Discussion what we mean by Inequalities in England; a Public Health perspective

How did England get to where it is in the Inequalities debate?

Ann Palmer

January 2006
Historical
The term inequalities in health has been in common use in the UK since 1980 when the Black Report was published. Analysis of variations in health indicators was first mooted in 1837 with the first Statistician (William Farr) and later by Chadwick first District Medical Officer for Liverpool in concluded people became poor due to ill health resulting from bad environmental conditions.

Since the 1851 the Registrar General has reported decennially on mortality; the classification of industry has developed; the social class system was introduced in 1911 and in 1921 was used to analyse infant and adult male mortality. In 1931 women were included in the analysis; single women by their own social class and married women by their husband’s. The Longitudinal Study was introduced in 1971 and provides greater detail on the socio-economic characteristics of individuals and has been used to study women’s and older people’s mortality by alternative measures of social position.

Information is available on mortality for England from 1541; whilst there appears to have been crises of mortality about every 5 years but the underlying life expectancy remained constant at 34 years for 250 years, rising to 36 years from 1780 to 1801. by the end of the eighteenth century a more rapid rise in life expectancy took place. The observed fluctuations have been suggested to be related to famine and disease.

In the early 1800s people moved from the countryside into towns which doubled in size; it was considered that disease spread from the slums and affected the rest of the community. There appears to have been a great deal of public health investigation in the early 1840s with Chadwick’s famous report on the Labouring Classes in 1842 and ‘The Health of Towns’ association which reported in 1844. In 1842 the Mines and Collieries Act was passed to protect the health of women and children under 10, and in 1844 the Labour in Factories Act demanded protection of machinery and prescribed maximum hours for women and children.

The final report of the Health of Towns Commission deplored overcrowding and demanded landlords repair properties. William Duncan described the health of people living in underground cellars in Liverpool. These events eventually led to the implementation of sanitary laws and The Public Health Act of 1848.
Table 1
Historical Outline

- 1801 Population Act and first Census
- 1802 Peel’s Health and Morals of Apprentices Act
- 1837 William Farr - first Superintendent of Statistics
- 1841 First Census E&W population 15.9 million, 36% aged under 15, 4% aged 65+
- 1842 Chadwick’s The Sanitary Conditions of the Labouring Classes established the association between squalor, lack of sanitation and overcrowding to endemic disease
- 1844 First report of the Health of Towns
- 1847 Dr William Henry Duncan first medical officer recognised the link between housing conditions and infectious disease (smallpox, cholera, typhus) and published Liverpool Sanitary Act
- 1848 Public Health Act with establishment of Local Boards of Health where death rate exceeded 23/1000
- 1883 Association of Public Sanitary Officers, 1884 Sir Edwin Chadwick first President
- 1844 Labour in Factories Act
- 1847 Dr William Henry Duncan first medical officer recognised the link between housing conditions and infectious disease (smallpox, cholera, typhus) and published Liverpool Sanitary Act
- 1848 Public Health Act with establishment of Local Boards of Health where death rate exceeded 23/1000
- 1883 Association of Public Sanitary Officers, 1884 Sir Edwin Chadwick first President
- 1888 Rowntree at the turn of the century
- Titmuss and colleagues in the Depression and post-war period
- 1942 Beveridge Report - national programme of policies and services to combat the "five giants of Want, Disease, Ignorance, Squalor and Idleness"
- 1985 World Health Organisation - common health strategy, with equity in health as a theme running right through it, and reduction in inequities as the subject of the first of 38 targets to be achieved by the year 2000
- 1992 "The Health of the Nation" - what the Department of Health and the NHS could do to reduce variations in health
- 1997 Independent Inquiry into Inequalities in Health chaired by Donald Acheson
- 2002 Speech by Alan Milburn, to the Faculty of Public Health Medicine, 20 November
- 2002 Securing Our Future Health: Taking a Long-Term View Derek Wanless
- 2003 Tackling Health Inequalities: A Programme for Action
- 2004 Choosing Health
- Tackling health inequalities: Status report on the Programme for Action July 2005

William Farr developed the idea of taking the ‘healthiest districts’ as a standard which he used in the first decennial supplement in 1851-61. He identified 151 ‘unhealthy districts’ which he calculated were responsible for the loss of almost 65,000 children’s lives annually; Farr used a method of indirect standardisation against ‘healthy districts’ to reach these conclusions.

