Chapter 11

Infant Mortality and Social Progress in Britain, 1905-2005

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Introduction

In Britain by the end of the nineteenth century it became evident that birth rates were falling and infant mortality was rising. This lead to a rapid decline in ‘natality’ and consequently to a fall in the supply of ‘infants for Empire’. By 1905, and in a remarkably apposite observation, the medical officer for health in Battersea wrote that within Britain:

England is now regarded as the nucleus of a great Empire, with colonies which, though vast in extent are poor in population, and the fact must be faced that in view of our declining natality, the stream of emigrants that formally left our shores cannot be expected to continue (McCleary, 1905, quoted in Dwork, 1987: 6)

At century later, in 2005, there was great concern among some without imagination over a stream of immigrants coming to our shores. McCleary did not see that far ahead but in the century since he wrote it has become clear that fertility, mortality, natality and migration are all intimately linked over the course of lifetimes. However, society in Britain is still arranged very much in a hierarchy from those who ‘think they know best’ to those who are ‘not to be trusted’. For instance, medical officers still treat much of the population with suspicion as became evident when the Department of Health, in 2005, said that, rather than increase benefit levels, mothers should be paid to eat, and give their infants to eat, ‘healthy start food’; however, mothers could not be trusted to do this without vouchers requiring a statutory instrument laid before parliament. In the latest such instrument it was stated that within Britain:

A person … is entitled to benefit in accordance with these Regulations with a view to helping and encouraging her to have access to, and to incorporate in her diet, food of a prescribed description. The benefit to which a person described … is entitled is Healthy Start food to the value represented by a voucher… (Department of Health, 2005: 13)

For the ten possible categories of persons entitled to ‘healthy start food’ in 2005 see the draft regulations laid before Parliament under section 13(10) of the Social Security Act 1988 for approval by resolution of each House of Parliament (2005: 1)

I am grateful to Tiffany Manting Tao for help with drawing an earlier version Figure 11.5, to Graham Allsopp and John Pritchard for help redrawing all figures and to Eilidh Garrett and Nicola Shelton for comments on two earlier drafts.
Part II). However certain types of person were excluded, for example category 3(b) is:

a woman under the age of 18 who has been pregnant for more than ten weeks, provided that she is not a person to whom section 115 (exclusion from benefits) of the Immigration and Asylum Act 1999(b) applies.

Clearly pregnant teenagers who were claiming asylum were not to eat too healthily by 2005. Progress is a strange concept.

This chapter addresses the questions of how, in the space of just four generations, concerns of ‘natality for Empire’ moved on to ‘healthy start foods’; why so many parents are still prevented from access to the resources needed to even properly feed their infants in Britain, and thus how much further still has to be gone. The main underlying cause of infant deaths in Britain was poverty at the beginning of the twentieth century and it remains poverty now. Infant health, and in particular, the unprecedented decline of infant mortality, is used here to begin to answer the questions of how far we have come and how far we have to go; starting with what was just beginning to be widely realised at the turn of the last century:

It is difficult to escape the conclusion that this loss of infant life is in some way related to the social life of the people. (Newman, 1906: vi).

The death of an infant, a child in the first year of its life, is extremely painful to imagine. It is even more painful when it is considered that in every year in the last century, and continuing into this, most of those youngest of deaths were caused by poverty. ‘Healthy start food’ is being introduced to replace the Welfare Food Scheme established in 1940 (Department of Health, 2005: 5) which itself was a response to the work of Newman, McCleary (whose concerns over Empire were quoted above) and others who pioneered better health for infants a century ago. McCleary (1905) argued that the propagation of clean milk for infants through depots was needed to reduce infant mortality. He recommended the establishment of the first milk depot in Battersea in 1902 (Dwork, 1987: 105). It then took forty years for a means tested right to clean milk to be established and sixty more years for that right to be extended to other forms of food so that poorer mothers who choose to breast feed are not discriminated against, as they do not need free milk; one rational for the ‘healthy start foods’ initiative. Perhaps in another century there will be no need for such targeted and inflexible ‘benefits’. One day a substantial number of infants and children will not have to be fed by the state through various forms of benefit and free meals. However, in order to understand how this might be achieved, we need to first understand how the realisation, a century ago, that the social lives of people mattered led to the poorest – excluding asylum seekers – being allowed to choose a little cheap fruit in place of milk powder in 2005.

