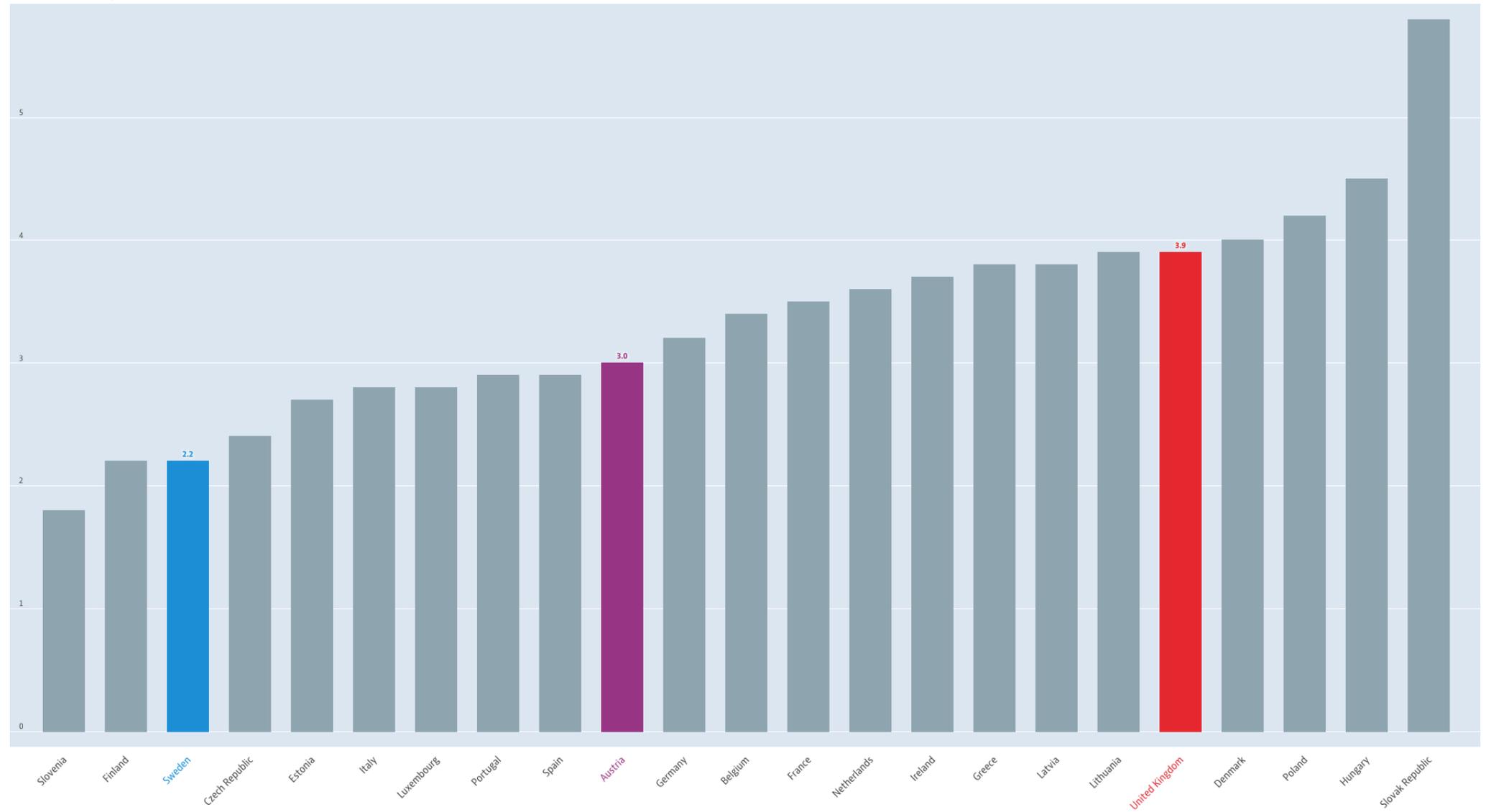
NS-SEC group

- Manual (≥ 5)
- Intermediate (3, 4)
- Professional (1, 1.1, 1.2, 2)

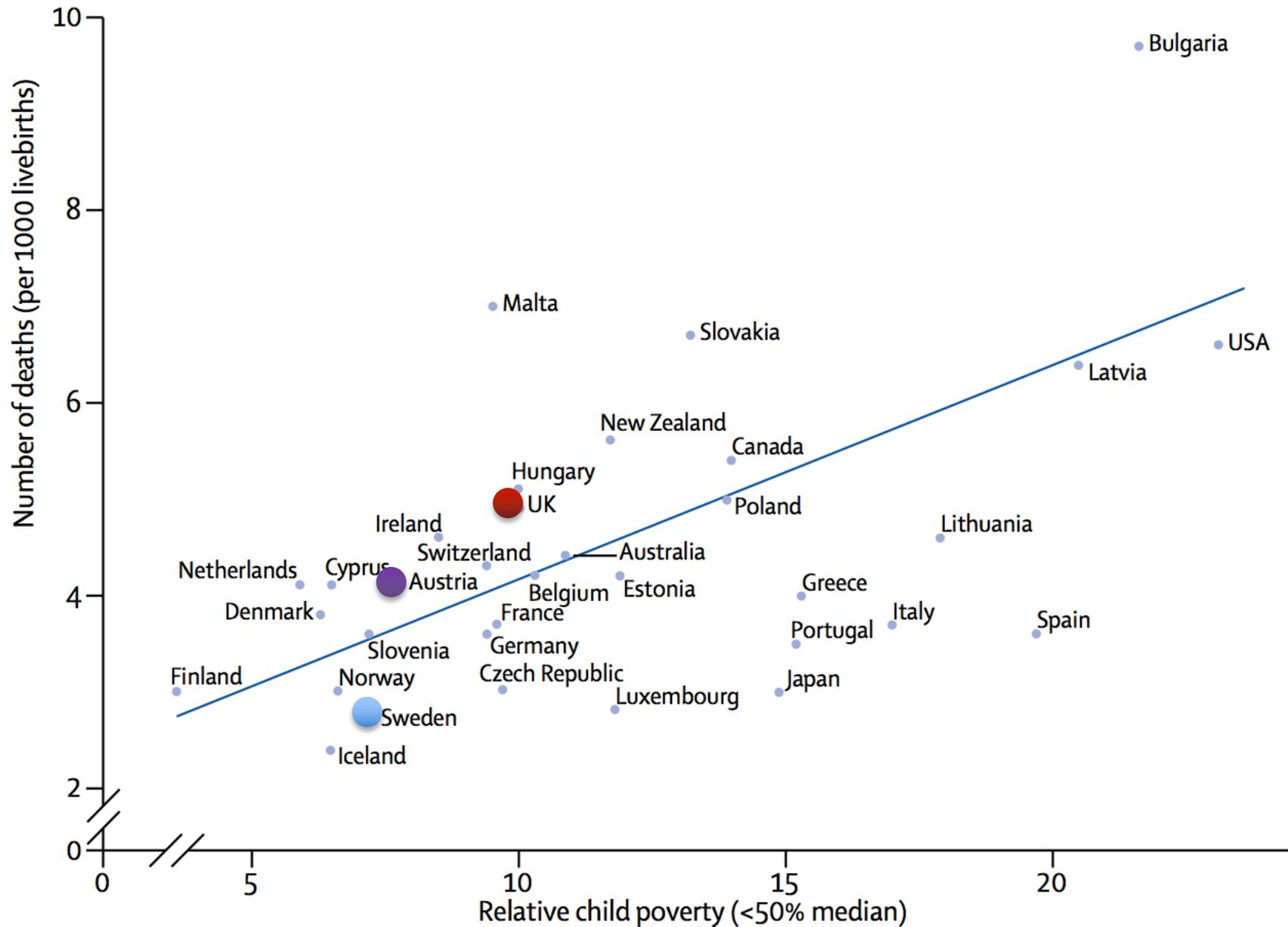


INFANT MORTALITY RATE 2014

Infant mortality rates Total, Deaths/1 000 live births, 2014



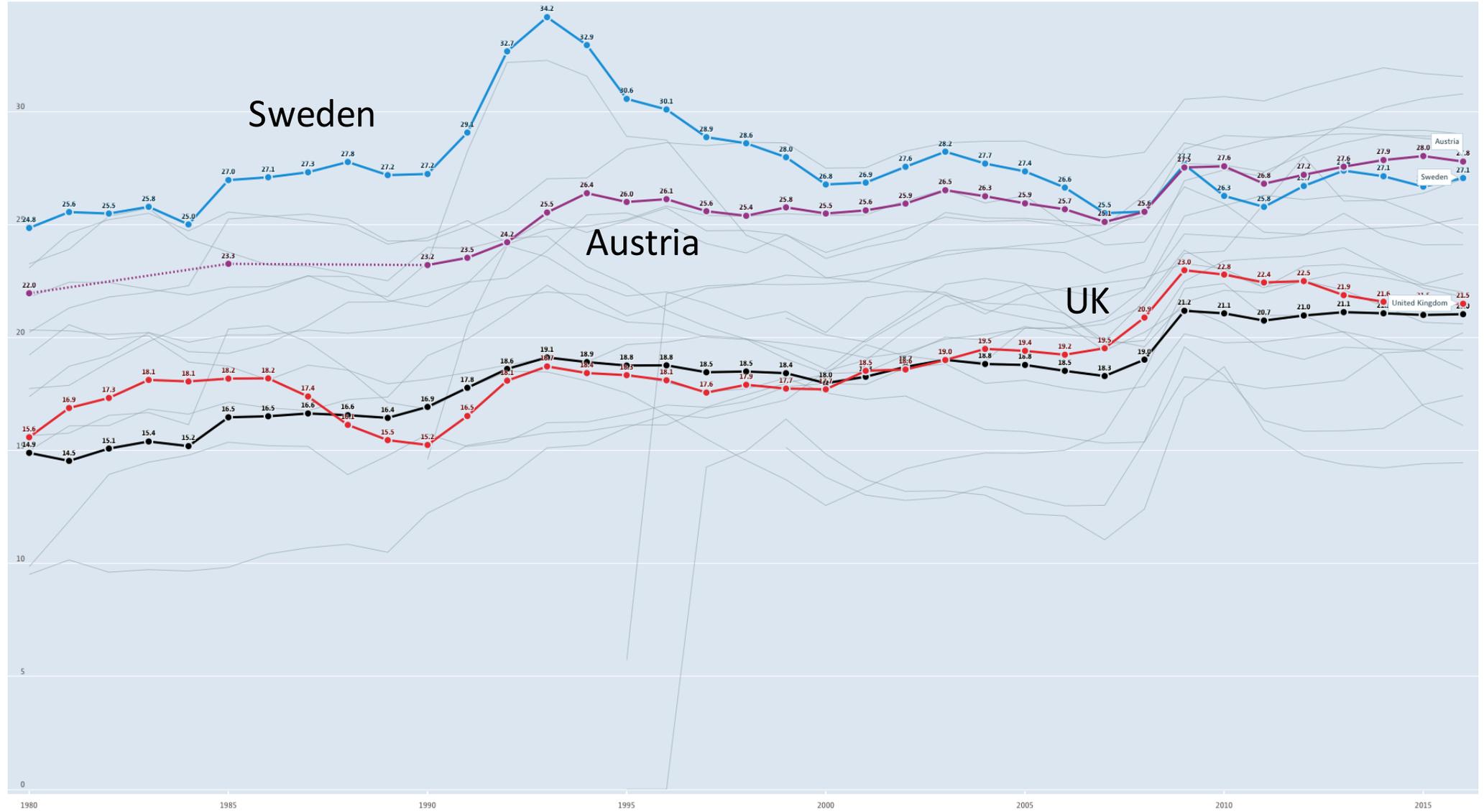
Child poverty and mortality in OECD – UK worst in Western Europe



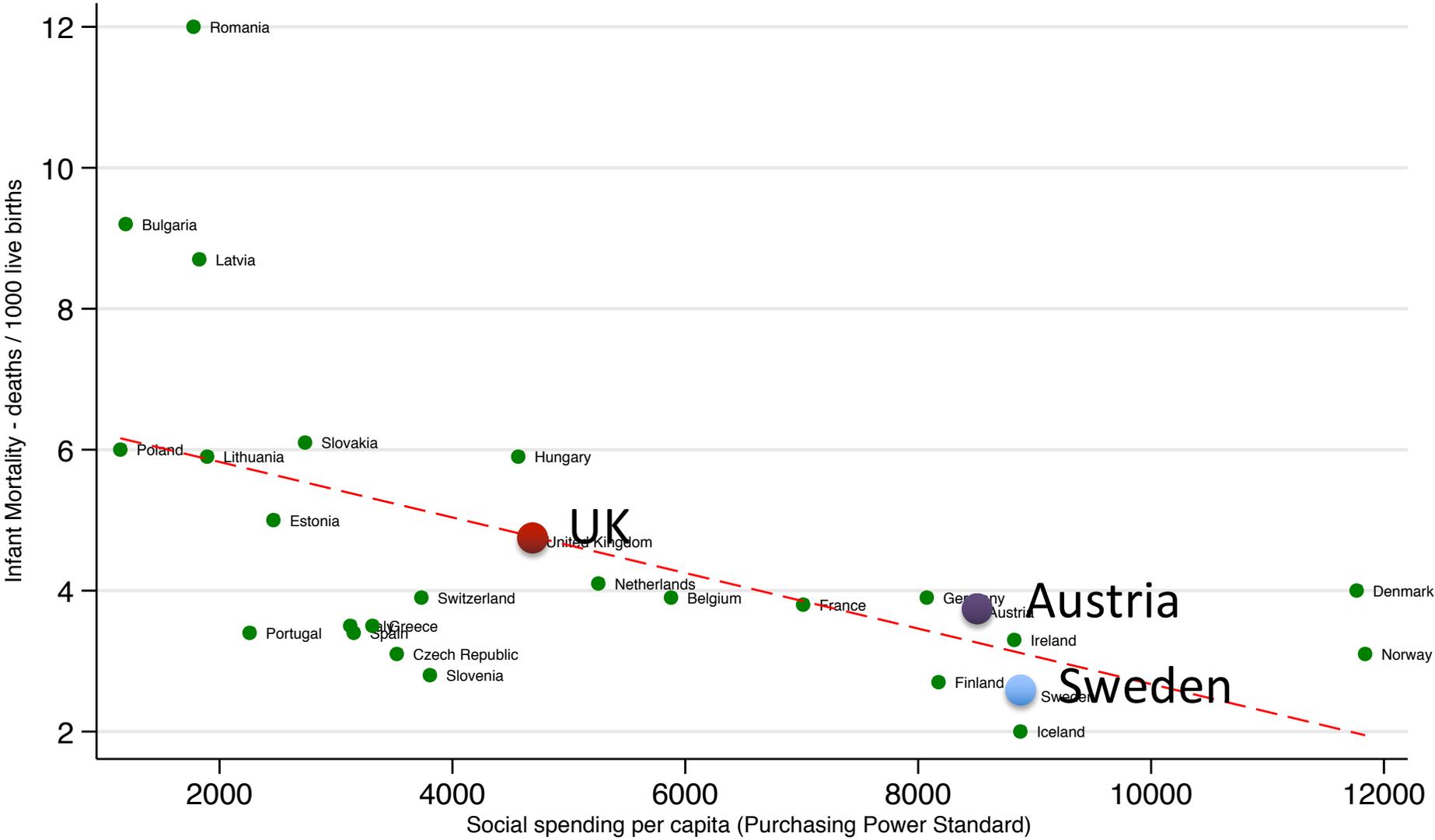
Taylor-Robinson D, Bradshaw J, Barr B, Whitehead M. 2014 Child mortality in the UK. *Lancet* 384, 9958, p1923

