Resolution Foundation

Ageing in the fast and slow lane

Examining geographic gaps in ageing

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However, any errors remain the author's own.

Summary

All developed countries are ageing, and the UK is no different. The combination of rising life expectancy, a large cohort of baby boomers moving into retirement and falling birth rates means the country's median age rose from 33.9 years in 1974 to 40.7 years in 2022. These changes have drawn a significant amount of national political attention, but the spatial aspect of population ageing has largely been overlooked. So in this briefing note we examine the geography of ageing across the country, focusing on the scale of age differences between areas, how these gaps have evolved over the 21st century, what drives them, and their implications for public services.

The oldest parts of the country are typically rural and coastal areas, while cities, particularly those with large universities, are significantly younger. Remarkably, there is a 25-year age gap between the typical age in the oldest (North Norfolk, 55.3 years) and youngest (Tower Hamlets, 30.6 years) local authorities.

The age of the median person in the UK has risen from 33.9 years in 1974 to 40.7 years by 2022, with the share of the those aged over 65 increasing from one-in-seven (14 per cent) to one-in-five (19 per cent) over the same period. But this ageing has not been geographically equal. Since 2001, the median age in the oldest (90th percentile) local authorities has increased five-times faster than in the youngest (10th percentile) local authorities. Rural places are both older and have aged fastest: for example, the median age in Argyll, Bute and the Derbyshire Dales and Dumfries and Galloway has risen by a staggering nine years since 2001. By contrast, there are 16 local authorities, mostly in cities, where median ages have fallen through the 21st century: in Salford, the median age three years is three years less than in 2001, and it has fallen by two years in Newcastle and Nottingham. As a result, the median age in 'core' cities outside of London – a group that includes Bristol, Newcastle, Cardiff and Nottingham – has fallen slightly from 35 years in 2001 to 34.5 years in 2023. But London bucks this trend. Despite being younger than 'core' cities in 2001, its median age has risen by two years over the last decade – matching the rate of ageing in rural villages (which refers to the group of local authorities dominated mostly by rural villages).

A decomposition shows that the drivers of ageing in villages since 2001 are lower rates of in-migration (both domestic and international) and lower birth rates than the rest of the country. For example, the birth rate in villages stands at 9.5 per 1,000 people compared to 14.6 per 1,000 people in London. In many cases, this lower birth rate is explained simply by there being much lower proportions of women of childbearing age than other areas. In most cities, migration to and from other parts of the UK plays a crucial role in keeping

those cities young. This is especially the case for 'core' cities outside London, and for them it is internal migration within the UK that plays a particularly significant role. The average age of in-migrants in core cities (26.4 years) is considerably younger than London (29.2 years), for example. This result will be heavily influenced by the expansion of higher education. After all, 19-year-olds flock to core cities like Manchester, Birmingham and Cardiff in their masses, with around 50,000 arriving and just 8,000 leaving these cities each year. London's slower rate of ageing over the 21st century, compared to the country as whole, has more to do with its high net international migration rate as well as its high birth rate.

The drivers of demographic divergence in population ageing have remained largely unchanged over the 21st century. However, if we focus just on the 2010s (as opposed to the entire 2001-2023 period) there are signs that London has subtly diverged from other 'core' cities. Two changes stand out. First, London's birth rate has fallen from 16 per 1,000 people in the 2000s to 14 per 1,000 people in the 2010s, a larger fall than seen nationally (from 12 to 11 per 1,000 people). A lack of births has effectively increased the average age in London by approximately half a year. Given the capital has aged by two years over the 2010s, this indicates that London's recent ageing is explained mostly by people living in the capital getting older. Second, the role of international migration has shifted subtly in recent years. Booming international migration in the post-Brexit era has led to a more even distribution of young international migrants (aged 25-30) between London and other core cities. Over the past five years, core cities have, on average, gained an additional 15,000 international migrants aged 25-30 each year, compared to 22,000 in London – this gap has halved compared to the first 15 years of the 21st century.