Background

For all of the period (1900-2005) considered here, poorer people have been much more likely than most to see their babies die, and the rich the least likely. A century
They walked softly over and stood by the cradle side looking at the child; as
they looked the baby kept moving uneasily in its sleep. Its face was very flushed and its
eyes were moving under the half-closed lids. Every now and again its lips were drawn
back slightly, showing part of the gums; presently it began to whimper, drawing up its
knees as if in pain.
"He seems to have something wrong with him," said Easton.

"I think it's his teeth," replied the mother. "He's been very restless all day and he was
awake nearly all last night".
"Pr'aps he's hungry."

"No, it can't be that. He had the best part of an egg this morning and I've nursed him
several times today. And then at dinner-time he had a whole saucer full of fried potatoes
with little bits of bacon it in."

Again the infant whimpered and twisted in its sleep, its lips drawn back showing the
gums: its knees pressed closely to its body, the little fists clenched, and face flushed.
Then after a few seconds it became placid: the mouth resumed its usual shape; the limbs
relaxed and the child slumbered peacefully.
"Don't you think he's getting thin?" asked Easton. "It may be fancy, but he don't seem
to me to be as big now as he was three months ago."
"No, he's not quite so fat," admitted Ruth. "It's his teeth what's wearing him out; he
don't hardly get no rest at all with them."

They continued looking at him a little longer. Ruth thought he was a very beautiful
child: he would be eight months old on Sunday. They were sorry they could do nothing
to ease his pain, but comforted themselves with the reflection that he would be all right
once those teeth were through.
"Well, let's have some tea," said Easton at last.

... [later] ...

The woman did not reply at once. She was bending down over the cradle
arranging the coverings which the restless movements of the child had disordered. She
was crying silently, unnoticed by her husband.

For months past - in fact ever since the child was born - she had been existing without
sufficient food. If Easton was unemployed they had to stint themselves so as to avoid
getting further into debt than was absolutely necessary. When he was working they had
to go short in order to pay what they owed; but of what there was Easton himself,
without knowing it, always had the greater share.

extract from Tressell, 1914: 53-58

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**Figure 11.1  1905: The meaning of poverty – extract from Tressell, 1914: 53-8**

ago the majority of people would have had first hand experience of infant mortality
and of living in poverty. That is no longer the case, so a fictional account of a couple
living at the turn of the last century likely to lose their baby is reproduced in Figure
11.1. It is worth reading this account before turning to the argument below as it is all
too easy to forget what and who is involved when short lived lives are turned into
digits. The account shows too why people such as McCleary were arguing for clean milk, not just for infants but to reduce the chances of mothers going hungry, and by 1905 for education on breast feeding (termed ‘nursing’ in the account). The contents of Figure 11.1 also, superficially, illustrate the problems of trying to imagine the change that has occurred over the course of the last century and how rapid that change has been.

One way to imagine change is to compare the fortunes of recent generations of one’s own family. You are only reading this because your parents and their parents survived their first year of life. What were their chances of doing so?

My two oldest grandparents were both born in 1905, the year in which George Newman wrote the book this volume draws on and in which McCleary’s ‘Infantile mortality and infant milk depots’ was published. My parents were both born during the Second World War. My partner and I were born around 1971 and our two children in the first three years of the present century. There will hopefully never again be four generations in Britain who experience such different chances of surviving their first year of life. Rates are traditionally expressed as proportions of live births. The respective infant mortality rates (IMRs), per 1,000 live births, of the cohorts born in the same years as the pairs of my most immediate relations were 151, 60, 18 and 5 per 1,000. These numbers translate to the following brief account of progress as applied to the cohorts corresponding to the four generations of my family and all other families born in Britain around the years 1901, 1941, 1971 and 2001.