Social spending EU 1980-2016

Social spending Public, % of GDP, 1980 - 2016



Social spending on children is associated with improved population health



Source: EUROSTAT

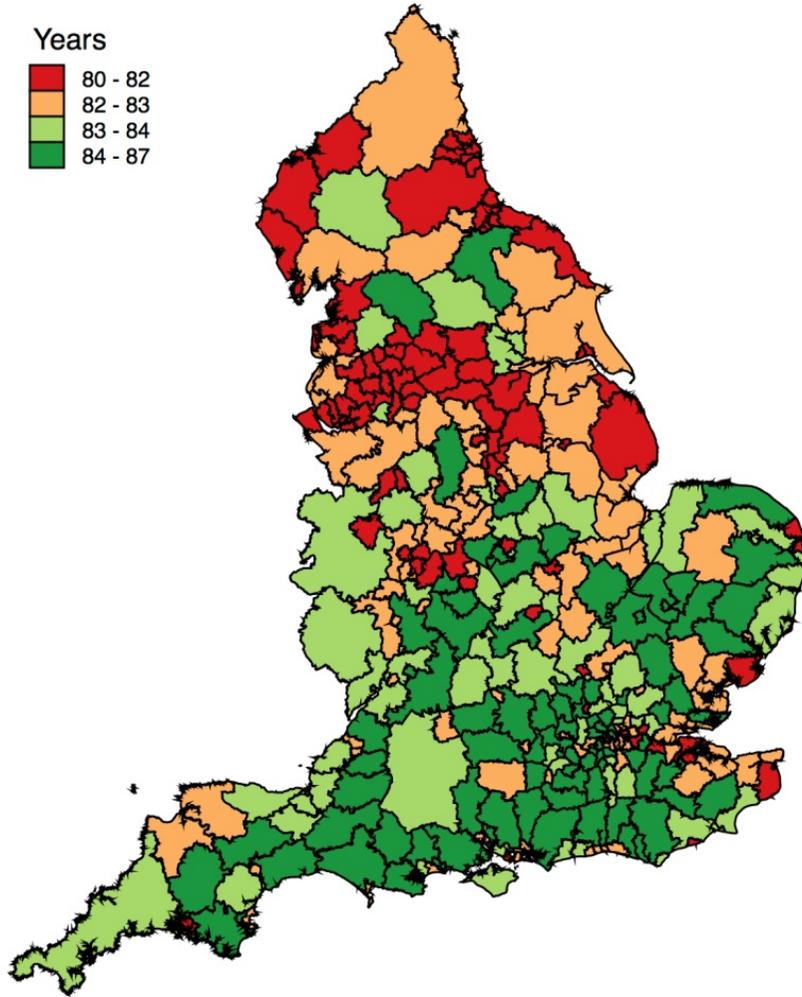
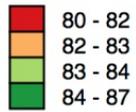
Taylor-Robinson D, Whitehead M, Barr B. BMJ 2015

INEQUALITIES IN UK

Life Expectancy: the North-South Health Divide

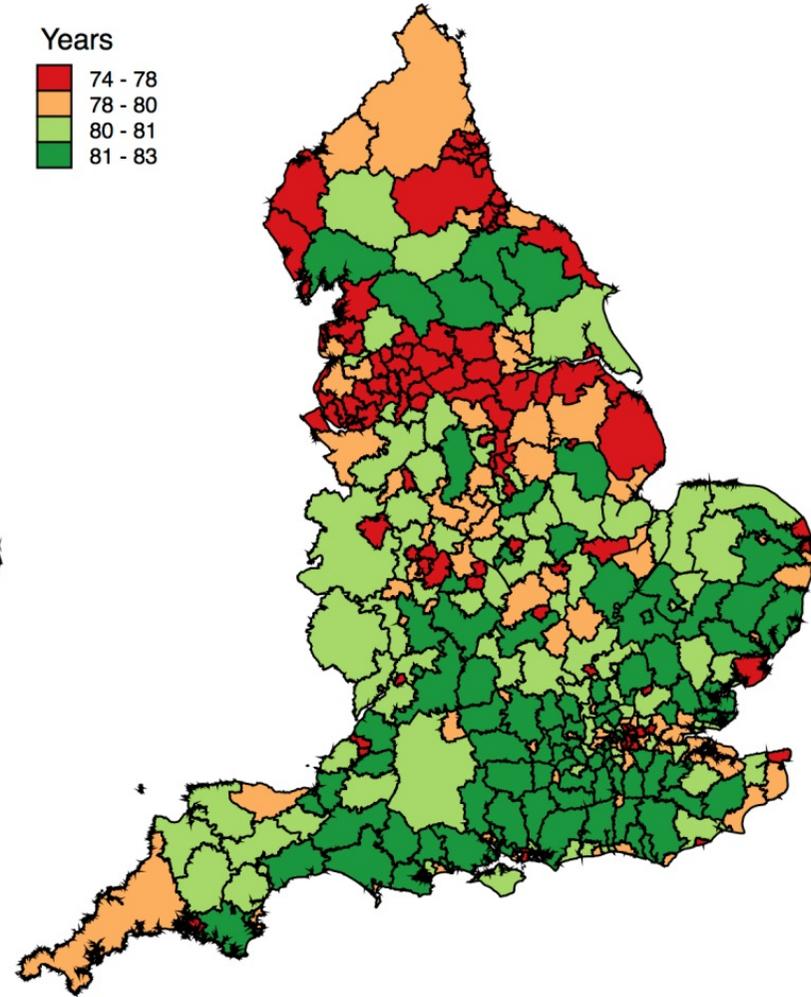
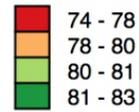
Female

Years



Male

Years

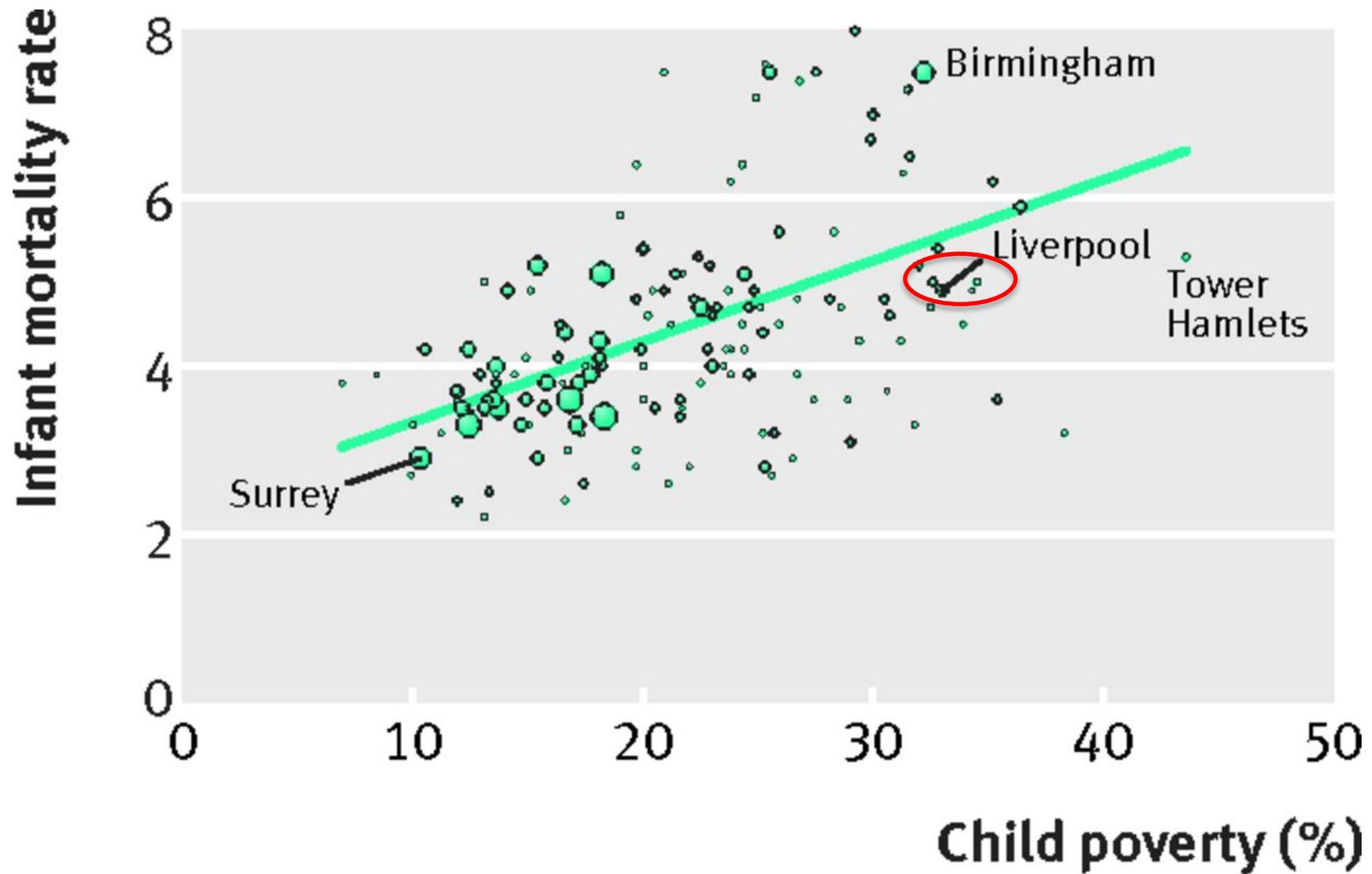


Source: Due North

DUE NORTH

**Report of the Inquiry on
Health Equity for the North**

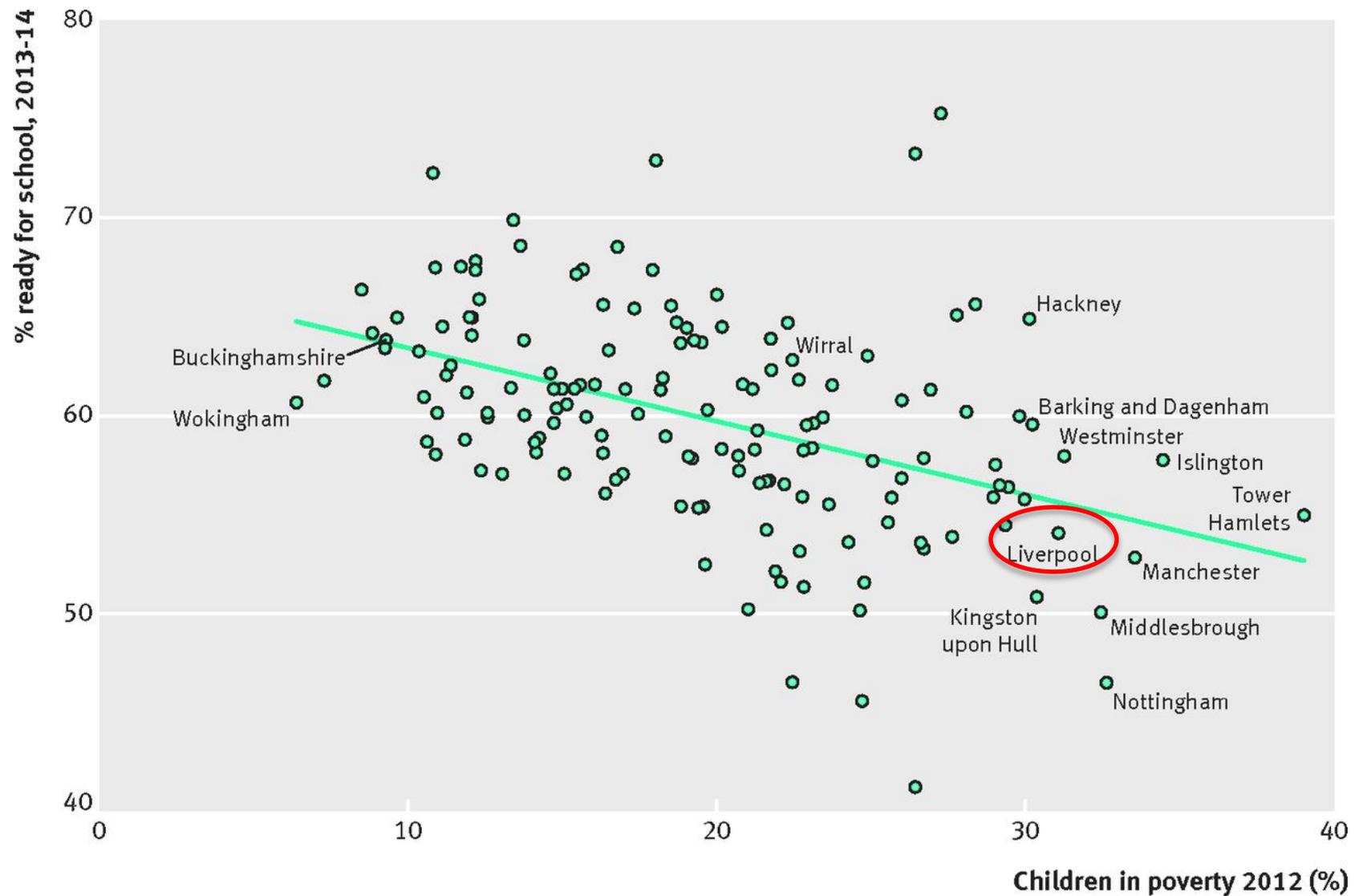
Infant mortality rate by relative child poverty (<60% median) for local areas in England.



