

## Health inequalities continue to undermine social mobility

Health – specifically health inequality – is a hugely significant factor in social mobility. The nation's health is far from a level playing field and, for some, health-related disadvantage begins even before birth. Recent research provides insight into the complex interrelationship of factors which influence health inequalities and highlights key areas, such as breastfeeding, where healthier practices would have a positive influence on health, wellbeing and, over time, social mobility.

### Key findings

- The poorest groups in society are least likely to take a proactive approach to seeking health services.
- Despite government interventions, inequalities in health have not diminished; indeed in some cases the gap has widened over the past ten years which reflects widening inequality in wealth and income over this period.
- When the NHS was founded, it was universally believed that making medical care free of charge at the point of use would inevitably reduce or eliminate health inequalities in the UK. Although overall health has improved dramatically, the health gap between the richest and poorest people has widened.
- The poor enjoy less high quality health services, relative to their needs, than the richest and middle income groups. In other words, those in the greatest need receive the worst service. Policy should prioritise improving services for those with the poorest health outcomes.

- Strategies to reduce inequalities in health outcomes have been largely ineffective because they treat the undoubted multi-dimensional contributors to health inequalities as though they act at the same level and fail to prioritise the need to reduce the fundamental drivers of social inequality.
- In terms of policies to tackle inequalities, researchers find that breastfeeding is strongly correlated with better infant health, academic outcomes and socio-emotional problems and that in some cases this appears to be a causal relationship. Breastfeeding should be a measure for the Government mobility strategy as it is an effective and low-cost early intervention that can help address inequalities.
- Work interruptions before birth are beneficial, especially if taken in the last three months of pregnancy. Stopping work earlier also appears to improve birth outcomes more for mothers with low educational qualifications.
- Policies need to target very early age groups to be successful in implementing alcohol education programmes. These programmes need to involve parents to succeed in reducing the quantity and frequency of youth drinking.
- There is a strong association between weight at birth and long-term adult outcomes, such as completed schooling, earnings and income.
- A large body of research has already linked parental health-related behaviours such as smoking, alcohol consumption and body mass index to markers of child health. Research also shows that parental health itself is related to measures of early childhood health and development. As policies and interventions aimed at the individual level appear fairly limited in terms of long-run impacts on health and development, researchers suggest that policies aimed at tackling societal inequalities that shape the circumstances in which people live may prove more promising in the longer term for parental health and child health and development.

## Why health gaps persist between rich and poor

*Evidence of widening health gaps between rich and poor suggests the need for policies aimed at improving services for those with greatest need*

In *Tackling Child Poverty and Improving Life Chances: consulting on a new approach*, the ESRC-funded Poverty and Social Exclusion team (PSE 2011) responded to the consultation on the Field Review's report *The Foundation Years: Preventing Poor Children from becoming Poor Adults*.

The team found that there are two main reasons why the richest and middle income groups have benefited from better healthcare more than the poorest groups in the UK. First, as evidence cited in the 2010 Marmot Review of health inequalities clearly shows, poverty causes ill health. Second, the poor receive less high-quality health services, relative to their needs, than the richest and middle income groups.

Why do the 'poor' fare so badly in terms of health services? According to GP, author and researcher, Julian Tudor Hart, it's because "the availability of good medical care tends to vary inversely with the need of the population served".

His 'inverse care law'<sup>1</sup>, first coined in 1971, has been observed in many services, not just health services, and seems to be particularly acute when there is a market or quasi-market element to service delivery. So, for example, although GP services are free at the point of use they are mostly private businesses.

Government figures show that the more deprived an area, the fewer the number of GPs. In 2004, for example, the most deprived fifth of UK PCTs averaged 54.2 GPs per 100,000 population compared to an average of 62.5 GPs in the least deprived areas.

In addition, the poorest groups in society are least likely to take a proactive approach to seeking health services. And the 'rule of halves' describes the outcome when service providers do not actively seek out clients in need of help but wait for them to ask for services<sup>2</sup>.

In UK healthcare, approximately:

- half of chronic disease is undetected;
- half those detected are not treated;
- half those treated are not controlled/followed up.

As a result only about one in eight people in a population receive effective medical treatment for their health problems.

Despite government interventions, inequalities in health have not diminished; indeed in some cases the gap might have widened over the past ten years which reflects widening inequality in wealth and income over this period. "Evidence of even larger health gaps suggests the need for policies aimed at improving services for those with greatest need," says researcher Professor David Gordon, Principal Investigator, PSE team. "So, for example, GPs could receive sufficient incentive to work in the areas of greatest deprivation."