In England and Wales in and around 1901, one in just over six babies died in their first year of life. The average chance of any pair surviving to age one was 72 per cent and most prospective pairs of grandparents did not survive, as a pair, from birth until they were old enough for it to be socially acceptable for them to have children of their own. Rates varied widely between poor and rich geographical areas and social classes; terms which were often synonymous with very small areas such as affluent streets or poor ones. In 1901 at the age of thirty, Benjamin Seebohm Rowntree reported that amongst the babies of the worst off employees of his father’s chocolate factory, 247 of their babies were dying for every 1,000 born. Thus a quarter of the children of the poorest working classes in York died before their first birthday in 1898; whereas, for Rowntree’s servant keeping classes only 94 babies were dying for every 1,000 born (Newman, 1906: 189). The highest infant mortality rate Newman reports is 289 per 1,000 for illegitimate infants in London around the same time (Newman, 1906: 17). Thus depending on to whom and where a child was born, its chances of surviving to its first birthday ranged from around three quarters to better than nine tenths and infant mortality was the major influence on life expectancy at birth. Within towns, where health was often poorer than in parts of the countryside, life expectancy in total varied from 30 years in central Liverpool to 50 years in the Clifton district of Bristol by 1900 (figures from Szreter and Mooney, 1998: 90).

By 1941 one in just over sixteen babies died in their first year of life. The chances of an ‘average’ pair surviving to age one were 88 per cent. Great improvements in health during the childhoods of these children meant that the large majority were surviving to be old enough for it to be socially acceptable for them to have children of their own. Local statistics were hard to come by during the years of the Second World War. Much changed in the years during and immediately following the War.
for the 1941 cohort, weaned more equitably on rations and eligible for free milk if needed. By the earlier 1950s decennial reporting of mortality statistics by area had begun again. The Registrar General’s decennial report for the period 1950-53 found that, by area, IMRs varied from being 68 per cent above the national average in Port Glasgow to being 68 per cent of the national average in Oxfordshire. Furthermore, and coincidentally, for 68 per cent of the population, local IMRs were no more than a quarter above or a fifth below the national average. Note that 5/4 and 4/5 are comparable reciprocals for comparing distributions around unity. Hence the ratio of the worse off infants by area being 2.5 more likely to die in their infancy than the best off did not vary markedly over this time period (247/94 = 2.62 in 1901 and 168/68 = 2.47 in 1951). In other words for every 5 infants who died in the worst off areas in both 1901 and 1951, only 2 died in the best off areas.

By 1971 fewer than one in fifty six babies died in their first year of life, the chances of a pair surviving to age one were 96 per cent. Thus there was only one chance in twenty five that both my partner and I would not live to see our first birthday (and hence later be able to meet if we ignore our much smaller chances of dying in childhood and younger adulthood). Whether children would survive long enough to have children of their own had largely stopped being an issue. What mattered now, for most that had a choice, was whether and, if so, when they choose to have children. At the extremes geographically 64 per cent more baby boys died in Coatbridge, Lanarkshire, than the national average and 57 per cent less in the rural districts of Buckinghamshire (Dorling, 1997). Although this variation may appear a little wider than before, some four fifths of the population lived in areas where rates did not exceed a quarter nor were a fifth below, the national average. Put another way, no matter where my partner or myself had been born, or to whom, we had a better chance of reaching age one than had almost anyone born in 1941 no matter how privileged their social or geographical circumstances. In contrast, those born into the worst situation in 1941 did ‘only’ as well as the most privileged babies born in 1901. By 1971 for every 2 babies dying in the best off areas, 6 were dying in the poorest places (as compared to 5 above).