David Taylor-Robinson et al. BMJ 2015;351:bmj.h3959



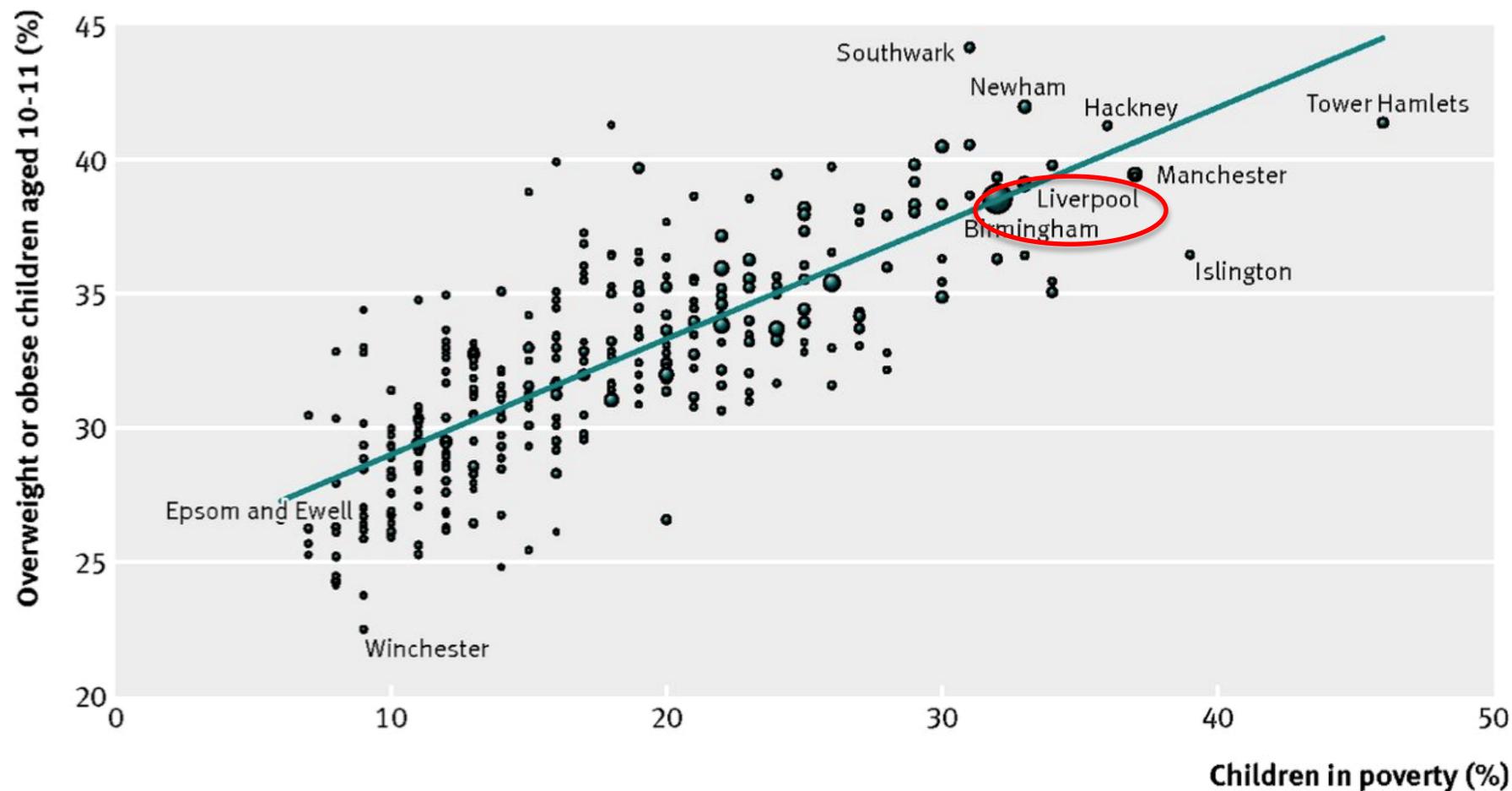
Good level of development at age 5 years by levels of child poverty in English municipalities



David Taylor-Robinson et al. BMJ 2015;351:bmj.h5330



Percentage of overweight or obese children aged 10-11 years by percentage of children in poverty in English councils, 2012.

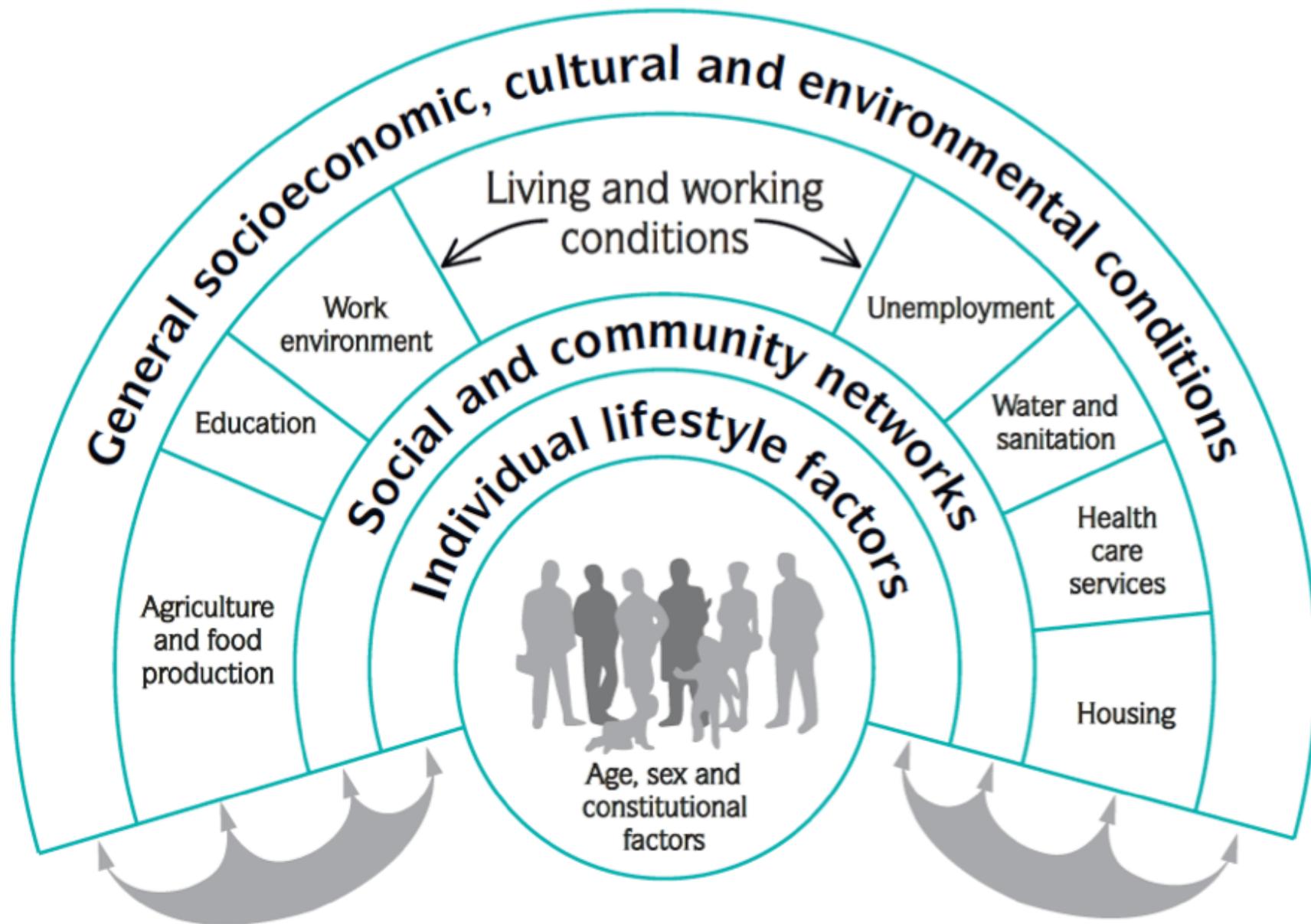


Taylor-Robinson D C et al. BMJ 2014;348:bmj.g2712

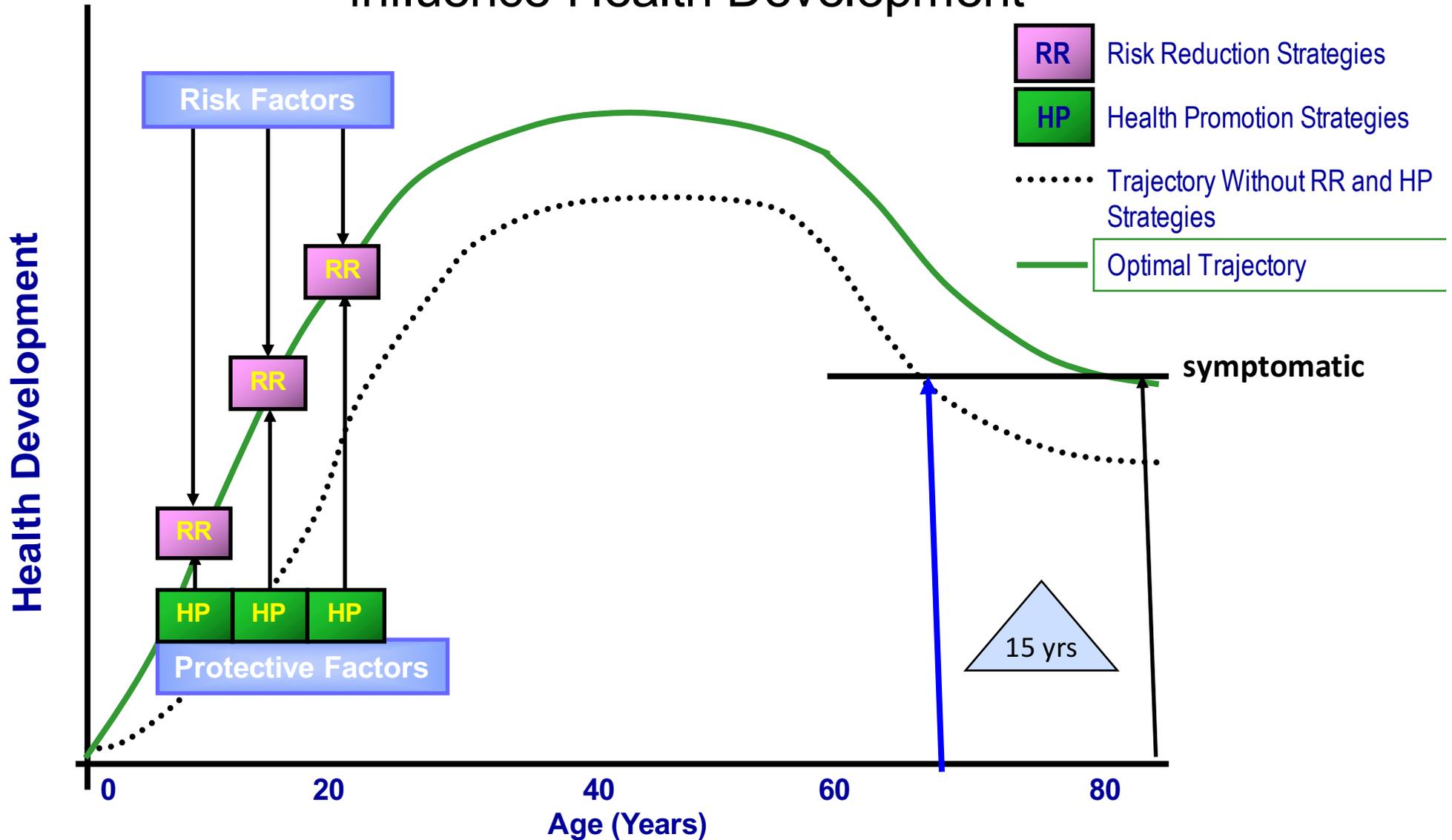


DETERMINANTS

The social determinants of health – “Whitehead rainbow”



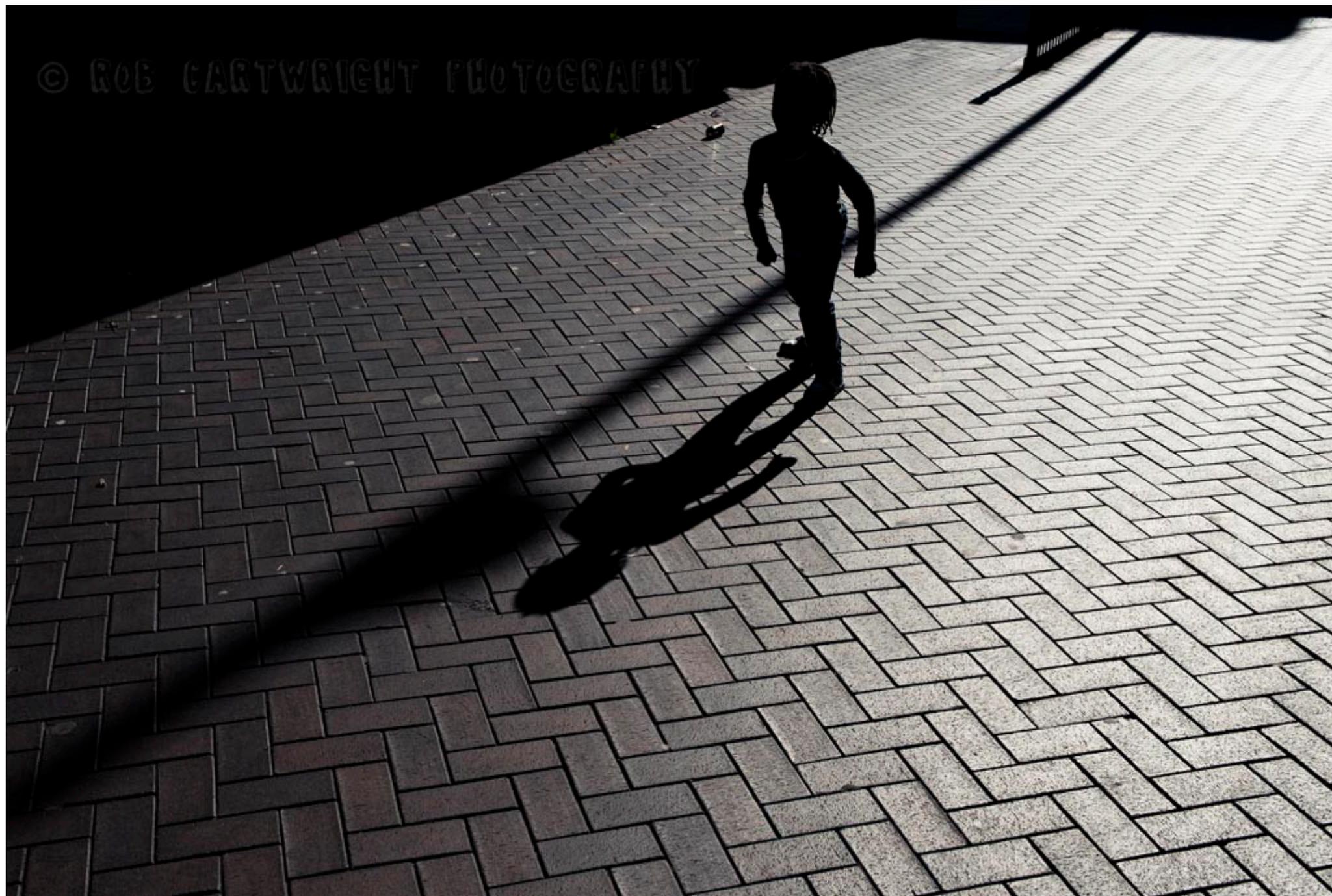
How Risk Reduction and Health Promotion Strategies influence Health Development