## Early disadvantage linked to smoking

*Strategies to prevent early initiation of tobacco and alcohol use should focus upon the reduction of childhood social disadvantage and the behavioural and cognitive problems associated with this*

Parental social disadvantage was the strongest predictor of children's smoking and also predicted children's alcohol use, according to a study of the prevalence of cigarette and alcohol use among children aged ten<sup>3</sup>. While cigarette and alcohol use were rare among this age group, the greater experience of childhood behavioural and cognitive problems among the disadvantaged appeared to be a factor in those reporting alcohol and tobacco use. Low IQ, conduct problems, being a bully and being depressed in middle childhood also appeared to be important influences. Early onset (age ten) tobacco and alcohol use, and illicit drugs, is a strong predictor of later heavy, problematic use.

Researchers say that strategies to prevent early initiation of tobacco and alcohol use, and thereby later problems associated with tobacco and alcohol use, should focus on the reduction of childhood social disadvantage and the behavioural and cognitive problems associated with this.

For older, adolescent children, recent studies from the Centre for Market and Public Organisation (CMPO) find tobacco use to be generally socially stratified and more prevalent among adolescents of lower Socio-Economic Status (SES)<sup>4</sup>. The relationship between SES and tobacco also appears to be stronger in late adolescence than in earlier adolescence.

<sup>1</sup> Hart, J.T. (1971) The Inverse Care Law. *Lancet* 297, 405 – 412

<sup>2</sup> Hart, J.T. (2006) *The Political Economy of Health Care: a clinical perspective*. Bristol, Policy Press

<sup>3</sup> Macleod, J. et al. (2008) Parental drug use, early adversities, later childhood problems and children's use of tobacco and alcohol at age 10: birth cohort study. *Addiction*, 103 Issue 10

<sup>4</sup> Gregg, P. (2010) An examination of the impact of family socio-economic status on outcomes in late childhood and adolescence: Annual Report 2009-2010. ESRC

Overall, evidence from the University of Bristol's Avon Longitudinal Study of Parents and Children (ALSPAC) regarding a social gradient related to alcohol use is less consistent<sup>5</sup>. While maternal education appeared negatively correlated with over-use of alcohol and binge drinking, children from higher income households were at increased risk of consuming alcohol in either forms. Moreover, youth drug use, in particular cannabis, shows little consistent evidence of a clear association with SES, especially with respect to more problematic forms of use.

## Breastfeeding could reduce inequalities

*Breastfeeding should be a key feature for the Government's social mobility strategy as it is an effective and low-cost early intervention that can help address inequalities*

Pro-breastfeeding policies would pay clear dividends in terms of child health and cognitive development, according to new research from the Institute for Social and Economic Research (ISER)<sup>6</sup>. Based on a collection of recent studies, researchers find that breastfeeding itself leads to children having better infant health and academic outcomes, as well as suffering fewer socio-emotional problems.

Britain has one of the world's lowest rates of breastfeeding with less than one in three babies breastfed exclusively for the first four months of life.

The incidence of breastfeeding is also much higher among better educated women from higher socio-economic groups. To date, this bias has created a problem in assessing the relationship between breastfeeding and its outcomes. Since breastfeeding is more likely to be practised by mothers whose characteristics (older, more educated and better-off) favour more positive outcomes for their children, it has not been clear whether the relationship between breastfed and better outcomes is causal (breastfeeding causes children to do better) or whether it arises merely because mothers who breastfeed are likely to have more successful children anyway.

Using novel statistical techniques, the research proves that breastfeeding exclusively for four weeks is responsible for a relatively small but statistically significant increase

in SAT test scores in reading, writing and mathematics that persists at least until age 14. In concrete terms, this translates into an increase of two to three IQ points or improving by roughly three positions in a class of 30 children.

Research further shows that exclusively breastfed babies are less likely to be hospitalised due to lower respiratory tract infections or diarrhoea. Babies breastfed for four months are also 65 per cent less likely to display clinical symptoms of socio-emotional problems in early childhood – an important point since children with such problems in early childhood are more likely to be clinically depressed later in life. Other positive impacts of breastfeeding on health include reducing the likelihood of children being overweight.

Together, these studies suggest that the longer a mother breastfeeds the greater the positive effects of breastfeeding. Attention should therefore now focus not just on initiation of breastfeeding but on improving longer term breastfeeding support. Results from a study of the UNICEF Baby Friendly Initiative indicate that mothers benefit from breastfeeding support in hospitals and those in the most disadvantaged groups gain the greatest benefits.

## Longer prenatal leave benefits babies

*Mothers' work interruptions of up to three months before birth have a positive effect on birth outcomes*

There is growing evidence that differences in children's intellectual, emotional and personal development by parental education and socio-economic status emerge at very early ages and that these differences are likely to cast a long shadow over subsequent achievements.