By 2001 less than one in 186 babies died in their first year of life, the chances of a pair of children surviving to age one were more than 99 per cent. IMRs had become so low that they were no longer routinely published at local authority level for individual years (ONS, 2005). For the year 2002 IMRs reported for very large areas were lowest at 3.8 per 1,000 live births in the Norfolk, Suffolk and Cambridgeshire Strategic Health Authority (SHA) and at 3.9 per 1,000 in Thames Valley SHA. Rates were highest at 7.0 per 1,000 in West Yorkshire SHA and 7.7 per 1,000 in Birmingham and the Black Country SHA. The extreme ratio is thus lower if these large areas are used but is wider when measured for cities (see below). However, three quarters of births, and a similar proportion of the population as in 1971 lived, in 2002, in areas with rates no more than a quarter above nor a fifth below the national average for England and Wales. A child born into the worst off Strategic Health Authority in 2002 had a much better chance of reaching age one than did a child in the best off district of the early 1970s. In many of the best off districts as defined in the 1970s there are now years in which no infant dies in their first year of life. If progress were to continue at its present rate then this is what many of the currently
poorest districts will experience, in just a generation’s time. However note that as very low rates are achieved inequalities have risen over 6 fold (10.3/1.5) between the largest of English cities by 2001 (see Figure 11.3 below). This translates to more than 6 infants dying in the worst-off cities in 2001 for every one dying in the best off cities, as compared to local authority areas in 1901 (2½:1), 1951 (2½:1), and 1971 (3:1). Ratios of probabilities are difficult entities to compare when the probabilities are reducing so quickly. However it is clear that as infant mortality has become more rare its association with poverty rather than chance (otherwise known as the more general environment) has widened. Probabilities are also difficult concepts to apply to individuals.

As any statistician will gleefully tell you, in hindsight your chances of being born are 100 per cent and thus also are those of all your past relations. However, far more of us are the product of more affluent parents and grandparents than would have been the case had these chances of death been more equal. The eugenicists of 1905 would be pleased by this outcome (see Dwork, 1987: Chapter 1, entitled ‘infant mortality and the future of the race’). Conversely, that most of us are largely the product of poor grandparents and great grandparents is testament simply to how extensive poverty in the past was. There were very few, very affluent people living at the start of the twentieth century in Britain. They almost completely monopolised the telling of the past, certainly its quantitative recording, and only a tiny minority of them were interested in the poor or the idea of infant mortality as a social problem. The account given in the extract from Tressell above is a very rare example of a non-elite publication (Davey Smith et al., 2001: 135). To give an example of how enlightened health professionals approached these issues at the time, five years following Seebom Rowntree's report on York, George Newman reported on the work of Dr Niven, the Medical Officer of Health of Manchester:

By means of a number of beer-traps Dr Niven contrived to count the flies in some dozen houses in Manchester during the summer months of 1904, and from these data he concluded that the advent of the house-fly in numbers precedes by a short time the increase in the number of deaths from diarrhoea. In the fortnight ending August 13th, for instance, the number of flies caught in these traps was 37,521, the maximum in any fortnight, and in the fortnight following the maximum number of deaths from diarrhoea occurred – namely, 192. (Newman, 1906: 168-169; see also Dwork, 1987: 48-49).

Diarrhoea is now one of the major killers of infants worldwide but also no infants die as a result of untreated diarrhoea in Britain now. One possible account of the geography and recent history of infant mortality in Britain would begin with the Battersea milk depot of 1902, the Manchester beer-traps of 1904, and other key events, such as the 1906 election, and work progressively forward through ever increased experimentation, autopsy, argument, realisation and intervention through to the situation in 2005 to produce a story of political, social, medical and technological achievement. Although such a story would be interesting, by concentrating on the nuts and bolts of what occurred to lower infant mortality so dramatically, it is possible that we would miss something quite remarkable in all the detail. That something we might miss concerns progress itself and what often has to be sacrificed in order to achieve it: the growth in the short term wealth of the richest. The remainder of this
chapter thus concentrates on what happened that was coincident with the most and least rapid periods of the fall of infant mortality, to suggest why infant mortality fell when and where it did beyond the necessary but not sufficient improvements in public sanitation, private hygiene, state care, general finance and public medicine which occurred over this period.

Figure 11.2 Infant mortality and affluence in the UK: six views of 160 years (1841-2001)
Figure 11.2 contains 6 graphs. The first, Figure 11.2a, of the decline of infant mortality 1841-1998 has been reproduced in many forms numerous times (this version is taken from Davey Smith et al., 2001: xxiii). The second, Figure 11.2b, should be equally familiar but is now of exponential growth rather than decline, in this case of Gross Domestic Product per person (GDP per capita derived from Maddison, 2005). The GDP per capita figures are produced such that they can be compared over time assuming equal purchasing power for a universal dollar at each point in time. When these two graphs are compared it would appear that as monies have risen mortality has fallen. The British population became wealthier as their incomes rose and they were able to afford and produce better medical, environmental and social care for their children, progressively more and more of whom survived to their first birthday. This improved care took numerous forms: cleaner milk, fewer flies, less exhausted mothers (and fathers), a decline also in parental mortality and family size, a rise in health visitors, maternity units, paediatric specialists, income support payments and so on. These advances were some of the first expenditures made with the excesses of monies and investment in child care continues, encompassing the wider care of families with children as a result. As standards of living rose exponentially, IMRs fell exponentially.