Some key issues

- Optimum early child development
- Chronic disease management
- Obesity
- Mental health – behavioural problems and suicide
- Neuro-developmental problems
- Smoking and binge drinking
- Teenage pregnancy and STIs
- Accidents
- Child abuse
- Child poverty

© ROB CARTWRIGHT PHOTOGRAPHY



SMOKING

 OPEN ACCESS  PEER-REVIEWED

RESEARCH ARTICLE

Are social inequalities in early childhood smoking initiation explained by exposure to adult smoking? Findings from the UK Millennium Cohort Study

David C. Taylor-Robinson , Sophie Wickham, Melisa Campbell, Jude Robinson, Anna Pearce, Ben Barr

Published: June 2, 2017 • <https://doi.org/10.1371/journal.pone.0178633>

Article	Authors	Metrics	Comments	Related Content
				

Abstract

Introduction

Materials and methods

Results

Discussion

Supporting information

Author Contributions

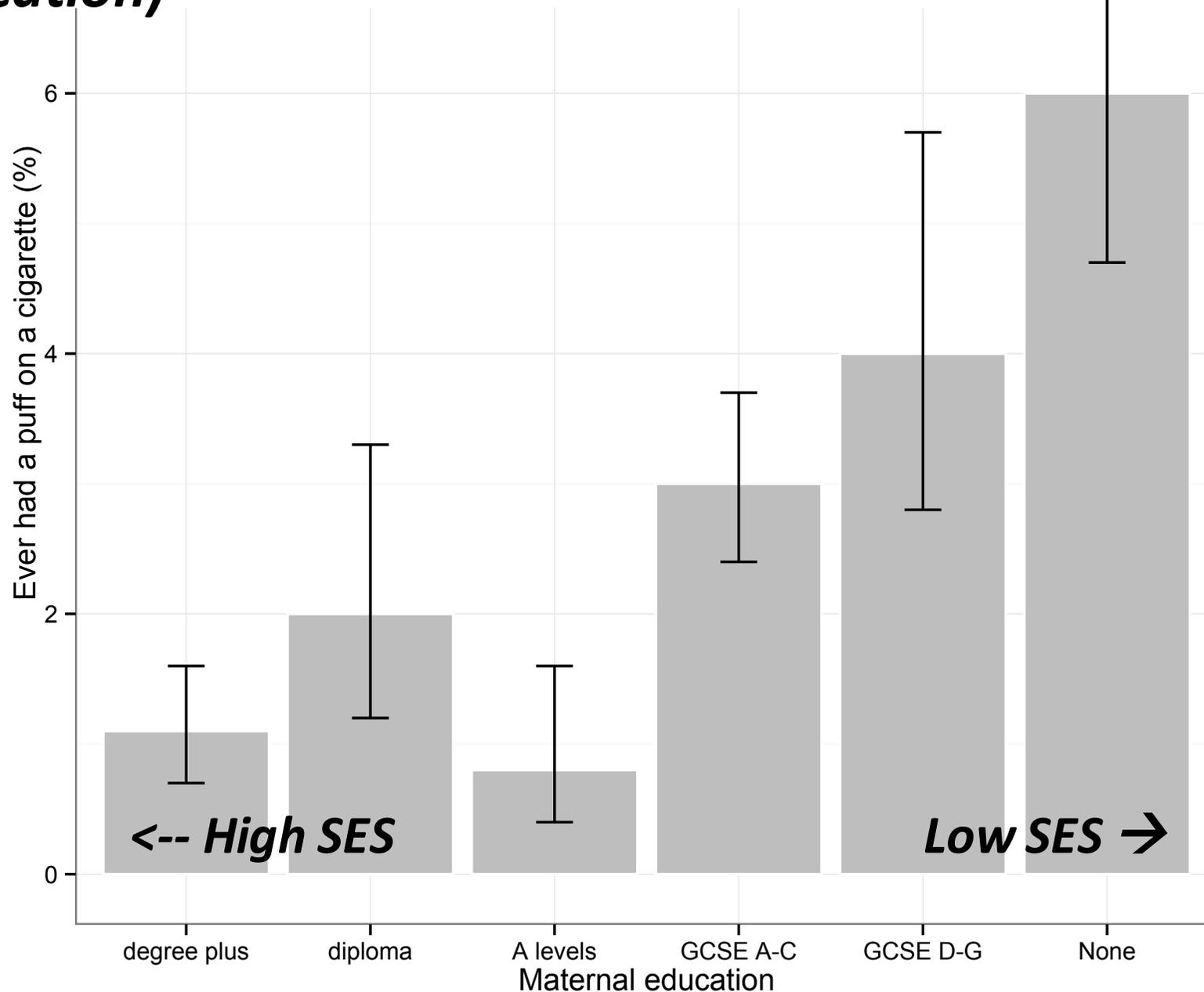
Abstract

Introduction

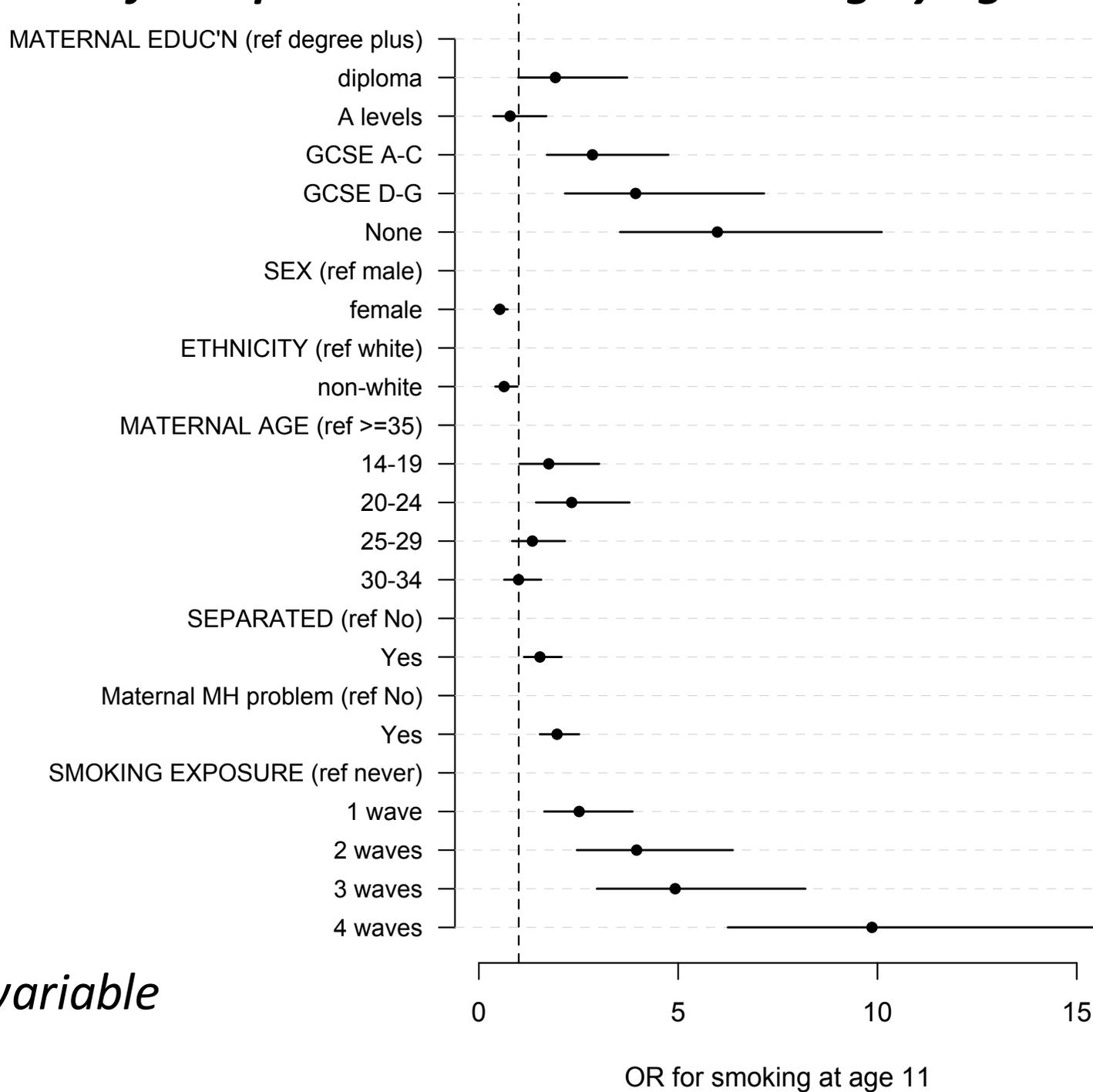
To assess the socio-economic gradient in early smoking initiation at age 11 years and the extent to which any inequality was explained after accounting for longitudinal exposure to adult smoking.



Early experimentation with smoking at age 11 by socio-economic conditions (maternal education)



Odds ratios for experimentation with smoking by age 11 years



Univariable

- Our analysis suggests that ***policies to reduce smoking in front of children may reduce inequalities in initiation by over a half***

- The mechanism likely reflects ***role modelling and potentially availability***
- ***Protect children from smoking role models***
- Any regular smoker in the same room, which could be parents, siblings or other regular household contacts

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Arch Dis Child doi:10.1136/archdischild-2015-309465

Original article

Exploring the impact of early life factors on inequalities in risk of overweight in UK children: findings from the UK Millennium Cohort Study



Samuel Massion¹, Sophie Wickham¹, Anna Pearce², Ben Barr¹, Catherine Law²,
David Taylor-Robinson^{1,2}

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Received 27 July 2015

Revised 23 February 2016

Accepted 29 February 2016

Published Online First 9 May 2016

ERJ Express. Published on December 17, 2015 as doi: 10.1183/13993003.01117-2015



ORIGINAL ARTICLE
IN PRESS | CORRECTED PROOF



CrossMark

Social inequalities in wheezing in children: findings from the UK Millennium Cohort Study

David C. Taylor-Robinson^{1,2}, Anna Pearce², Margaret Whitehead¹,
Rosalind Smyth² and Catherine Law²

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¹Dept of Public Health and Policy, University of Liverpool, Liverpool, UK.

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David C. Taylor-Robinson, Dept of Public Health and Policy, Whelan Building, University of Liverpool, Liverpool, L69 3GB, UK.

E-mail: dctr@liv.ac.uk

Research: Epidemiology

Young people with Type 1 diabetes of non-white ethnicity and lower socio-economic status have poorer glycaemic control in England and Wales

A. R. Khanolkar , R. Amin, D. Taylor-Robinson, R. M. Viner, J. T. Warner, T. Stephenson

First published: 23 February 2016 [Full publication history](#)

DOI: [10.1111/dme.13079](https://doi.org/10.1111/dme.13079) [View/save citation](#)

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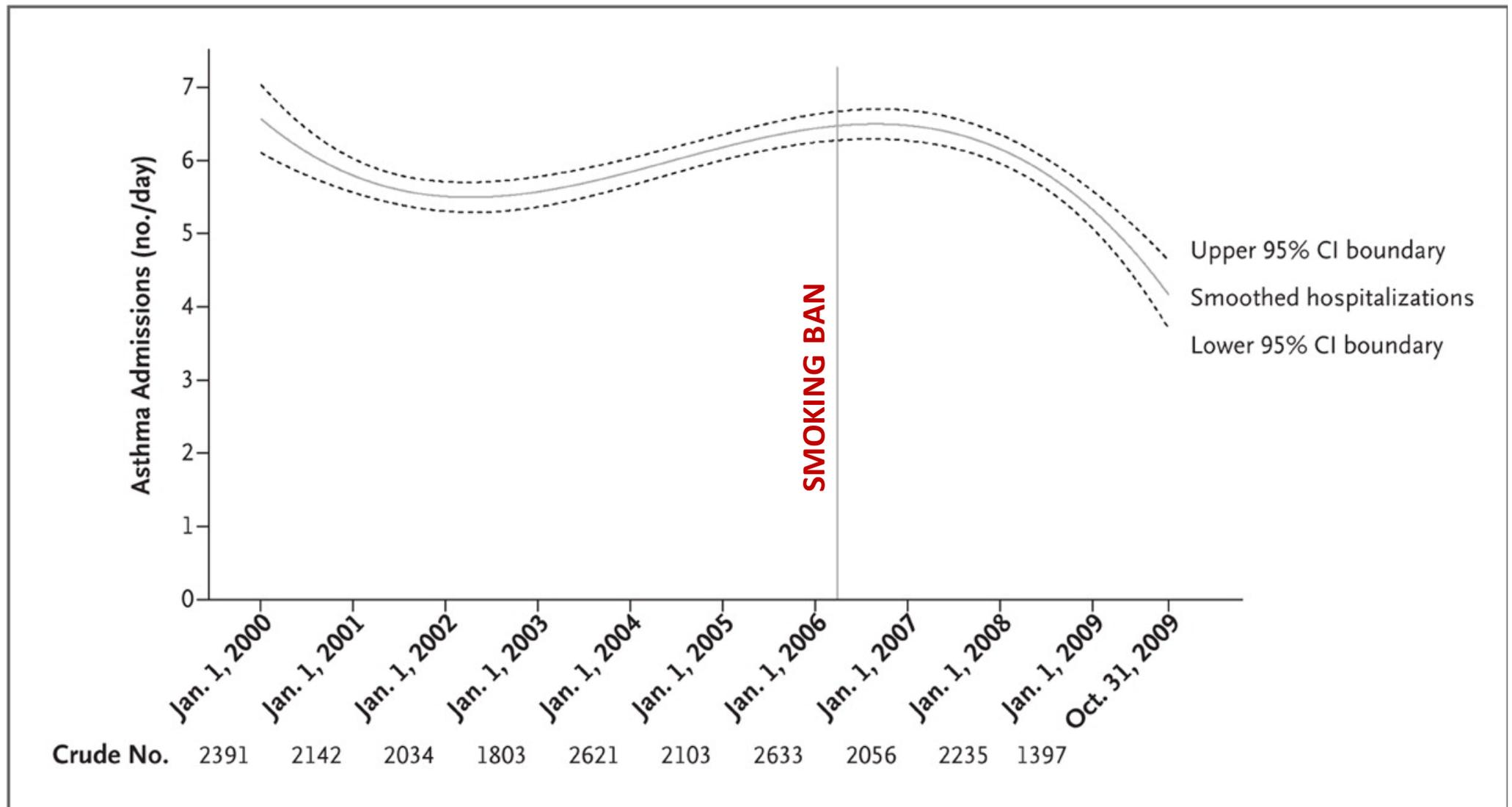


