The impact of a changing population
Why understanding population trends is important for school leaders
Understanding the size, nature and structure of a country’s population is the essential first base in thinking about the future of a public service. At one level the reason for this is very obvious. Policy makers in education (and health) have repeatedly been caught short as a result of miscalculating the impact of population changes. Sometimes the problem has been too few schools and not enough qualified staff and at other times it has been a superabundance of facilities and teachers who cannot find jobs. And, as this briefing explains, assessing whether we will need more or fewer secondary schools and colleges in 2020 is itself far from a straightforward issue.

Understanding population trends is more than just a question of numbers. Demographic factors have other profound implications for the education system. For example the cultural, social and language impact of inward migration on schools over the past 50 years, and the last ten years in particular, has been immense. And population changes in turn affect a society’s culture, economy, housing and landscape.

What is the situation in 2009?
The latest estimates show that in 2007 there just under 61 million people living in the UK – an increase of around 5 million since 1971. The populations of England, Wales and Northern Ireland all grew steadily during this period, by 4.4 million, 300,000 and 200,000 respectively. However, the population of Scotland started declining slowly in the mid-1970s, stabilised in the late 1980s and has started to increase in recent years.

The population increase is the product of two factors: natural change (ie the combined impact of birth and death rates) and migration. Until the 1980s population growth was largely driven by natural change but since the 1980s – and particularly from the late 1990s onwards – migration has become a more dominant factor (see Figure 1). For example, between 1951 and 1961, natural change accounted for nearly all (98 per cent) of population growth in the UK but between 2006 and 2007 it accounted for less than half.

Migration over the past 10 years, unlike in the 1960s, has not just been from one part of the world – such as the Caribbean or East Africa – but

Figure 1: Causes of the increases in the UK population, 1997-2007

Source: Office for National Statistics
from all round the globe. Some local authorities (particularly in Inner London) have residents from over 100 different countries living in their area. More boys than girls are born each year in the UK. In 2006, 105 boys were born for every 100 girls. However, there are more females in the overall population; 31 million females compared with 29.9 million males in 2007. This is partly because women have a longer life expectancy. It also reflects the fact that in the 20s age group the proportion of young women relative to men grows as a result of differential migration trends and death rates. By age 31 women outnumber men at all ages.

The UK has an ageing population, a result of historically declining fertility rates, significant improvements in life expectancy and the natural impact of the baby boomer generation of the 1950s and 60s moving towards retirement. Over the last 35 years, the population under age 16 has decreased from around 14.3 million to 11.5 million (from one in four to one in five of the population) while the population aged 65 and over has increased by 2.3 million. For the first time the proportion of the population below 16 has dropped below the proportion of the population of pensionable age.

The UK has become much more ethnically diverse. In the 2001 census, 6.7 million people in Great Britain were from ethnic minorities. Of these, 4.6 million (equivalent to 8.1 per cent of the total population) were from non-white minority ethnic groups. This represented an increase of just over a half compared with 1991. Around half of the non-white population in 2001 described themselves as Asians of Indian, Pakistani, Bangladeshi or other Asian origin (see Figure 2). Most minority ethnic groups in England have a younger age structure than the white British population. It is estimated that in 2005 around 19 per cent of the White British population was aged under 16, whereas children accounted for around 26 per cent of the non-white population.

The UK population has become more mobile. Across England an average of 11 per cent of households have lived at their address for less than a year. In London the figure is significantly higher at 15 per cent. In some London boroughs population mobility has reached 35 per cent per year.

What do future trends look like and what does this mean for the UK?

Predictions of population trends always come with health warnings – like shares they can go down.

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Figure 2: Composition of non-white ethnic minorities, by minority ethnic group 2001

![Composition of non-white ethnic minorities, by minority ethnic group 2001](image)

Source: Commission for racial equality
as well as up. But broadly speaking we can expect recent trends to accelerate.

The central forecast of the Office of National Statistics (ONS) shows the population of the UK increasing by nearly 10 per cent to around 67 million by 2020 (see Figure 3). The growth continues to be driven by natural change (the fertility rate is now rising and the number of live births is expected to rise until 2020) and inward migration – though migration will play less of a part than it has done over the last decade.

The population increase will not be evenly distributed across all parts of the UK. Most of the population rise will occur in England – the increase in the North East will, along with the rise in Scotland, be much smaller.