These demographic shifts also have important implications for public services. Most obviously, the national trend of falling birth rates will have consequences for the country's schools. Some areas have seen strong demand for primary school-age children while others have experienced large falls. Since 2016, Dartford, for example, has seen its population aged 5-11 increase by one-quarter (26 per cent), while Westminster and Lambeth have seen their population aged 5-11 fall by one-fifth (21 per cent and 18 per cent, respectively). It is also problematic that the decline in primary-school-aged children is concentrated in neighbouring local authorities – nine of the ten areas with the sharpest declines in primary school-age children are in inner London. This offers little scope for local authorities with falling pupil numbers to take on those from adjacent areas. In principle, having fewer children to educate should represent a saving for the state, but if demand for schooling continues to grow unevenly, costs may end up rising. Fast-growing areas will need to expand school capacity quickly, while areas with falling pupil numbers may struggle to shut down provision quickly enough.

Meanwhile, both older and faster-ageing areas will see demand for adult social care services continue to grow. As much as one-third of the population is over 65 in places like North Norfolk and Rother, with one-in-six aged 75 or over. Encouragingly, local authorities don't appear to be rationing their social care services in some of the oldest parts of the country – including the likes of Dorset and the East Riding of Yorkshire. Less positively, however, is evidence that social care spending isn't distributed across the country according to age. In fact, the youngest parts of the country (including Bristol and Salford) tend to have the highest adult social care spending when calculated per-person-aged-65-and-over. This suggests that, while local authorities aren't necessarily rationing requests for social care support in older areas, they may be rationing the level of adult social care spending in these areas.

The big picture story is that the country has grown apart by age over the first two decades of the 21st century, leaving us with large and expanding demographic gaps between places. This demographic divergence is expected to continue: coastal and rural areas are projected to continue ageing fast, as younger populations move towards cities and keep them relatively young. Ultimately, how demographic trends unfold at a local level will have profound implications for places and public services for many years to come.

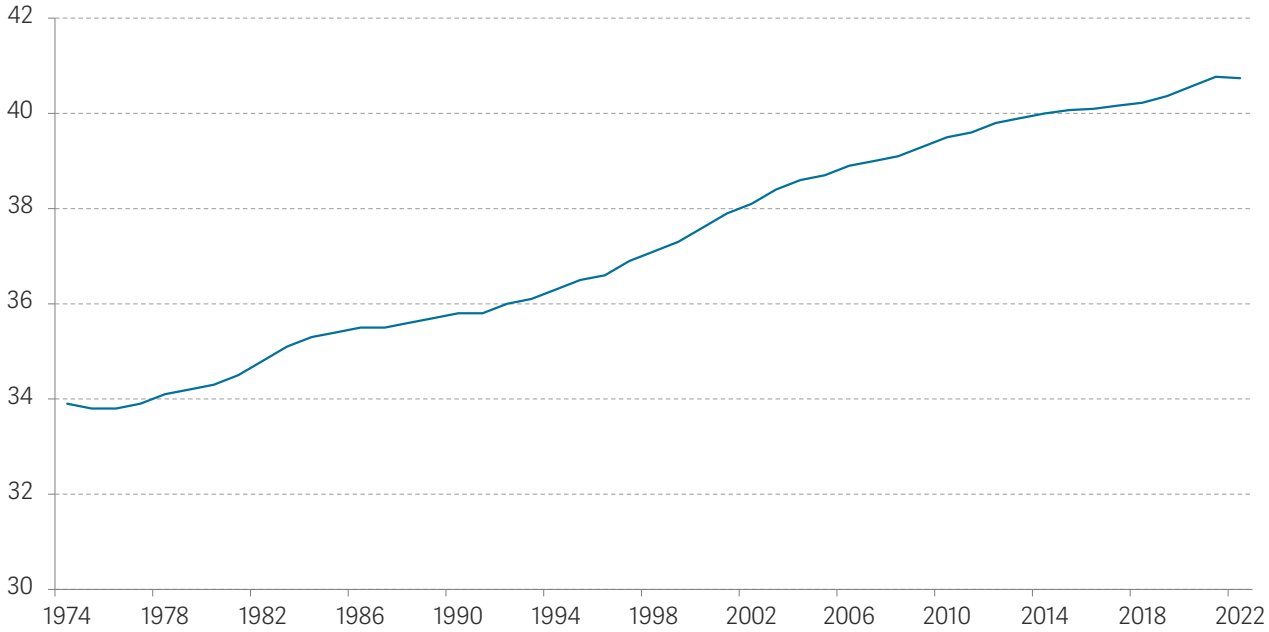
The spatial aspect of ageing has largely been overlooked