[View issue TOC](#)
Volume 33, Issue 11
November 2016
Pages 1508-1515

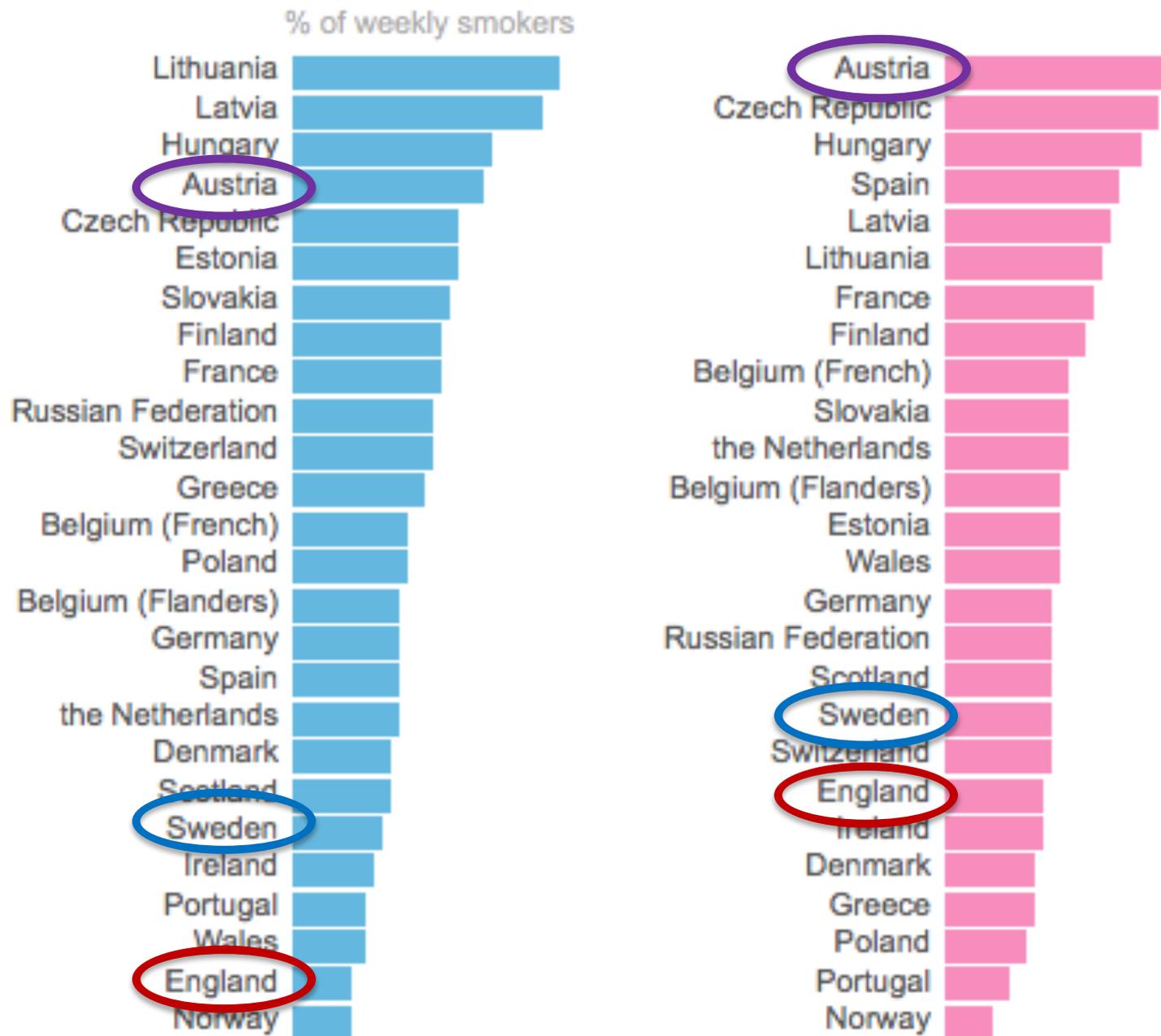
POLICIES



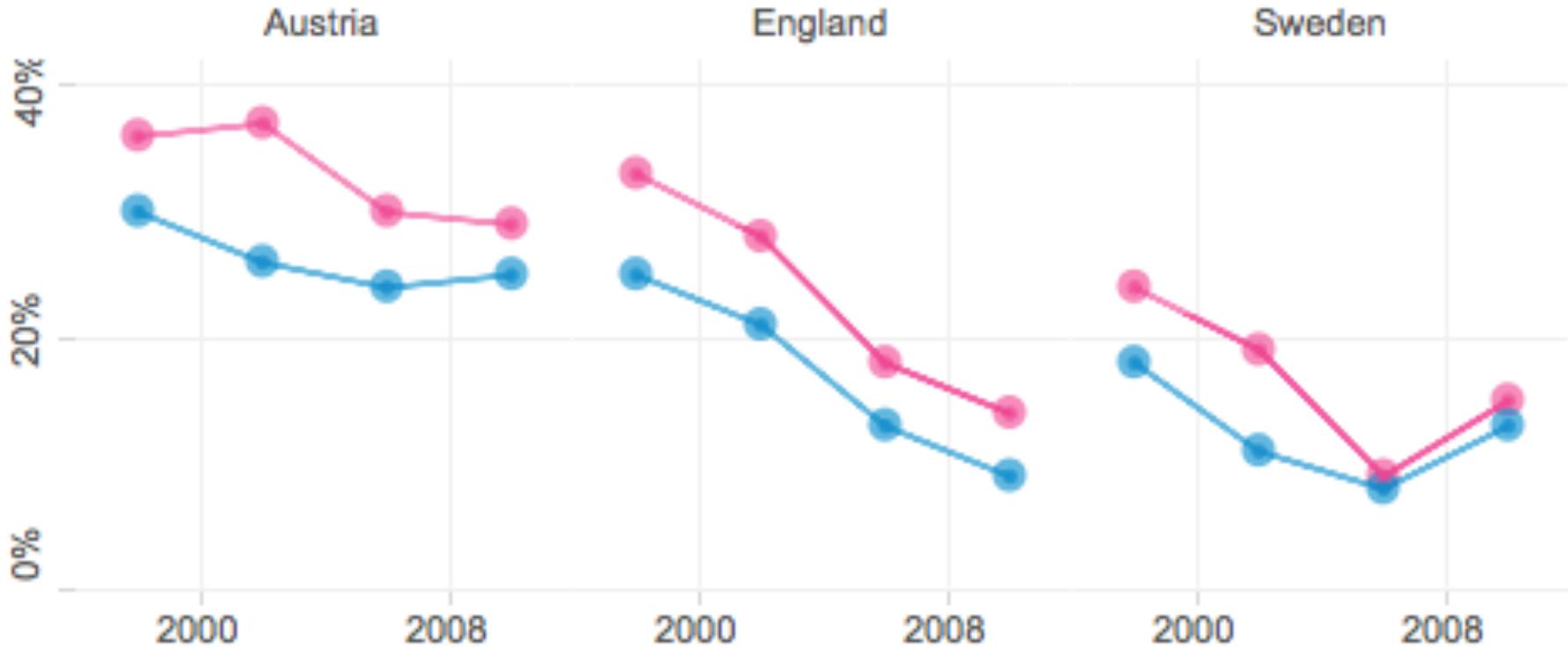
Daily Hospital Admissions for Asthma among Children in Scotland between 2000 and 2009