The British Concept of Inequalities in Health
What do we mean by ‘inequality’? The term ‘inequality’ means unequal – how do we know which is the right answer? The English Government has agreed a target ‘to bring the health of the worst off to the level of the best’.
Life expectancy analyses have revealed vast differences between richer and poorer areas of the country; for example a person living in the north might expect to live 10 years less than a person living in the south east. Glasgow has an expectation of life which is 76.4 (2001-2003) compared with a person living in Kensington whose expectation of life in 2001-2003 was 84.8. In the South East of England (GOSE area) the average life expectancy at birth (1998-2002) is 79.3 years; for Local Authorities in the Interreg project area the expectation of life ranges from 77.4 in Hastings, 77.6 in Medway and also in Thanet to 80.2 in Lewes, 80.6 in Sevenoaks and 80.7 in Wealden.

It is possible to define four concepts of inequalities;

- Health Inequalities
  - related to economic position resulting from occupational social class
  - behavioural inequalities which again have been related to socio-economic position
  - life-course inequalities
- Inequalities in healthcare provision

Social and Occupational Class
There are well documented variations in mortality and morbidity which relate to social position in the occupational structure (Health Survey of England 1994). This work has been important in driving forward important political imperatives to reduce inequalities. Firstly, there has been shown to be a direct relationship between social class and health; is this related to income or nurture, learning and behaviour? A possible direct impact of income distribution on health state distribution would imply that countries with a lesser level of income inequality (i.e., more "egalitarian" countries such as Sweden?) should be associated with lower levels of health inequalities. However, a work by Mackenbach et al (1997) suggests that the inequalities in morbidity and mortality are stronger in Northern European countries, which characterized by a lower level of income inequality, than in Southern European countries. As a consequence, the link between income distribution and health inequalities is not as obvious as intuition suggests.

Socio-economic position
The question of social position and social difference (ethnicity, age and gender, disability, place and geography) has not been so well developed. Variations depend on the health measure chosen. Links to limiting long-standing illness have been more conclusively demonstrated than recent illness; there are also demonstrated links to housing, income, and car access. Social gradients are steeper for men than for women.

Individuals have structural behavioural differences between socio-economic positions (this could be argued to relate to income). This means that individuals with a low socio-economic position are more likely to adopt behaviours at risk, like drinking, smoking, drug abuse, and driving at risk.

Davey-Smith studied the socio-economic variations in health for people from minority ethnic groups, his conclusions are set out below :-

- 'Ethnicity is complexly related to conventional indicators of socio-economic position, and shows variations between ethnic groups. As a result, indicators based on occupation, education, housing tenure and income do not necessarily provide an accurate picture of lifetime social circumstances in minority ethnic groups (and their impact on health).
• Loss of employment position, and therefore earnings and career prospects, often accompanied immigration. Education may therefore relate to SES differently between ethnic groups, ‘purchasing’ a poorer labour market position for minority groups.

• The migration and settlement process for respondents from minority ethnic groups often exerted a downward drag on living standards. For example, the large financial burden of remittances, together with saving for housing, made heavy demands on household income. Racism experienced by migrant parents resulted in some relatively poor parents accepting lower standards of living in order to pay for their children’s private education. Household income may therefore relate differently to disposable income and living standards in minority ethnic groups than in the majority ethnic group - and between new and established settlers.

• At a given level of reporting of subjective ill-health, minority ethnic group members tended to have a greater number of limiting conditions.

• The meaning of socio-economic indicators across ethnic groups needs to be considered in the particular studies in which they are used, as no general rules can be made regarding the comparability or non-comparability of particular measures.

Life-course inequalities
David Barker’s work on the early-life origins of adult disease, in which he postulated that impaired foetal growth might have predisposed the survivors to heart disease in later life, demonstrated the potential of life-course approaches for understanding health inequalities. George Davey Smith looked at social class at three stages of people’s lives (social class of father’s job, own first job, and own current job, respectively), was able to show that each independently affected risks of premature mortality in adulthood, and that they had a cumulative effect on death rates.