The UK population will continue to age. By 2020 the population of over 65s is expected to increase dramatically, by nearly a third to 12.7 million, and the population of over 85s by half to 1.9 million (see Figure 4). Despite the ageing of the population the ratio of those in work to pensioners (a policy concern in many countries) is, until 2020, likely to remain at the current level, a result of the continued flow of inward migrants.

The population of those under 16 is projected to increase by around 9 per cent by 2020 with their share of the population staying roughly constant at around 19 per cent - though as the later part of this briefing explains a more complex picture lies behind this headline trend.

The UK population is also likely to become much more ethnically and culturally diverse. One of the factors driving the higher birth rate is the increase in the proportion of births to mothers born outside the UK. As Figure 5 shows the proportion of births to mothers in England and Wales who were not born in the UK has risen sharply over the last decade and now accounts for nearly a quarter of all births. This trend will affect all areas but in particular those parts of the country – London,

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**Figure 3: UK population projections to 2020**

![Figure 3: UK population projections to 2020](image)

Source: The Cabinet Office Strategy Unit based on ONS projections
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West and East Midlands, Yorkshire and the North West – where the population is already ethnically diverse.

An ever-increasing proportion of the population are living alone. In part this is because more people aged 65 are living longer and staying in their own home. In part it is because of an increase in the number of divorces and in part it reflects a tendency for young people to live alone before cohabiting. Figures for England suggest that the number of households in the UK will rise to 30 million by 2021, of which over a third will be single person households (see Figure 6).

If current trends continue fewer children will live with two parents - already the proportion has gone down from 92 per cent to 77 per cent since 1971. Family structures are becoming less fixed – with more adults and children moving through a variety of family relationships. And the tendency to cohabit rather than get married and, over time, have more partners may result in some family units becoming larger (in other words more

Figure 4: Growth in the UK population by age cohort

Source: The Cabinet Office Strategy Unit based on ONS projections

Figure 5: Proportion of live births in England and Wales to mother whose country of birth was not the UK

Source: Office of National Statistics
children living with step siblings). As life expectancy increases (see The Impact of Health briefing) families of three, four or even five generations will become more common creating a challenge for those in their 30s, 40s and 50s of providing support for both their children and parents at the same time. A number of factors could cause these projections to vary significantly – either upwards or downwards. For example:

- Worsening economic conditions in the UK result in economic migrants returning home and discouraging new migrants.
- The continuing growth of the EU attracts new migrant workers to the UK.
- An economic, political or natural disaster in another part of the world triggers a large increase in asylum seekers or migrants to Europe and the UK.
- A flu pandemic results in between 50,000 to 75,000 deaths4.
- An intense heatwave results in thousands of premature deaths – as happened in France and Europe in 2003 when there were around 35,000 deaths.
- The birth rate turns out to be significantly higher or lower than projected.

**What does this mean for future policy?**

Many of the social policy implications of the population changes will be explored in other briefings in this series. The two key policy issues to note at this stage are the implications for the number of new homes and for retirement.

In order to accommodate the expected growth in population and single person households, the government says there needs to be two million more homes in England by 2016 and three million by 2020 (against a 2007 baseline)5. In annual terms that equates to increasing the number of new homes from 185,000 to 240,000 per year by 2016. The effect of the credit crunch on the housing market will delay the delivery of these plans. However, the government has designated a number of Growth Areas and Growth Points where the housing expansion will take place.

- Four Growth Areas were designated in 2003 – Thames Gateway; Ashford (Kent); Milton Keynes and South Midlands; and London-Stansted-Cambridge-Peterborough. The intention is that these areas will provide 200,000 additional homes over and above those previously planned by 2016.
- Growth Points provide financial support to local communities that wish to pursue large scale and sustainable growth, including new housing, outside of the Growth Areas. By early 2009 some 50 Growth Points had been
Figure 7: Housing Growth Areas and Growth Points in England

Source: DCLG
designated and they have the potential to deliver 175,000 more homes than previously planned by 2016.

Figure 7 maps how England could change physically by charting the Growth Areas and Growth Points – the areas which can expect to see a significant rise in their populations. The growth in the number of over 65 year-olds means that the cost of funding the state pension risks imposing a huge burden on the working population. In order that pensions remain affordable the state pension age for women is being increased gradually from 2010, so that by 2020 it will be 65. Between 2024 and 2046 the pension age for both men and women is to increase from 65 to 68. For similar reasons the terms of public sector pensions are being revised. Teachers who joined the Teachers’ Pension Scheme after 1 January 2007 will have to work until 65 before being able to claim their pension. It is also likely that an increasing number of people will work beyond their formal retirement as they find they have generated insufficient savings during their working life.