There is, however, a problem with this story and that problem is hinted at in Figures 11.2c and 11.2d which are simply the earlier two figures with the vertical axis drawn on a log scale. Log scales ensure that comparable rates of change are comparable lengths on the graphs. In Figure 11.2c it is easier to see that IMRs did not begin to fall continuously until after 1901 and fell fastest after 1941 with the most improvement being experienced in the two decades in which world wars were fought (Dwork, 1987). In Figure 11.2d it is evident that, in real terms, GDP per capita rose steadily from 1841 to 2001 with no great break in slope around 1941. Most importantly it actually fell significantly during the final and immediately subsequent years of war – at the very times when the greatest progress was being made in reducing aggregate infant mortality. If improvements in the health of infants are so closely linked to rising living standards then why did infant health improve fastest when living standards, as measured by GDP per capita, fell?

Figure 11.2e shows the annual change in GDP per capita with local minima (measured using consistent international purchasing power dollars and in descending order of magnitude) in the years to 1919, 1945, 1931, 1991, 1980, 1908 and 1926, and 1973. The graph is simply the first derivative of Figure 11.2b and shows how economic fortunes oscillate in an ever more chaotic fractal pattern. What matters here is that these periods when GDP per capita actually fell the most coincided in aggregate far too often with the fastest proportionate decreases in infant mortality as shown in Figure 11.2f. The two lines in Figure 11.2f show the decennial proportionate increase in GDP per capita and in infant mortality (which in most cases is a negative figure as the rate was decreasing). The most rapid decrease in infant mortality coincides with the decade 1941-1951 centred around the 1945 realisation (at least by those who held the purse strings) that Britain had emerged on the winning side of the war but had been “bankrupted” by it. The next most progressive decade in terms of
IMR decline, 1971-1981, included the start of the 1980s recession. Thus, in general, infant mortality fell fastest in Britain when GNP per capita rose most slowly. What then occurred? As a clue take one paragraph written at the start of the decade of most improvement – in infant mortality and much else – and ask: Were the reforms that were then introduced, introduced through altruism or supposed necessity?

... facts ... should dominate planning for [the] future ... the low reproduction rate of the British community today: unless this rate is raised very materially in the near future, a rapid and continuous decline of the population cannot be prevented ... [which] makes it imperative to give first place in social expenditure to the care of childhood and to the safeguarding of maternity (Beveridge, 1942: point 15 of introduction).

The declines in infant mortality, through better infant health, through the ‘safeguarding of maternity’ and better ‘care of childhood’ were achieved as a result of a decision made to implement a plan. The plan itself was justified on the almost reverse Malthusian grounds that without such safeguarding and better care Britain would soon run out of people, or at least fit and able bodied people. Forty years earlier the concern was that the nation was running out of people to fill an Empire, now it was running out of people to fill a geographically tiny island! That, at least, was how the plan was sold to those with the traditional power over such plans, and to the population as a whole who had not had a vote for some ten years.

The landslide election of the 1945 Labour government allowed the plan’s implementation, probably more completely than had been realised when the plan was proposed (Bevan, 1947). Four decades before, a landslide Liberal party victory followed an earlier national debate on poverty, infant mortality and the physical degeneration of the population that arose from the earlier war in South Africa (Dwork, 1987). When those in power in Britain thought they might begin to lose their Empire - they used the resources of that Empire, the national wealth arising from it, to improve domestic infant health. Wealth may be necessary but it is certainly not all that is sufficient to reduce infant mortality. This is most obviously seen in poor countries where just a few individuals now hold almost all the wealth. It even appears to be the case, in England and Wales at least, that infant mortality falls fastest when national government are least effective or interested in maximising a more even overall wealth distribution.