In another study George Davey Smith and others analysed how height—a marker of socio-economic circumstances and nutritional status in childhood—related to mortality from various causes. Taller people were found to have lower risks of dying from coronary heart disease, stroke, stomach cancer, and respiratory diseases, but higher risks of dying from colorectal and prostate cancer. Much of the association between height and cardiorespiratory mortality was accounted for by lung function, which is probably partly determined by exposures in childhood. The positive associations between height and several cancers could reflect the influence of calorie intake during childhood.

Professor Richard Wilkinson from the University of Nottingham displayed a direct link between violent crime, murder among young men, the premature death of men of working age (excluding murders) and income inequalities.

Acheson in his 1998 report noted there was at that time little evidence that the population was experiencing less morbidity or disability than 10 or 20 years previously. There has been a slight increase in self-reported long standing illness and limiting long standing illness and he drew attention to inequalities between social classes of obesity and hypertension, both risk factors for serious illness and mortality.

Inequalities in Health Care Access
Acheson noted that equity was a founding principle of the NHS and central to Government policy. The NHS has several interlinked responsibilities in relation to health inequalities:

- to provide equity of access to effective health care
to work in partnership with other agencies to improve health and tackle the causes of health inequalities
- to provide professional leadership and to stimulate the development of health policies beyond the boundaries of the NHS.

Acheson stated that :-

‘Access to effective primary care is influenced by several "supply" factors: the geographical distribution and availability of primary care staff, the range and quality of primary care facilities, levels of training, education and recruitment of primary care staff, cultural sensitivity, timing and organisation of services to the communities served, distance, and the availability of affordable and safe means of transport. "Demand" factors such as lay health beliefs, knowing what services are available locally and wider socio-economic influences, such as financial insecurity, social mobility and lack of informal carer support will also affect patterns of utilisation and access to health care.\textsuperscript{xiv}

Julian Tudor Hart wrote his famous article proposing the Inverse Care Law in 1971. He stated :-

‘In areas with most sickness and death, general practitioners have more work, larger lists, less hospital support, and inherit more clinically ineffective traditions of consultation, than in the healthiest areas; and hospital doctors shoulder heavier case-loads with less staff and equipment, more obsolete buildings, and suffer recurrent crises in the availability of beds and replacement staff. These trends can be summed up as the inverse care law: that the availability of good medical care tends to vary inversely with the need of the population served.\textsuperscript{xv}

Townsend and Davidson\textsuperscript{xvi} found it difficult to access good data to demonstrate inequalities in health care; however today more sophisticated information sources enable us to map availability of healthcare professionals and beds, and utilisation of in patient facilities. GP visit rates have not so far been available.

**What do we know about Health Inequalities in England?**
From 1850 there has been a marked change in health indicators; the death rate and the birth rate have both fallen and life expectancy has increased steadily over those years.

The gradual improvement in life expectancy masks dramatic differences in the cause of death and contributors to mortality; at the end of the 1800s infectious diseases were still major killers; during the 20th century degenerative diseases such as coronary heart disease which contributes 25% of deaths and cancers 20% have become more prominent together with external causes such as accidents, violence and suicide.

There has also been a distribution change; infant mortality has declined dramatically from 105/1000 in 1910 to 7/1000 in 1995 and in more recent times the emphasis for policy and health are professionals has been more on older people and the increasing relevance of chronic conditions.

The Black Report\textsuperscript{xvii} published in 1980 demonstrated the variations between classes and between the north and the south of England. It found that men and women in occupational class V had a 2.5 times chance of dying before retirement than people in class I. At birth and
during the first month of life the risk of death in families of unskilled workers was double that of professional families. The report also demonstrated variation in mortality rates between regions across the United Kingdom; the healthiest part of Britain was shown to be the southern belt, although in the nineteenth century the south east had recorded comparatively high rates and the north had a healthier profile.

The Black Report also demonstrated poorer health amongst immigrants from the New Commonwealth who were known to have greater difficulty in finding work and adequate housing.