SMOKING IN 15 YEAR OLD BOYS AND GIRLS IN EUROPE – 2010



SMOKING IN 15 YEAR OLDS IN EUROPE - TRENDS

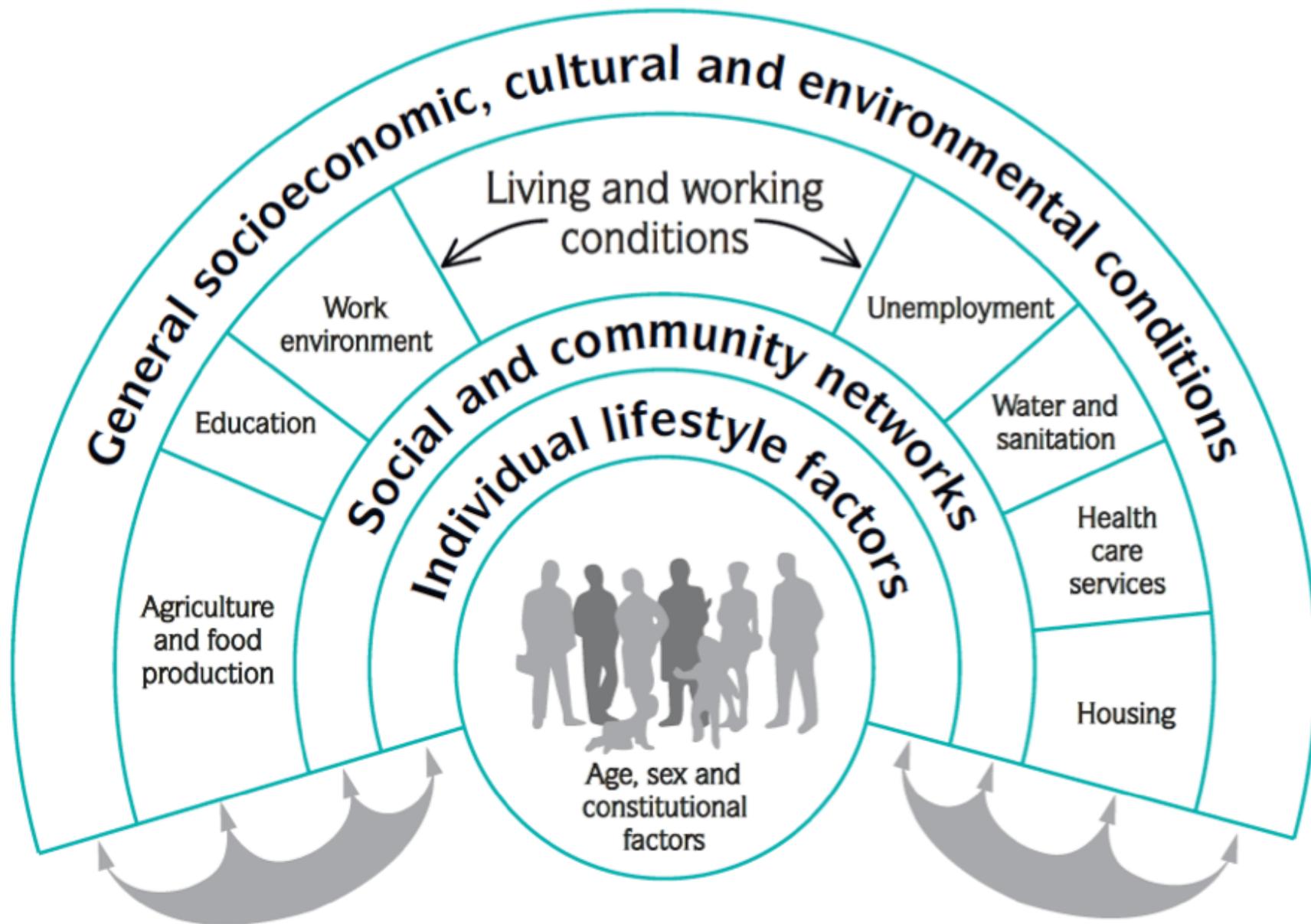


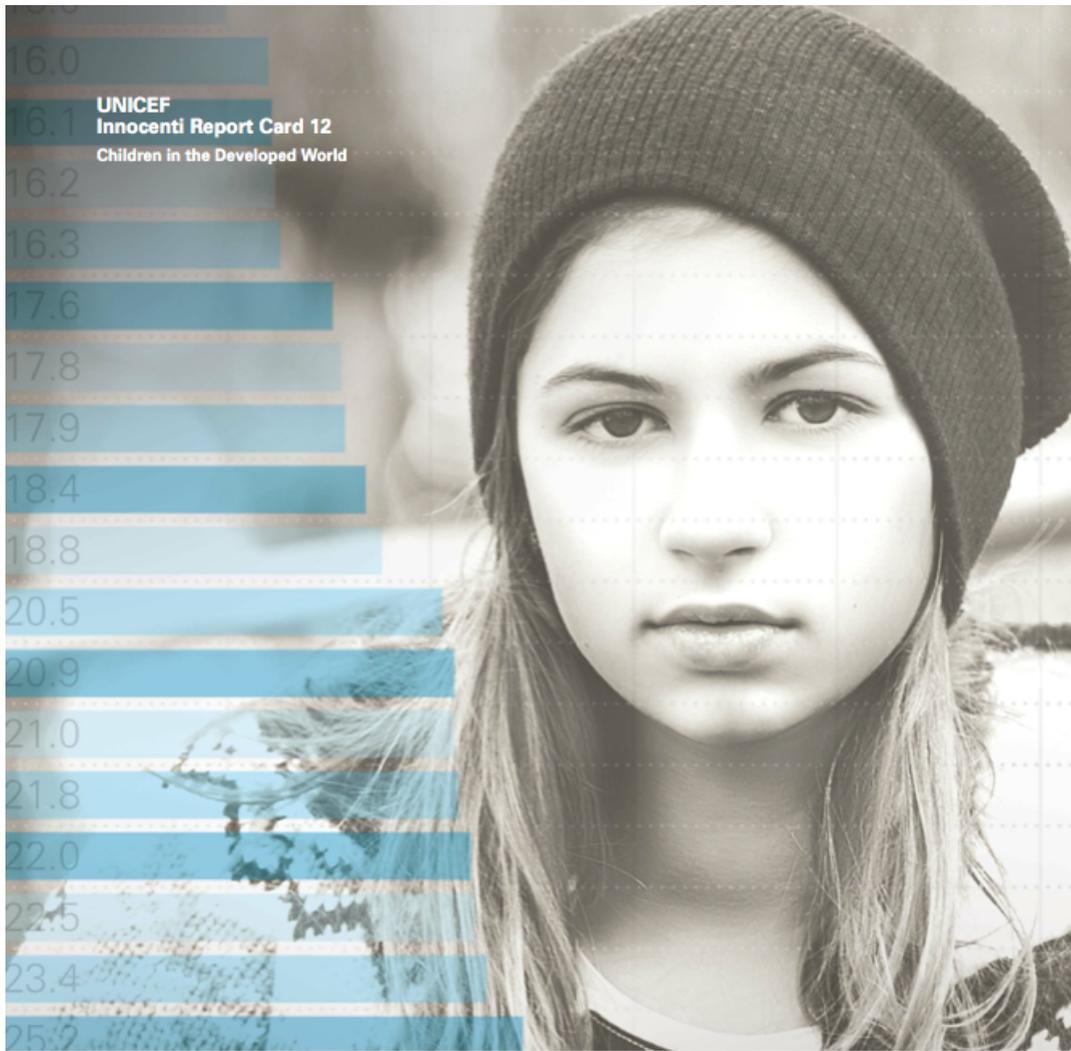


“Medicine is a social science, and politics nothing but medicine on a grand scale”

Virchow, 1848

The social determinants of health – “Whitehead rainbow”

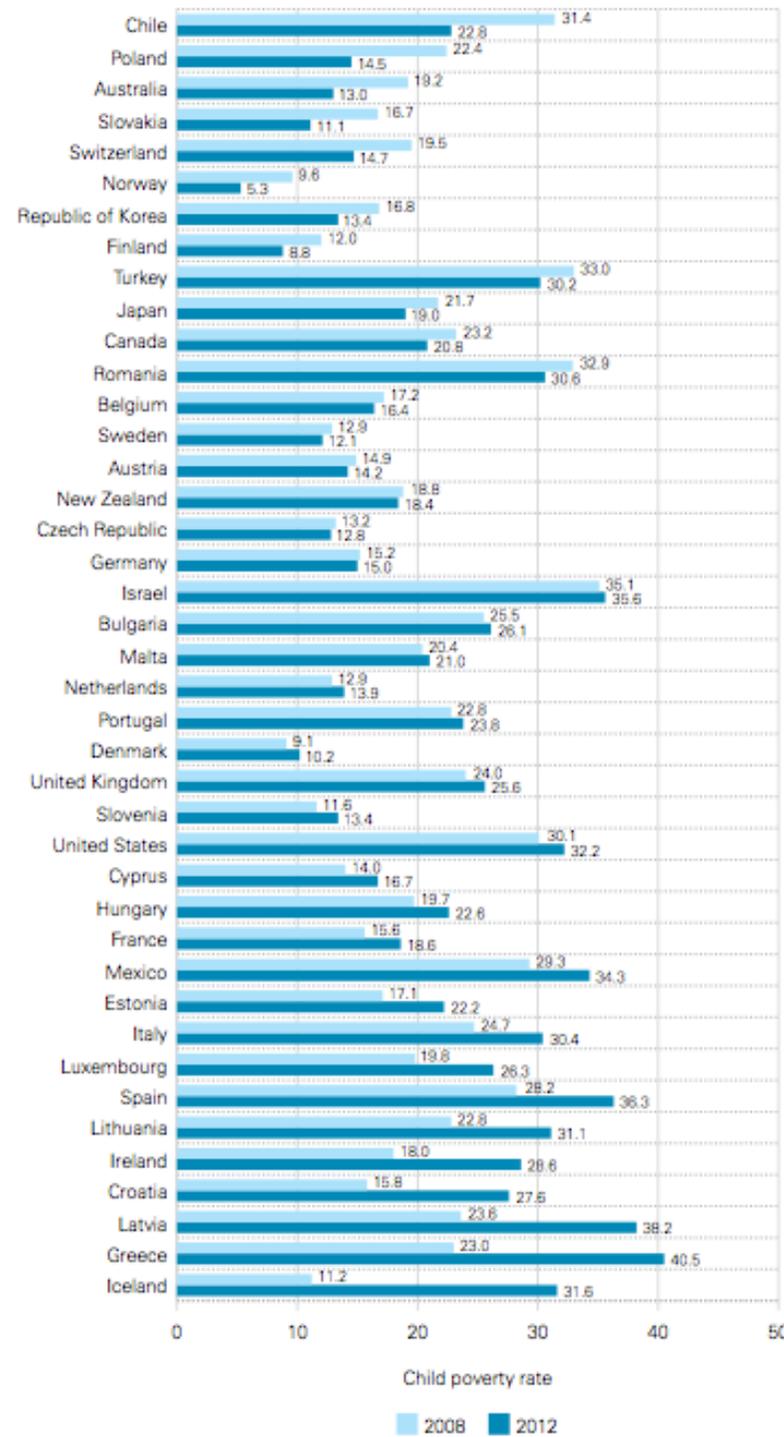




Children of the Recession

The impact of the economic crisis
on child well-being in rich countries

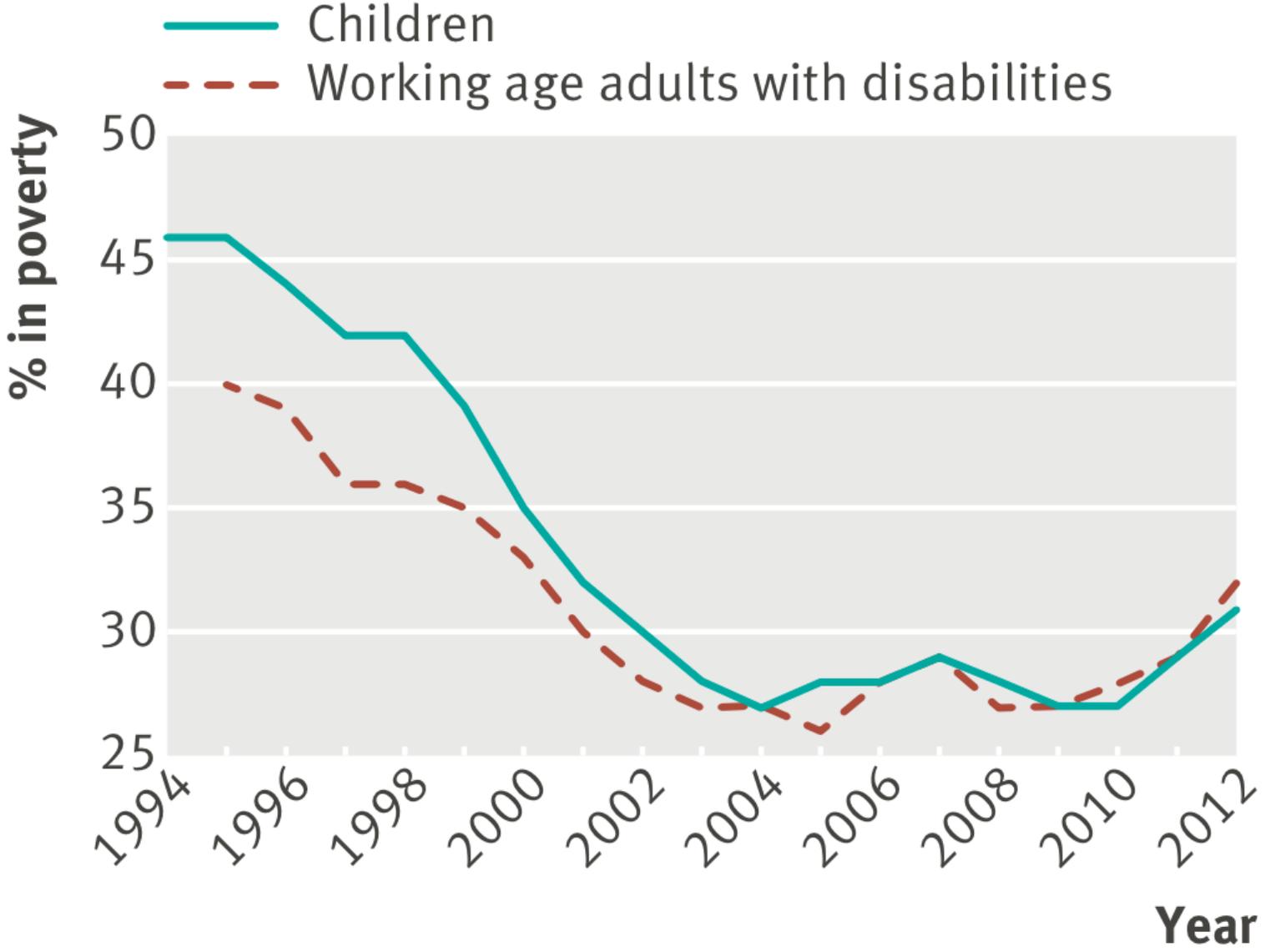
Rank	Country	Change (2008–2012)
1	Chile	-8.67
2	Poland	-7.90
3	Australia	-8.27
4	Slovakia	-5.60
5	Switzerland	-4.80
6	Norway	-4.30
7	Republic of Korea	-3.40
8	Finland	-3.20
9	Turkey	-2.76
10	Japan	-2.70
11	Canada	-2.44
12	Romania	-2.30
13	Belgium	-0.80
13	Sweden	-0.80
15	Austria	-0.70
16	New Zealand	-0.40
17	Czech Republic	-0.40
18	Germany	-0.20
19	Israel	0.55
20	Bulgaria	0.60
20	Malta	0.60
22	Netherlands	1.00
22	Portugal	1.00
24	Denmark	1.10
25	United Kingdom	1.60
26	Slovenia	1.80
27	United States	2.06
28	Cyprus	2.70
29	Hungary	2.90
30	France	3.00
31	Mexico	5.00
32	Estonia	5.10
33	Italy	5.70
34	Luxembourg	6.50
35	Spain	8.10
36	Lithuania	8.30
37	Ireland	10.60
38	Croatia	11.80
39	Latvia	14.60
40	Greece	17.50
41	Iceland	20.40



“A Great Leap Backward”

Child poverty up by 2.6m in rich world
UNICEF 2014

Gains of the past are being undone



Taylor-Robinson D, Whitehead M, Barr B. BMJ 2015

Number of UK children living in poverty jumps by 200,000 in a year

Official data shows first increase, when including housing costs, since 2011-12, with 3.9 million living in relative poverty

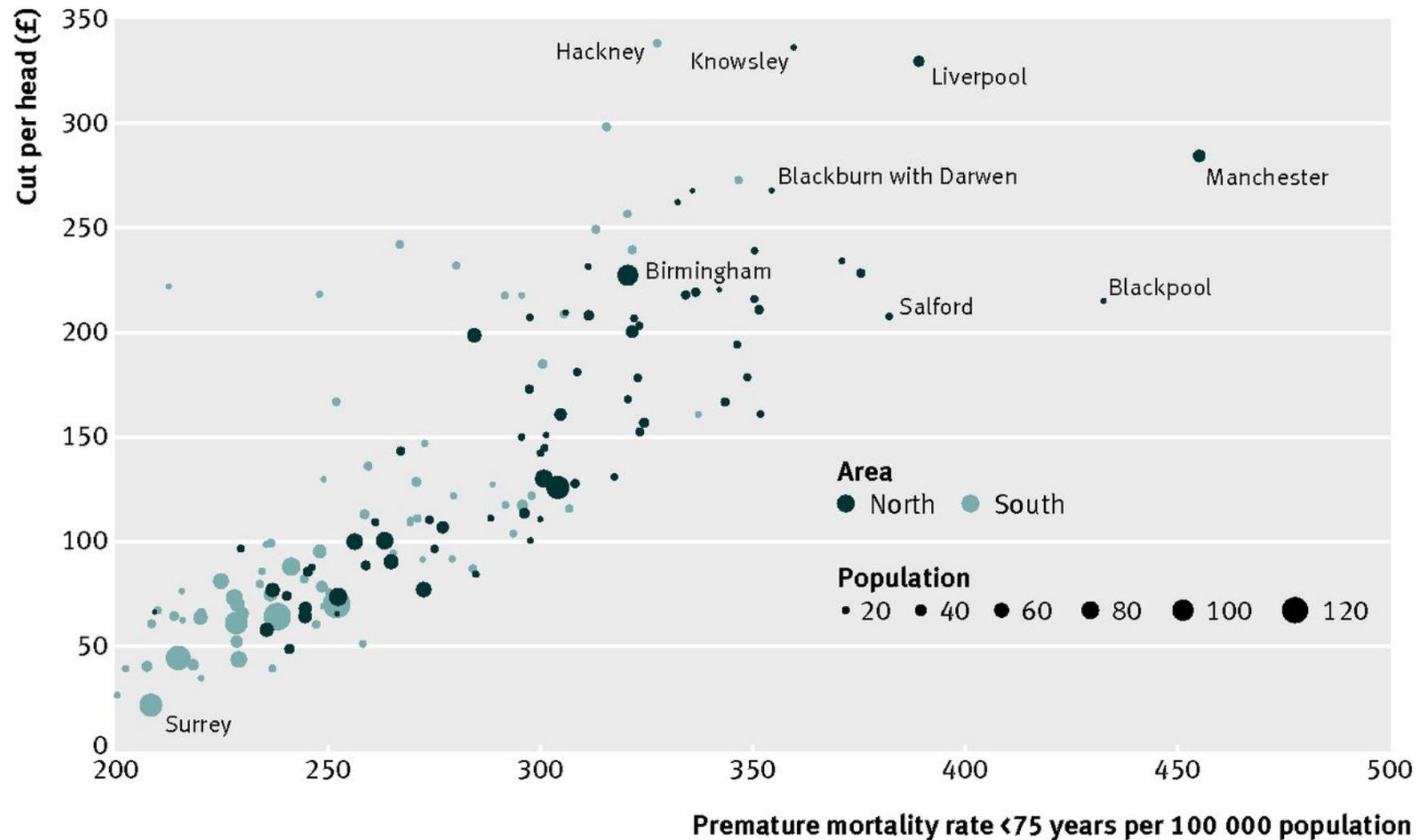


📷 DWP figures show two-thirds of children in poverty are living in households where at least one adult is in work. Photograph: Alamy

The number of children living in [poverty](#) in the UK has jumped by 200,000 in a year, according to the latest official data.