To understand how such differences arise and develop, recent research has focused on the effects of early postnatal behaviours on child outcomes (eg, breastfeeding) as well as prenatal behaviours (such as maternal smoking, alcohol consumption and antenatal care) on birth outcomes and subsequent child development.

A recent study by ISER on the relationship between prenatal parental behaviours and birth outcomes (birth weight and foetal growth) in Britain and the US explored the impact of when a mother stops work during pregnancy,

<sup>5</sup> Daniel, J. et al. Is socio-economic status in early life associated with drug use? A systematic review of the evidence. *Drug and Alcohol Review* 28 (2):142-153, 2009; Melotti, R. et al. Familial socio-economic position and early adolescent substance use: birth cohort analyses. *Pediatrics* Vol. 127 No. 4 April 1, 2011, pp e948 -e955; Wiles, N. et al. Socio-economic status in childhood and later alcohol use: a systematic review. *Addiction* 102 (10):1546-1563, 2007

<sup>6</sup> Heikkilä, K., Sacker, A., Kelly, Y., Renfrew, M. and Quigley, M. (2011) Breastfeeding and child behaviour: Findings from the Millennium Cohort Study (MCS), *Archives of Disease in Childhood* doi: 10.1136/jech.2010.120956.12; Iacovou, M. and Sevilla-Sanz, A. (2010) The effect of breastfeeding on early cognitive development, ISER Working Paper 2010-40, Colchester: University of Essex

something which has not been analysed previously<sup>7</sup>. Findings show that work interruptions before birth are beneficial, especially if taken in the last three months of pregnancy. Stopping work earlier also appears to improve birth outcomes more for mothers with low educational qualifications, especially among British women.

Like other studies, researchers found that maternal smoking during pregnancy reduces birth weight by 190 grams in Britain and foetal growth in utero by about four grams per week, but paternal smoking has virtually no effect. The negative effect of smoking is observed primarily among children whose mothers gained low educational qualifications or were relatively young at the birth of their first child.

## Parents' health linked to child health and developmental outcomes

*So-called downstream policies and interventions aimed at the individual level appear fairly limited in terms of long-run impacts on health and development. Therefore, perhaps more promising in the longer term for parental health and child health and development are upstream policies aimed at tackling societal inequalities that shape the circumstances in which people live*

A range of environmental factors influence early childhood health, including parental health. However, little is known about the pathways via which the health of parents influences child health and developmental outcomes. A large body of research has already linked parental health-related behaviours such as smoking, alcohol consumption and body mass index to markers of child health. Now, new research based on Millennium Cohort Study data considers whether the health of parents (rather than their health behaviours) is linked to measures of their children's health and development<sup>8</sup>.

Findings show that parental health scores were socially patterned, with 78 per cent of mother figure respondents with an NVQ Level five qualification had 'very good health' compared with 52 per cent with no qualifications. Fair/poor child health was also two-and-a-half fold more likely in families where the highest occupation was semi routine/routine compared with those in managerial/professional families.

Children whose main carer had poor health were over four times more likely to have high behavioural difficulties scores (eg, conduct problems) than those with main carers in the best health group. Poor parental health was also related to increased likelihood of child obesity and to lower scores in children's cognitive tests.

Parental health is related to measures of early childhood health and development, but these relationships appear to have different underlying explanations. For example, family socio-economic circumstances appear particularly important in explaining the link between parental health and poor cognitive and socio-emotional outcomes. In cases of problem behaviour, the parent's mental wellbeing (the 'psychosocial environment') is also important in understanding links between the child's and parents' health.

## More early predictors of inequalities needed

*Birth weight is a good predictor of adult health problems, but it has little predictive power on earlier inequalities. Much remains to be understood about the factors which affect early child development*

More research on early predictors of developmental inequalities is needed, following results from a recent study into the effect of birth weight on the early stages of child development.

A growing body of epidemiological research has highlighted a strong association between weight at birth and long-term adult outcomes, such as completed schooling, earnings and income. Not surprisingly, birth weight has now become a direct target of health and social policy. Recent ISER research, however, shows that while birth weight has a significant effect on male cognitive development at age three and female cognitive and behavioural development at age three, the magnitude of these effects is very small<sup>9</sup>.

"These findings are in line with other research which reveal small or negligible effects of birth weight on early cognitive outcomes and that some prenatal shocks (such as influenza epidemics) affect longer-term economic outcomes but have small impact on birth weight," researcher Dr Emilia Del Bono points out. "This indicates that birth weight is not the only predictor of differences in cognitive and behavioural development. We cannot focus on only one measure of inequalities of health at birth, ie, birth weight, but need to extend our research to other measures."