![Expectation of Life England and Wales 1840s to 1990s](image)

Source: ONS 1997, taken from Bethune’s report on Health Inequalities (Drever and Whitehead, 1997), xviii

At the time the Black Report was not well received by the conservative government; however by 1987 Acheson had been commissioned to do some further work on Inequalities which demonstrated that if anything the gap had widened. Further studies have confirmed this.

**Social Capital**

There are many definitions attached to the concept which leads to confusion about what constitutes "social capital". There is some consensus within the social sciences towards a definition that emphasises the role of networks and civic norms.

The key indicators of social capital include social relations, formal and informal social networks, group membership, trust, reciprocity and civic engagement. Social capital is generally understood as the property of the group rather than the property of the individual.

Social Capital is the ability of a community to sustain itself through relationships and interconnectedness and through organised efforts of society (see definition of PH); its is a
feature of the social structure of the community and is not evenly distributed and varies with level of asocial exclusion.

Important distinctions are made between bonding, bridging and linking social capital. The political scientist Robert Putnam in his comprehensive state based study, Bowling Alone (2000), is most commonly associated with the analysis and measurement of social capital xix.

Jennie Popay, professor of sociology & public health at Lancaster University, gives two definitions of 'social capital'xx

- the benefits that flow from relationships between people and between organisations of people, based on trust, reciprocity and 'community'.
- 'the Eton effect': the resources that flow from the people you know and based on money, power and influencexxi

In the UK, the emphasis among those trying to build social capital has been on the former – yet populations can only achieve change by engaging with those who have power and influence. So we have the concept of partnerships working together to ensure that all organisations both public and private can bring to bear their joint efforts to improve health and health determinants. We also have now have the ability to measure and compare Social Capital.

**British Health Policy**

National and International approaches have supported the need to investigate inequalities and to do something about it. The WHO introduced the programme of Health for All 2000 and the Healthy Cities programme led in the UK by Liverpool. In England in 1998 the government published Our Healthier Nationxxii which set ‘tough and challenging new targets’ for improving health indicators.

- improving the health of the population as a whole by increasing the length of people’s lives and the number of years people spend free from illness; and
- improving the health of the worst off in society and narrowing the health gap

Our Healthier Nation proposed working at the level of schools, workplaces neighbourhoods seeking improvements in heart disease and strokes, accidents, cancer and mental health through programmes of health improvement, health action zones and healthy living centres.

The Wanless Report published in 2002 (Securing our Future Health: Taking a Long-Term View) included a ‘fully engaged’ scenario associated with comparatively better health outcomes and a lower increase in costs. **Securing Good Health for the Whole Population** was published in February 2004 xxii. This review focused on prevention and the wider determinants of health in England and the cost effectiveness of action that can be taken to improve the health of the whole population and to reduce health inequalities. He identified a number of challenges to the life expectancy element of the target:

- Some interventions and services may not be reaching the most disadvantaged
- Lack of knowledge about what interventions work for most disadvantaged groups
- Interventions are too focused on the beginning and end of the life cycle, more needs to be done to reduce inequalities in other age cohorts
- Lack of information about cost-effectiveness of interventions which hinders priority setting at local level
The review concluded that the UK must devote a significantly larger share of its national income to health care over the next 20 years to catch up with the best developed countries in 10 years and keep up for the following 10, and that success or failure would depend largely on how effectively the health service uses its resources.

_Tackling Health Inequalities: A Programme for Action_ published in July 2003 lays the foundation for achieving the Public Service Agreement (PSA) target to reduce inequalities in health outcomes:

- by 2010 to reduce inequalities in health outcomes by 10 per cent as measured by infant mortality and life expectancy at birth.

The PSA target is underpinned by two more detailed objectives:

- Starting with children under one year, by 2010 to reduce by at least 10 per cent the gap in mortality between routine and manual groups and the population as a whole.
- Starting with local authorities, by 2010 to reduce by at least 10 per cent the gap between the fifth of areas with the lowest life expectancy at birth and the population as a whole.