There were 3.9 million children living in “relative poverty” in 2014-15, up from 3.7 million a year earlier, the figures from the Department for Work and Pensions show.

Bigger cuts to English local area budgets in sickest populations 2010-2015



Taylor-Robinson D et al. *BMJ* 2013;347:bmj.f4208



Volume 38, Issue 3
17 September 2016

Article Contents

Introduction

Methods

Results

Discussion

Supplementary data

Funding

References

Supplementary data

[< Previous](#) [Next >](#)

The impact of economic downturns and budget cuts on homelessness claim rates across 323 local authorities in England, 2004–12

Rachel Loopstra; Aaron Reeves; Ben Barr; David Taylor-Robinson; Martin McKee; David Stuckler

J Public Health (Oxf) (2016) 38 (3): 417-425. **DOI:** <https://doi.org/10.1093/pubmed/fdv126>

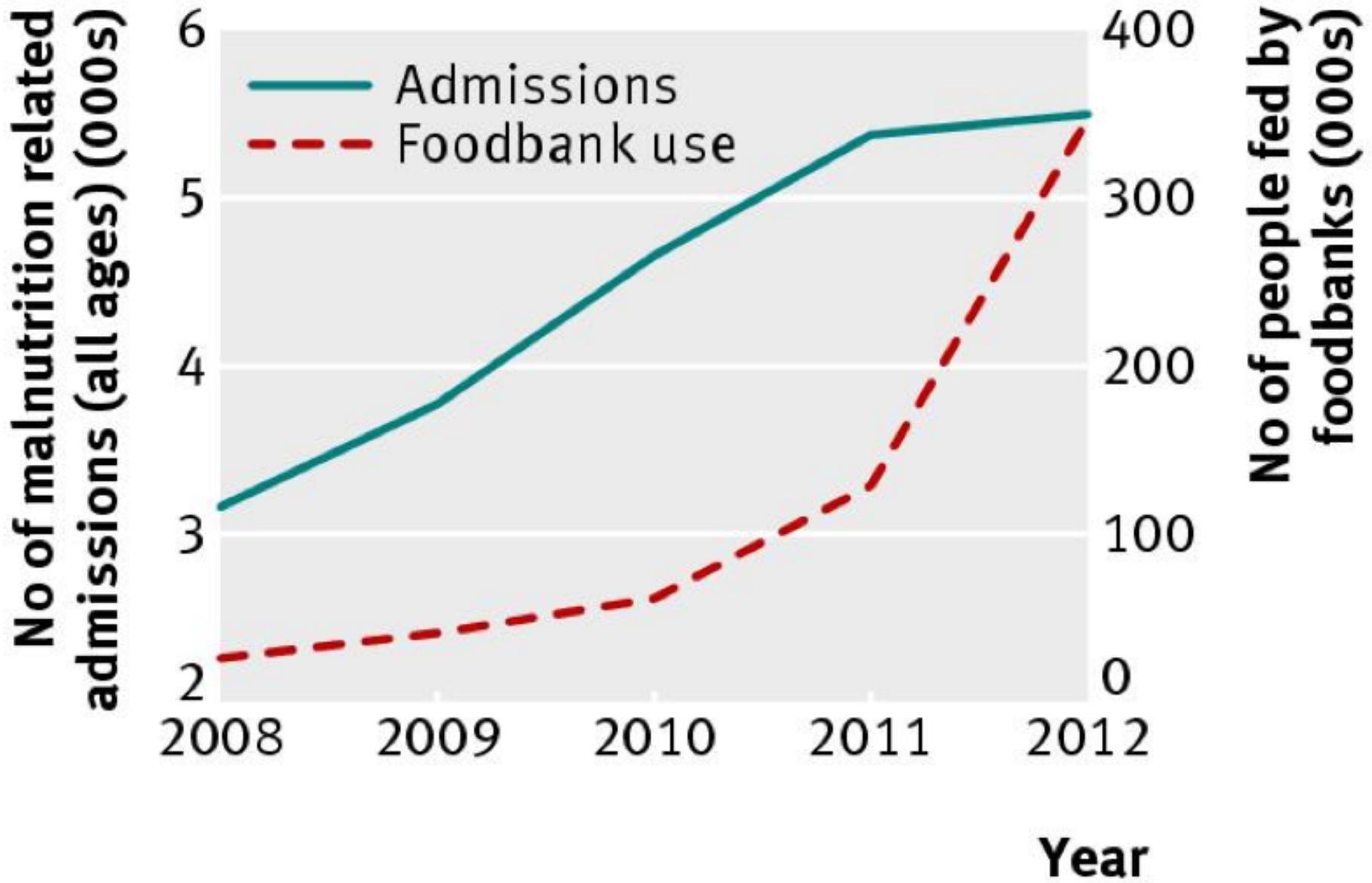
Published: 17 October 2016

Background

It is unclear why rates of homelessness claims in England have risen since 2010. We used variations in rates across local authorities to test the impact of economic downturns and budget cuts.

Methods

Using cross-area fixed effects models of data from 323 UK local authorities between 2004 and 2012, we evaluated associations of changes in statutory homelessness rates with economic activity (Gross Value Added per capita), unemployment, and local and central government expenditure.



Taylor-Robinson et al BMJ 2013;347:f7157

20p

1

The essential daily briefing

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Daily Codeword
Daily Crosswords
Daily Puzzle
Page



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Jennifer Hudson

The curse of the Oscar - and overcoming family tragedy



Simon Calder
My guide to Brazil



The Ashes:
England gamble on Monty's spin

Food poverty a 'public health emergency'



- Doctors urge ministers to act immediately on child malnutrition
- Government has suppressed its own report on food crisis, experts claim
- 63,000 sign petition on food banks

PS



New fostering laws to keep children in family



Muslim radicals to be banned from mosques



Must do better: UK falls behind world rivals in education



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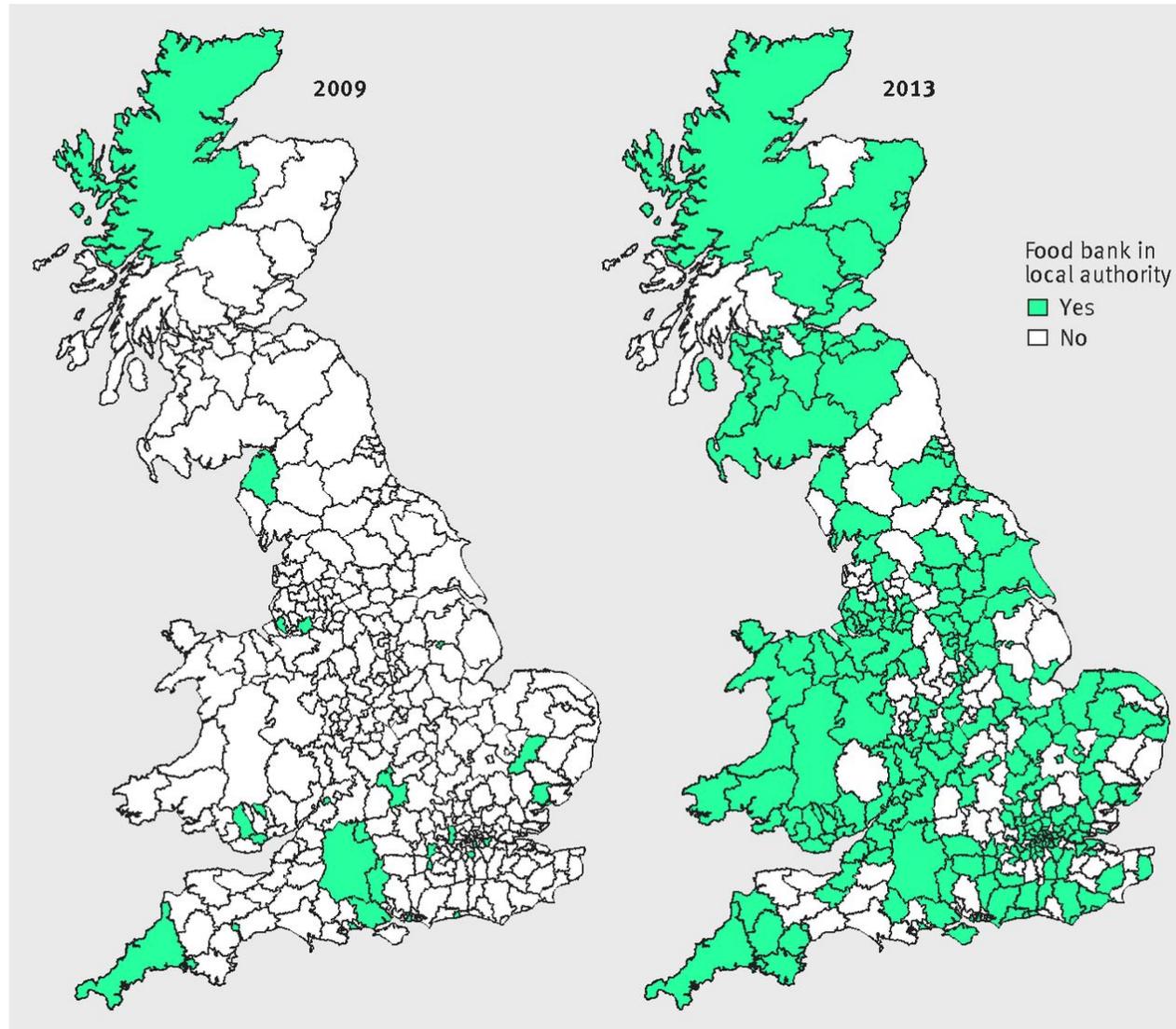
Life > Health & Families > Health News

Chief Medical Officer 'ashamed' as rickets makes a comeback



40 per cent of English children have some kind of vitamin D deficiency

Trussell Trust food banks in local authorities in England, Scotland, and Wales in 2009 and 2013.



Rachel Loopstra et al. *BMJ* 2015;350:bmj.h1775



The effect of a transition into poverty on child and maternal mental health: a longitudinal analysis of the UK Millennium Cohort Study



Sophie Wickham, Margaret Whitehead, David Taylor-Robinson*, Ben Barr*

Summary

Background Whether or not relative measures of income poverty effectively reflect children's life chances has been the focus of policy debates in the UK. Although poverty is associated with poor child and maternal mental health, few studies have assessed the effect of moving into poverty on mental health. To inform policy, we explore the association between transitions into poverty and subsequent mental health among children and their mothers.

Methods In this longitudinal analysis, we used data from the UK Millennium Cohort Study, a large nationally representative cohort of children born in the UK between Sept 1, 2000, and Jan 11, 2002, who participated in five survey waves as they progressed from 9 months of age to 11 years of age. Our analysis included all children and mothers who were free from mental health problems and not in poverty when the children were aged 3 years. We only included singletons (ie, not twins or other multiple pregnancies) and children for whom the mother was the main respondent to the study. The main outcomes were child socioemotional behavioural problems (Strengths and Difficulties Questionnaire) at ages 5 years, 7 years, and 11 years and maternal psychological distress (Kessler 6 scale). Using discrete time-hazard models, we followed up families without mental health problems at baseline and estimated odds ratios for subsequent onset of maternal and child mental health problems associated with first transition into poverty, while adjusting for confounders, including employment transitions. We further assessed whether or not change in maternal mental health explained any effect on child mental health.

Findings Of the 6063 families in the UK Millennium Cohort study at 3 years who met our inclusion criteria, 844 (14%) had a new transition into poverty compared with 5219 (86%) who remained out of poverty. After adjustment for confounders, transition into poverty increased the odds of socioemotional behavioural problems in children (odds ratio 1.41 [95% CI 1.02–1.93]; $p=0.04$) and maternal psychological distress (1.44 [1.21–1.71]; $p<0.0001$). Controlling for maternal psychological distress reduced the effect of transition into poverty on socioemotional behavioural problems in children (1.30 [0.94–1.79]; $p=0.11$).

Interpretation In a contemporary UK cohort, first transition into income poverty during early childhood was associated with an increase in the risk of child and maternal mental health problems. These effects were independent of changes in employment status. Transitions to income poverty do appear to affect children's life chances and actions that directly reduce income poverty of children are likely to improve child and maternal mental health.