Where Most Infants Die

IMRs today remain relatively high in much the same places that they were high a century ago. Figure 11.3 shows the map of the cities with the largest populations in England at the beginning of the 21st century. Bar the slight effects of the locations of medical facilities that care for very sick infants – and therefore see elevated mortality rates – the map is mainly a north-south divide. Figure 11.4 shows that divide again, but charts when rates of infant mortality by area in 1921 and 1931 are compared with age/sex standardized rates of mortality for all people under age 65 in the early 1980s and early 1990s respectively. A naïve, epigeneticist interpretation of these two graphs might be that high rates of infant mortality in the past are indicative of
a poor inter-uterine environment in gestation which is reflected by relatively high rates of mortality amongst the population of those areas some sixty years later – a consequent relatively higher mortality of their grandchildren’s infancy. Of course, the majority of people living in Rutland county – the best off area in health terms in the figure – were not born there, let alone will most of their children or grandchildren stay there. What the graphs instead show is that areas which are affluent tend to have remained relatively affluent over time whilst areas which were poor at the start of the last century remain so even today. In many cases the people currently living in the worse social conditions in some of our poorest northern mill towns bear almost no hereditary connection with those who lived there in the past. It is not...
just that they are not the same people, they are not even closely related to the same
people but instead to people, say, in the Indian sub-continent. Some Northern mill
towns suffer relatively high infant mortality not because the current population is
related to people who used to live there, nor because the large numbers of the current
population are related to people living in what was India, but because of the social
conditions of life in those towns. Life in towns in Britain is mainly determined by
where those towns are located, largely in relation to London, and the fact that British
society is apparently organised mainly to maximize profit in London.

The areas shown in Figure 11.3 are the built up areas of the cities of England as
defined in 2001. The geographic areas used in Figure 11.4 were ‘historic’ counties of

Figure 11.4 The relationship between IMR around 1931 and SMR under age
65 by 1990-92 (a) and (b) the same relationship for 1921 and
1981-5
Britain (as they are now termed) for which IMRs were published before the Second World War. Contemporary data can be re-aggregated to historic areas. In contrast the areas shown in Figure 11.5 are the contemporary local authority districts of England and Wales to which historic data has been approximated (see source of figure: www.visionofbritain.org.uk). Here rates are shown in 1881, 1911, 1931, 1951, 1981-85, 1990-91, 1996-97 and 2000-1. Care should be taken over interpreting these last three periods as by the end of the twentieth century, in some small districts, there were areas where no infant deaths occurred in some years. Figure 11.3 is a much better guide to the contemporary geography of IMR than Figure 11.5h. However, even with this caveat in mind it could be argued that Figure 11.5 suggests that the north-south geography of mortality (which was always partly an urban-rural geography) is
becoming more evidently urban-rural over time. High relative rates of infant mortality have also returned to London after a century of better than usual improvement. However, in the main the relative picture is one of stability – as Newman was noted at the start of the twentieth century:

The chief [infant] mortality occurs in the North and North-Midland districts, and the lowest mortality in the counties below a line drawn from the Wash to the mouth of the Severn. Each decennium shows some minor variation, but practically it may be said that during the whole last century this was in the main the general distribution (Newman, 1906: 22).
Conclusions

Last year (1905) there was a loss to the nation of 120,000 dead infants in England and Wales alone, a figure which is almost exactly one quarter of all the deaths in England and Wales in that year. That is to say, that one quarter of the total deaths every year is of children under the age of twelve months. And this enormous sacrifice of human life is being repeated year by year and is not growing less (Newman, 1906: 2, emphasis as in original).

In 2005 roughly 3,000 infants died in their first year of life in England and Wales, which is almost exactly one half of one per cent of all deaths in England and Wales in that year. Thus one in two hundred of the total deaths is of children under the age of twelve months. This sacrifice has been falling, with no exception, every year since 1951 and is expected to continue to fall. However, the toll is increasingly concentrated amongst the children of the poorest areas of Britain. For the sacrifice to continue to fall requires further social progress. We now have the means to reduce IMRs to near zero in affluent areas of Britain, but for the infants of poor areas the government consults on the costs of ‘healthy start food’ (Department of Health, 2005).