There are four strands to the Tackling Health Inequalities strategy:

- Supporting families, mothers and children—Reflecting the high priority given to them in the Acheson Inquiry Report, to contribute to the work that will help break the cycle of deprivation and disadvantage through the generations
- Engaging Communities and Individuals—Strengthening capacity to tackle local problems and pools of deprivation, alongside national programmes to address the needs of local communities and socially excluded groups
- Preventing Illness and providing effective treatment and care—By tobacco policies, improving primary care and tackling the ‘big killers’ of coronary heart disease (CHD) and cancer.
- Addressing the underlying determinants of health—Emphasising the need for concerted effort across Government at national and local level up to and beyond the 2010 target date.

_Choosing Health_ was published in 2004 and together with the PSA targets now charges local authorities and health authorities to work in partnership. _Choosing Health_ highlights action for local authorities over six key priorities for delivery based upon more people making more healthy choices:

- tackling health inequalities;
- reducing the numbers of people who smoke;
- tackling obesity;
- improving sexual health;
- improving mental health and wellbeing;
- reducing harm and encouraging sensible drinking

**Measuring Inequalities**

The Department of Health published a Tackling Inequalities in Health Status Report in 2005 showing:

- a continuing widening of inequalities as measured by infant mortality and life expectancy at birth in line with the trend
an inconclusive picture on the indicators but with progress against two important headlines – child poverty and housing – and some narrowing of the gap in other areas notably coronary heart disease mortality and to a lesser extent cancer, flu vaccinations and educational attainment

- successful completion of Programme for Action due April 2004

The Indicators in use by Programme for Action are:

<table>
<thead>
<tr>
<th>Box 1 Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Life expectancy at birth</strong></td>
</tr>
<tr>
<td>- Comparison with baseline 1997-1999</td>
</tr>
<tr>
<td>- Males and females separately</td>
</tr>
<tr>
<td>- By local authority</td>
</tr>
<tr>
<td><strong>Infant Mortality</strong></td>
</tr>
<tr>
<td>- Comparison with baseline 1997-1999</td>
</tr>
<tr>
<td>- By social class (father's occupation) (routine and manual, intermediate, managerial and professional) per 1000 live births</td>
</tr>
</tbody>
</table>
Box 2

The national headline indicators are:-

- **Access to primary care** – the number of primary care professionals per 100,000 population
- **Accidents** – road accident casualties in disadvantaged communities
- **Child poverty** – proportion of children living in low-income households
- **Diet – 5 A DAY** – proportion of people consuming five or more portions of fruit and vegetables per day in the lowest quintile of household income distribution
- **Education** – proportion of those aged 16 who get qualifications equivalent to 5 GCSEs at grades A* to C
- **Homelessness** – number of homeless families with children living in temporary accommodation
- **Housing** – proportion of households living in non-decent housing
- **Influenza vaccinations** – percentage uptake of flu vaccinations by older people (aged 65+)
- **PE and school sport** – percentage of schoolchildren who spend a minimum of two hours each week on high quality PE and school sport within and beyond the curriculum
- **Smoking prevalence – manual groups/in pregnancy** – prevalence of smoking among people in manual social groups, and among pregnant women
- **Teenage conceptions** – rate of under-18 conceptions
- **Mortality from the major killer diseases** – age-standardised death rates per 100,000 population for the major killer diseases (cancer, circulatory diseases), ages under 75 (for the 20% of areas with the highest rates compared to the national average)
Box 3

Local Indicators - Two examples of local baskets
Rural area, elderly population
- Uptake of influenza immunisation (%) of over 65s
- Fuel poverty
- Access to services
- Local authority buildings (%) suitable for, and accessible to, disabled people
- Mortality from accidents over 65 years

Inner city area, high-levels of deprivation, large minority ethnic population
- Unemployment rate
- Unemployment rate among black and ethnic minority groups
- Percentage of pupils achieving five GCSE grades A*-C
- Proportion of homes unfit to live in
- Burglary rate per 1000 resident population
- Air quality indicators (NO2 and PM10)
- Road traffic casualty rate per 1000 resident population
References


ii ONS Longitudinal Study http://www.celsius.lshtm.ac.uk/what.html


v SEPHEO 2004: Life Expectancy at birth; local authorities in the south east


x Davey Smith G. 2003. Health Inequalities: Lifecourse Approaches


xii Acheson D. 1998. Independent Inquiry into Inequalities in Health