Lancet Public Health 2017

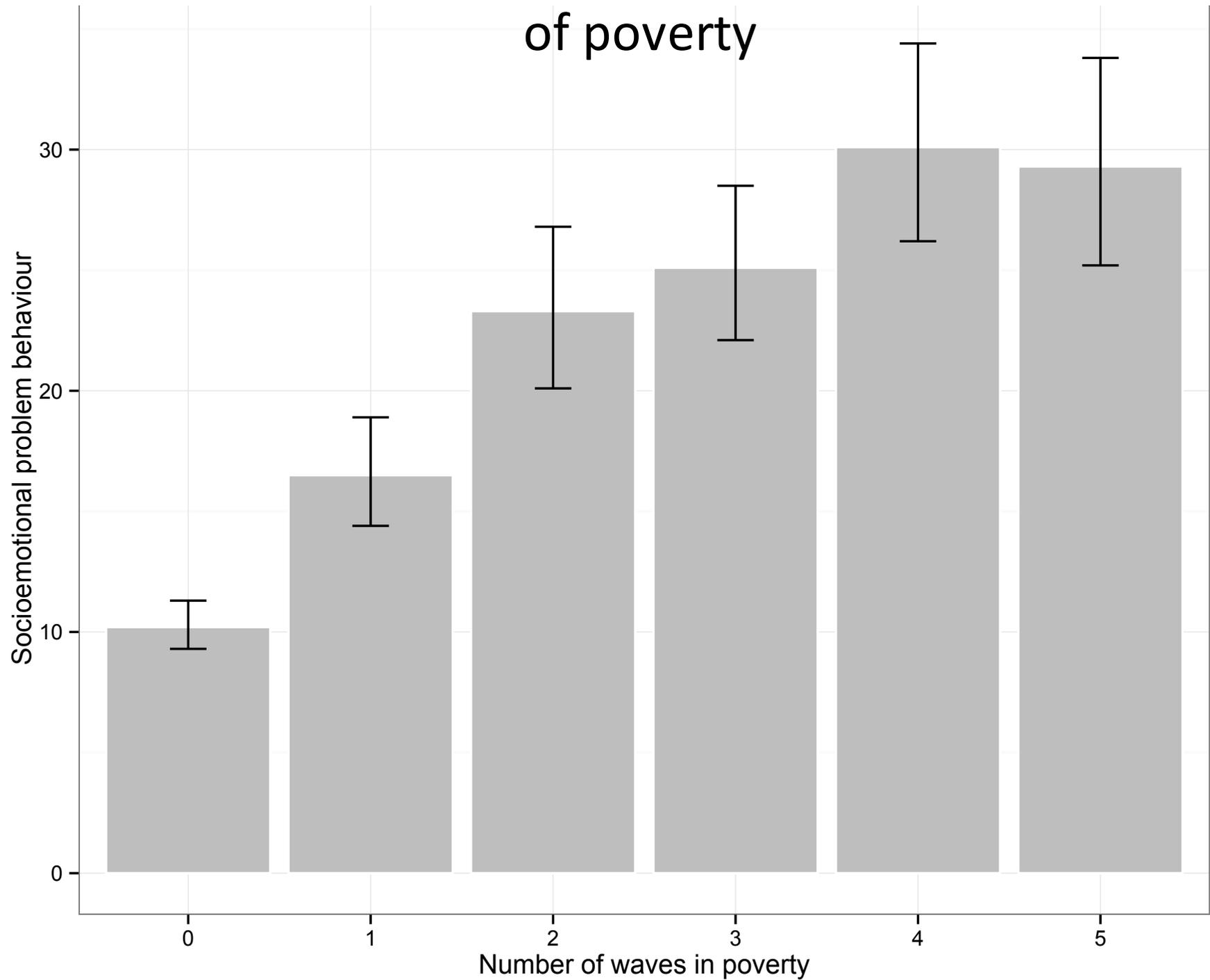
*Contributed equally

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slw@liverpool.ac.uk

Socio-emotional problem behaviour at age 11 by experience of poverty



Moving into poverty increases child and maternal mental health risk

Child mental health risk mediated by maternal mental health

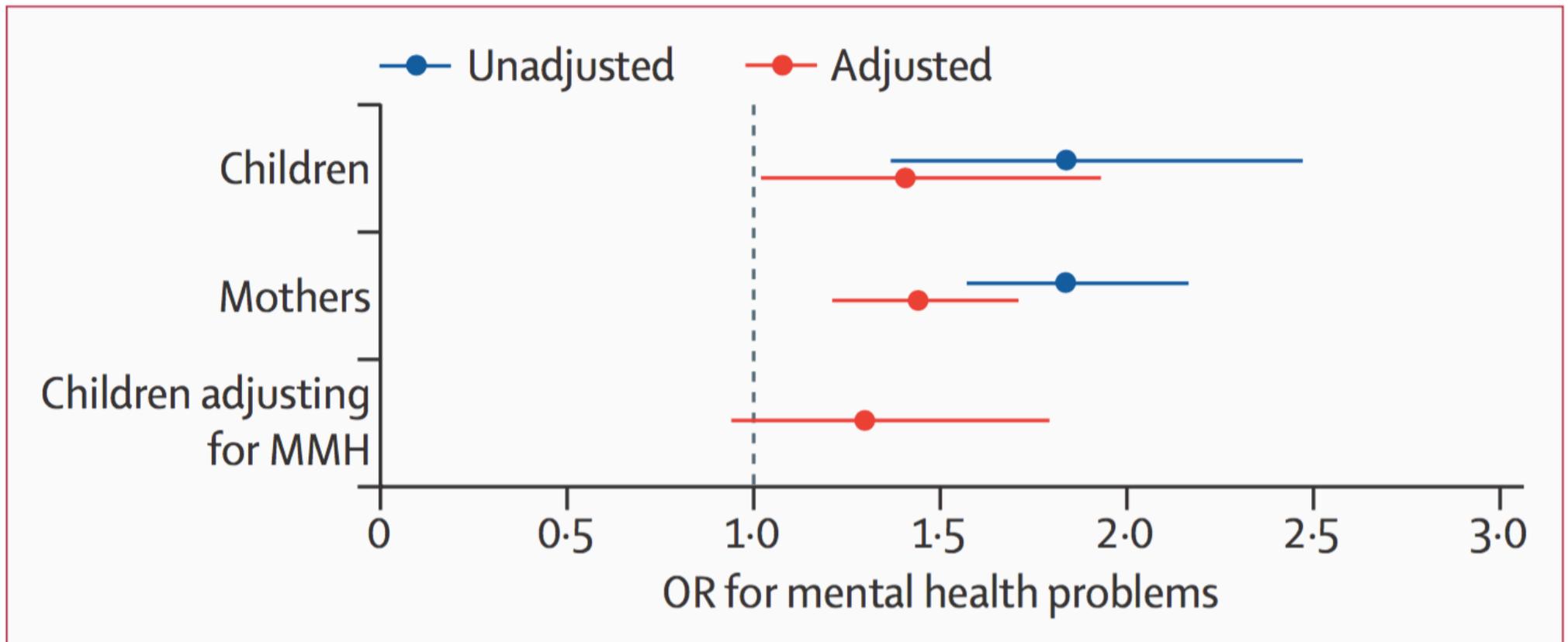


Figure 3: ORs for development of childhood socioemotional behavioural difficulties and maternal psychological distress by transition into poverty
MMH=maternal mental health. OR=odds ratio.

WHAT TO DO?

Major focus on child health

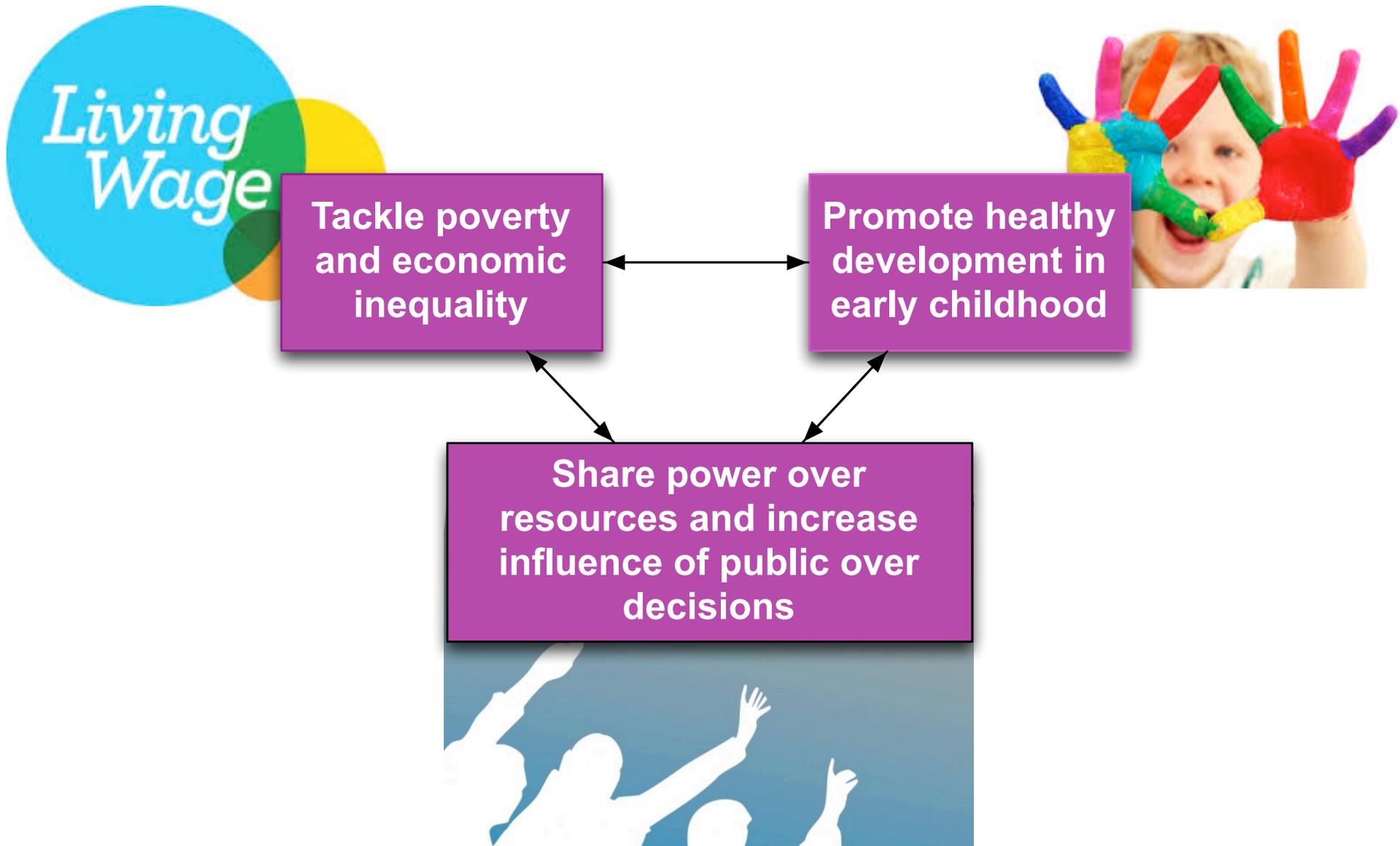
“Central to the Review is a life course perspective. Disadvantage starts before birth and accumulates throughout life. Action to reduce health inequalities must start before birth and be followed through the life of the child. Only then can the close links between early disadvantage and poor outcomes throughout life be broken. That is our ambition for children born in 2010. **For this reason, giving every child the best start in life (Policy Objective A) is our highest priority recommendation.**”



DUE NORTH

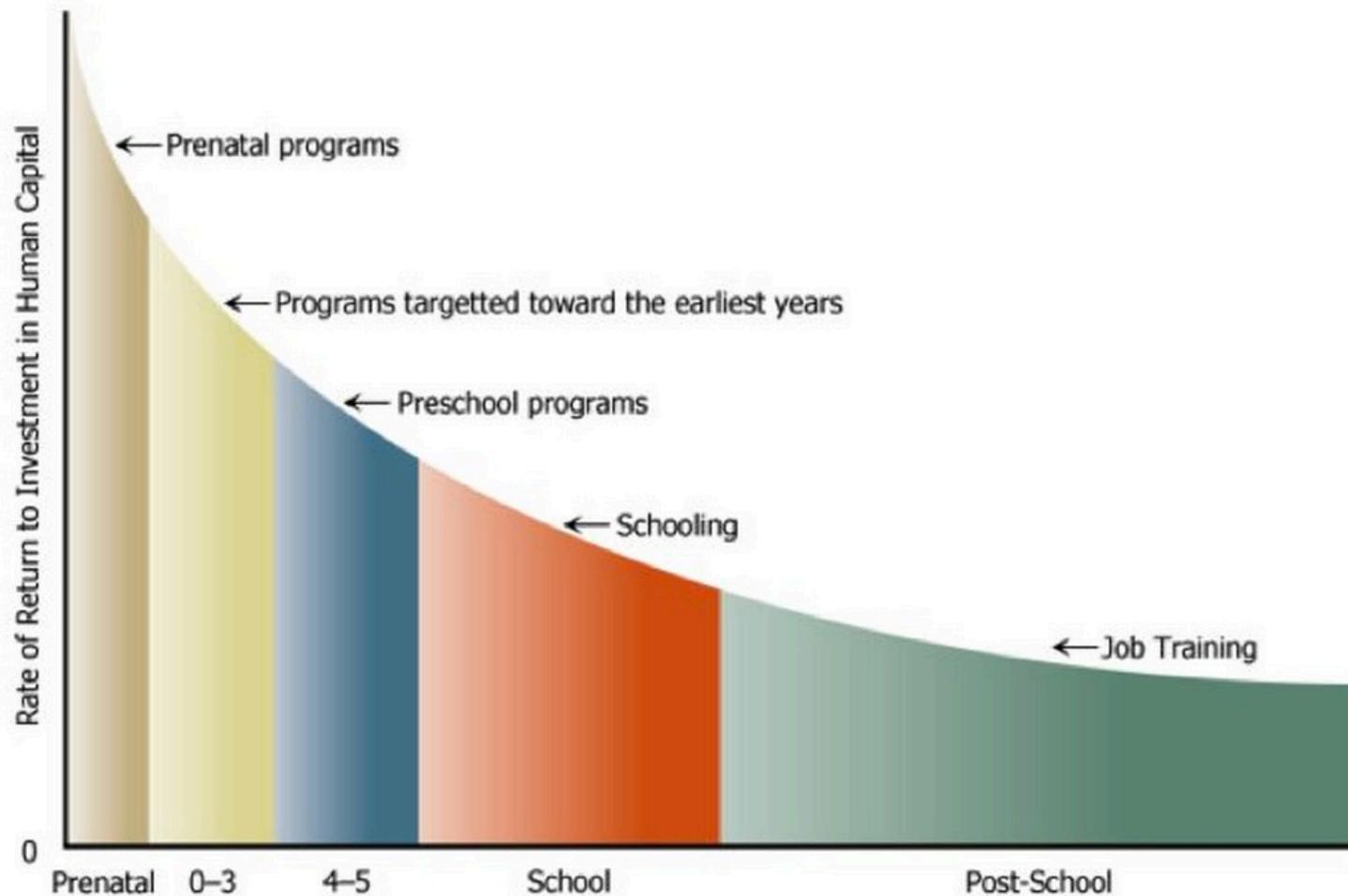
**Report of the Inquiry on
Health Equity for the North**

DUE NORTH: actions to tackle root causes



Early childhood development is a smart investment

The earlier the investment, the greater the return



Source: James Heckman, Nobel laureate in economics

Public spending on early childhood education and care per child 2013