<sup>7</sup> Del Bono, E., Ermisch, J. and Francesconi, M. (2008) Intrafamily Resource Allocations: A Dynamic Structural Model of Birth Weight. ISER Working Paper Series 2008-27, Colchester: University of Essex

<sup>8</sup> Kelly, Y. and Bartley, M. Pathways from parent health to child health and development, in Dex, S., Joshi, H. and Hanson, K. (eds.) *Children of the New Century*. Polity Press

<sup>9</sup> Del Bono, E. and Ermisch, J. (2009) Birth weight and the dynamics of early cognitive and behavioural development, ISER Working Paper 2009-16, Colchester: University of Essex

## ESRC SOCIAL MOBILITY EVIDENCE BRIEFINGS

This is one in a series of seven briefings that summarise a selection of ESRC-funded research on the topic of social mobility. As well as health, the briefings cover education, parenting, poverty and skills.

An overview of the major ESRC investments covered in the briefings follows overleaf. For a full listing of all ESRC major research investments please see: [www.esrc.ac.uk/about-esrc/what-we-do/our-research](http://www.esrc.ac.uk/about-esrc/what-we-do/our-research)

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**The ESRC Centre for Lifecourse Studies in Society and Health (ICLS)** investigates processes throughout the life course that relate the development of personal and professional skills to health and wellbeing and to patterns of employment and social participation. This research is possible due to the unique longitudinal birth cohort studies that have been carried out in the UK and the availability of comparative national and international data – [www.ucl.ac.uk/icls](http://www.ucl.ac.uk/icls)

**The ESRC Centre for Longitudinal Studies (CLS)** is an ESRC Resource Centre which houses three of Britain's internationally-renowned birth cohort studies:

- 1958 National Child Development Study (NCDS)
- 1970 British Cohort Study (BCS70)
- Millennium Cohort Study (MCS)

The studies involve multiple surveys of large numbers of individuals from birth and throughout their lives. They have collected information on education and employment, family and parenting, physical and mental health, and social attitudes – [www.cls.ioe.ac.uk](http://www.cls.ioe.ac.uk)

**The ESRC Centre for Market and Public Organisation (CMPO)** is a leading research centre combining expertise in economics, geography and law. The centre aims to study the intersection between the public and private sectors of the economy, and in particular to understand the right way to organise and deliver public services – [www.bristol.ac.uk/cmppo](http://www.bristol.ac.uk/cmppo)

**The Institute for Fiscal Studies (IFS)** promotes effective economic and social policies by increasing understanding of their impact on individuals, families, businesses and the government's finances. The IFS has hosted an ESRC research centre since 1991. The ESRC Centre for the Microeconomic Analysis of Public Policy (CPP) aims to carry out core analytical research that will allow informed microeconomic analysis of major public policy issues, from productivity growth to poverty reduction, and from promoting employment to ensuring sound public finances – [www.ifs.org](http://www.ifs.org)

**The Institute for Social and Economic Research (ISER)** is jointly core-funded by the ESRC and the University of Essex. ISER hosts the ESRC Research Centre on Micro-Social Change (MiSOC) and the ESRC UK Longitudinal Studies Centre (ULSC). ISER is also home to *Understanding Society*. The central focus of MiSOC's work is the individual life course and the changing nature of society and its team of world-class researchers and associates come from a range of social science disciplines including economics, sociology, psychology, demography, geography and statistics. The ULSC goal is to ensure the collection of longitudinal data of the highest quality to meet UK social research needs and to promote its widest and most effective use – [www.iser.essex.ac.uk](http://www.iser.essex.ac.uk)

**The ESRC Poverty and Social Exclusion (PSE) in the United Kingdom – the 2011 Survey** project's primary purpose is to advance state-of-the-art theory and practice of poverty and social exclusion measurement. To improve current measurement methodologies, the research will develop and repeat the 1999 Poverty and Social Exclusion Survey – [www.poverty.ac.uk](http://www.poverty.ac.uk)

**Understanding Society** is the largest household panel survey in the world. It collects information annually from 100,000 people across 40,000 UK households and provides valuable new evidence about the people of the UK, their lives, experiences, behaviours and beliefs. The study allows for deeper analysis of a wide range of sections of the population as they respond to regional, national and international change. *Understanding Society* will greatly enhance our insight into the pathways that influence people's longer term occupational trajectories, their health and wellbeing, their financial circumstances and personal relationships – [www.understandingsociety.org.uk](http://www.understandingsociety.org.uk)