It was not until 1946, forty years after George Newman published his findings that, sufficient measures were enacted to improve the health of new born infants and the number dying simultaneously – and thereafter without exception – fell year on year. Government officials often talk about time lags in health policy and how many years it might be before an improvement might be seen as a result of a particular measure being implemented but, in the case of mid twentieth century infant mortality, there clearly was no such lag. It is possible that improvements in health in their childhood of the women who gave birth in 1946 might have led to 3.1 fewer infants dying per 1,000 in that year as compared to 1945, but the timing just appears a little too fortuitous with the ending of the War and the small but immediate improvement in living standards which that engendered. Furthermore the largest drop ever recorded in infant mortality, of 7.5 fewer infants dying per 1,000 born in 1948 as compared to 1947 coincides far too conveniently with the introduction of the National Health Service and the rights and access to better care which that gave prospective and new mothers.

In the story of the fall in infant mortality the most important time-lag was not between policy change and result, but the forty years between the turn of the century escalation in calls for social justice, of which Newman’s book was just a small part, and the winning of enough hearts and minds to prevent the continuation of the enormous sacrifice. That winning of hearts and minds was not just over the elite who had most power over resources but of people in general growing up in a much more infant health conscious society informed by the work conducted at the start of the last century and its propagation through books and magazines over the course of four decades. Of course, medical advances were made in the interim but, as seen above, by 1941 the poorest of children only had the chances of the best off in 1901. What occurred after 1941 was possible with the medical knowledge of the previous century, but it required people to vote in 1945 and for them to know what they were voting for and why. Until it is made clear that infants die because of poverty rather
than fecklessness, why vote against poverty, as happened in 1945, 1964 and 1997? No amount of medical knowledge, as is obvious from worldwide infant mortality figures today, is sufficient without the will and funds to implement it. The ‘vast array of small human beings that lived but a handful of days’ that Newman found ‘so difficult to make real to the mind’ (Newman, 1906: 3) has grown by millions worldwide in the century since he wrote. In 2005, the ‘make poverty history’ year, pop stars clicked their fingers on television screens every three seconds to signify the death of an infant through poverty. Infant mortality was first accurately measured globally in the 1970s. Worldwide since that date it has fallen fastest where it was lowest to begin with.

![Figure 11.6 Infant mortality 1921-2002 in England and Wales by age of death](image)

(a) IMRs per 1,000 births per year
(b) deaths by age as a proportion of all infant deaths per year
(c) deaths by age per 1,000 births per year
(d) deaths by age per 1,000 births per year

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(d) deaths by age per 1,000 births per year
Back in Britain, the final piece of evidence presented here, Figure 11.6a, shows the 1921-2001 national time series of infant deaths in England and Wales by age of the infant at their death in days, weeks, and months. Although there has been some change in the distribution of the ages at which infants are most likely to die, it has not been as dramatic as might have been the case were specific medical interventions key. Figure 11.6b shows that in 1921 13 per cent of infant deaths occurred in the first day of life, by 2002 that figure had reached 32 per cent. Of the far fewer babies who could not be saved by 2002, more as a proportion could not be saved in that first day and far fewer now die after living for six months. Congenital diseases, associated most with the earliest deaths, decline more slowly in the graphs than do the infectious diseases associated with deaths later in the first year of life. Figure 11.6c shows that the decline in the latter occurred fastest a generation before the decline in the former, but Figure 11.6d suggests that rates of decline of death at all ages are following much the same long term trajectory. Each generation demands overall improvement. It occurs for each but different proximal mechanisms are at play. For the mothers of the 1940s it was diseases that their infants were freed from most quickly, perhaps partly due to increased availability of antibiotics. For the mothers of the 1970s deaths in the first days and weeks of the lives of their infants fell fastest; perhaps greater access to incubators helped. For the mothers of the start of the present century deaths after a number of months became rarer again more quickly, perhaps associated with increased and better information on preventing Sudden Infant Death Syndrome and other once largely unknown causes. However, for most generations the best off have enjoyed access to the kind of care that the worse off only achieve a generation later. Medical and almost all other innovations appear to take roughly a generation, some twenty five years, to diffuse down social hierarchies in Britain. To achieve this for a fifth generation will require social progress equivalent to the ending of child poverty in Britain within the next two decades. Progress of a similar magnitude has been achieved before.