**What does this mean for school and college leaders?**

The first challenge confronting schools and school leaders is planning for the number of secondary school-age students over the next ten years. The projections (see Figure 8) indicate that in the early part of the next decade the overall number of 10-14 year olds will fall before rising in the second part of the decade. However, the overall number of 15-19 year olds will decline from 2009 right through to 2020 – though the trend will reverse during the 2020s as the increase in the younger cohort feeds through to secondary schools and colleges. Estimating the demand for school places will be further complicated by the impact of the demand for diplomas and the requirement from 2013 for all 17 year-olds (and from 2015 for all 18 year-olds) to remain in education or training.

As Figure 9 illustrates, the pattern is similar in most parts of England and Wales – a fall in the overall number of 10-19 year olds. London is the only region to see an overall rise. The North West, on the other hand, is projected to have a decline.

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**Figure 8: Projected number of 10-14 and 15-19 year olds in England and Wales for 2009-2020**

![Projected number of 10-14 and 15-19 year olds in England and Wales for 2009-2020](image)

Source: ONS and Stats Wales 2006-based population projections
Figure 9: Projected number of 10-19 year olds in Wales and in England by Government Office region for 2009-2020

![Bar chart showing projected number of 10-19 year olds in Wales and in England by Government Office region for 2009-2020.](chart.png)

Source: ONS and Stats Wales 2006-based population projections

The school workforce to a degree also reflects the wider demographic trends in society. More than half of headteachers in England are over 50 and the National College of School Leadership (NCSL) estimates that 2009 will see 3,500 headteachers retiring. The number of retirements will remain high but gradually reduce, falling to 2,500 a year in 2016.

In contrast, however, teachers are on average getting younger and are more likely to be female. Three-quarters of new teachers are women and over the next decade they will increasingly replace the third of male secondary teachers who are aged more than 50 and nearing retirement. In fact a third of all teachers are women aged between 25-40. Given that many women are now having children later, when they are in their late 20s or 30s, this will pose schools with challenges in relation to managing maternity leave and incentivising women to return to teaching.

There is one further challenge for the school workforce that has a demographic dimension. In terms of its ethnic diversity the current workforce is not as representative of the school-age population as it needs to be, as Figure 10 illustrates. Around 15 per cent of pupils in secondary and 18 per cent of pupils in primary maintained schools are from black and minority ethnic (BME) groups. This compares with 12 per cent of those starting initial teacher training courses in 2006 coming from a BME background. For every main minority ethnic grouping there are proportionately significantly fewer teachers than there are students.

The Training and Development Agency for Schools has targets for improving on this situation and in 2008/09 allocated £1 million to incentivise the recruitment and retention of BME trainee teachers. However, the disparity between the ethnic composition of the workforce and the school-age population will widen unless rapid steps are taken to increase the supply of teachers from all main minority ethnic backgrounds.

of nearly 50,000 places, equivalent to around 40 average-sized secondary schools.

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The problem is not just restricted to the profile of the teaching profession. In 2005-06 only just over 1 per cent of primary heads and just over 3 per cent of secondary heads came from a BME group. BME teachers are also under-represented in middle and senior leadership roles and this both contributes to the potential shortage of school leaders and provides few role models for the next generation.

The NCSL is providing support and programmes that address this issue but as with the broader teacher workforce further rapid action is needed to provide a cadre of school leaders able to understand, represent and lead the ever more diverse society that is developing.

There are, therefore, a range of issues that schools and colleges will need to consider and plan for as they contemplate the rise in population. Figure 11 draws together some key policies and practices that will help ensure that school leaders are better informed and equipped to face the challenges of the future.

**Figure 10: Ethnic composition of the secondary school population in England compared with ethnic composition of teachers in England**

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Mixed</th>
<th>Asian &amp; Asian British</th>
<th>Black &amp; Black British</th>
<th>Chinese</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnic composition</td>
<td>82.5%</td>
<td>3.0%</td>
<td>7.4%</td>
<td>4.1%</td>
<td>0.4</td>
<td>1.1%</td>
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<tr>
<td>of secondary school</td>
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<tr>
<td>population in England</td>
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<tr>
<td>2008*</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Ethnic composition</td>
<td>94.3%</td>
<td>0.8%</td>
<td>2.6%</td>
<td>1.7%</td>
<td>0.1%</td>
<td>0.5%</td>
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<tr>
<td>of teachers in</td>
<td></td>
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<tr>
<td>England, 2008</td>
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</tbody>
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*1.6% of the school population was not classified – totals do not sum to 100 because of rounding. Source: DCSF and National Statistics [10]
**Figure 11: Examples of the policy and practice required to respond to demographic change**

<table>
<thead>
<tr>
<th>Sphere of activity</th>
<th>Examples of policy action required</th>
</tr>
</thead>
</table>
| Student numbers                         | ● Develop smarter and timely local authority intelligence on live birth data, housing starts, household turnover, pre-school and primary school enrolments, cross-boundary school applications and parent and student choices on post-11 education that is shared with schools and used to inform planning for school places.  
   ● Ensure that every area has some school capacity that can be quickly commissioned or decommissioned as student numbers fluctuate.  
   ● Use federations and chains of schools to help manage fluctuations in demand for places.  
   ● Be aware that the trend towards greater choice for parents and students could exacerbate social cohesion problems.                                                                                           |
| Age profile of the workforce            | ● Expand the number of opportunities for younger staff to move into leadership positions on an accelerated basis.  
   ● Expand the use of flexible posts and job share arrangements for mothers returning to teaching after having a baby.  
   ● Attract more men to teaching so that schools can continue to offer good male role models.  
   ● Provide more flexible and varied career paths as teachers and school leaders enter the last five to ten years of their career in order to maintain their motivation and enthusiasm.  
   ● Invest in increased pastoral support for students as a way of providing a point of stability to balance being taught by a greater number of (part-time) teachers.  
   ● Manage staff resources across federations and chains of schools and so provide a greater economy of scale to accommodate a variety of working arrangements. |
| Cultural diversity                      | ● Recruit more teachers from minority ethnic groups and draw on the skills of migrants.  
   ● Maximise capacity of Teach First and Graduate Teacher Programme to bring BME teachers into the profession.  
   ● Develop and promote more BME school and college leaders.  
   ● Review the teacher training curriculum to ensure that it prepares teachers for the scale of cultural diversity, challenges and clashes they can expect.  
   ● Develop stronger links between schools and families and with faith and community groups.  
   ● Continue to expand the role of student voice in the life of schools and colleges.  
   ● Build a strong sense of school identity to act as a focal point for social cohesion among students.  
   ● Arrange teacher exchanges between schools or twin schools and colleges with different ethnic and cultural profiles.  
   ● Intensify links with overseas schools as a way of seeing British culture in a wider perspective.                                                                                             |
| Population mobility and family stability| ● Develop and mandate standard individual IT profiles that follow children whenever they move school to support continuity of learning.  
   ● Develop pastoral and parenting support and a strong sense of belonging to a school.                                                                                                                                    |
| Ageing population                       | ● Expand schemes to tap the skills and expertise of the ‘grandparent’ generation who play an active and significant role in the care of their grandchildren.  
   ● Orientate school volunteering schemes towards providing support and help for the very elderly.                                                                                                                              |
THE IMPACT OF A CHANGING POPULATION

References

2 Some of this increase may be due to the addition of a new category of ‘mixed ethnic background’, but most groups have grown significantly in the last ten years.

3 The statistics in this section are based on three sources: Realising Britain’s potential: future strategic challenges for Britain, The Strategy Unit, February 2008; Social Trends: No 38, Office of National Statistics, 2008; The Office for National Statistics website – www.statistics.gov.uk

4 See Government evidence to the House of Lords Select Committee on Intergovernmental Organisations quoted in its report: Diseases Know No Frontiers: How effective are Intergovernmental Organisations in controlling their spread?, July 2008.

5 Homes for the Future: more affordable, more sustainable, Department, for Communities and Local Government, July 2007.

6 Leadership succession: an overview, securing the next generation of school leaders, NCSL.

7 The statistics in this paragraph are based on material in an article by Hannah Frankel in TES magazine on 2nd January 2009.

8 TDA website as accessed in May 2009.


10 Figures taken from Statistical First Releases: Pupil characteristics and class sizes in maintained schools in England, January 2008 (provisional); and School workforce in England (including local authority level figures), January 2008 (Revised).