Like all developed countries, the UK's population is ageing. This has been driven by the combination of rising life expectancy, a large cohort of the baby boomer generation moving into retirement, and falling birth rates. As a result, Figure 1 shows that the country's median age has risen from 33.9 years in 1974 to 40.7 years by 2022, with the share of the those aged over 65 increasing from one-in-seven (14 per cent) to one-in-five (19 per cent) over the same period. These changes have drawn a significant amount of political attention, whether in relation to the public spending requirements required to support an ageing population or the economic consequences of a shrinking workforce.[1]

1 M Broome et al., Old age tendencies: The impact of tax benefit changes on intergenerational fairness ahead of 2024 general election, Resolution Foundation, June 2024; The Economist, No country for young people: Demography may explain secular stagnation, November 2014.

FIGURE 1: **The UK population is getting older**

Median age in the UK



SOURCE: RF analysis of ONS, Mid-year population estimates.

But the spatial aspect of population ageing has largely been overlooked.[2] In a previous report, we highlighted how the country has grown apart by age: older rural places have aged fastest, while younger areas – particularly cities – have aged more slowly, with some even getting younger.[3] This 'demographic divergence' – which we use in this note as a short-hand for the growing polarisation of ages between places – remains an important topic for two key reasons. First, geographic age divides matter for politics. The increasing role of age as a predictor in party preferences has led to a growing age gap between Conservative and Labour seats, for example.[4] Second, and the focus of this note, is that these divides have implications for public services. Fast-ageing places are likely to demand more adult social care services, while a falling birth rate may create challenges for schools and local authorities.

And there are several reasons why this is a particularly important moment to take stock of demographic patterns in the UK. First, the dramatic changes in the amount and type of migration since the UK left the European Union (EU) will have affected the population structure of the UK and its regions in different ways. Indeed, this recent wave of primarily non-EU migrants is typically older and less likely to move to the country's capital city than

2 There are some exceptions. C Whitty, Chief Medical Officer's annual report 2023: health in an ageing society, Department of Health and Social Care, November 2023; A Breach, The Silver Cities – how is an ageing population changing urban Britain? Centre for Cities, February 2018.
3 C McCurdy, Ageing, fast and slow: When place and demography collide, Resolution Foundation, October 2024.
4 C Aref-Adib & S Hale, Poll Position, How intergenerational voting intentions have changed since the 2019 General Election, Resolution Foundation, February 2024.

the previous wave of migrants.[5] Second, the country has lived through a global pandemic, which resulted in England's largest fall in life expectancy since the Second World War.[6] Finally, the country's baby bust has accelerated since 2010 – with the average number of children born to a woman over her lifetime (or the fertility rate) at an all-time low.[7]

In this briefing note we therefore revisit the geography of ageing across the country, focusing on the variation between different local authorities across the country (using the highest level of geographic data available).[8] We examine the scale of age differences between local areas, how these gaps have evolved over the 21st century, what's driving these gaps, and what this all might mean for key public services, such as schools and adult social care.[9]

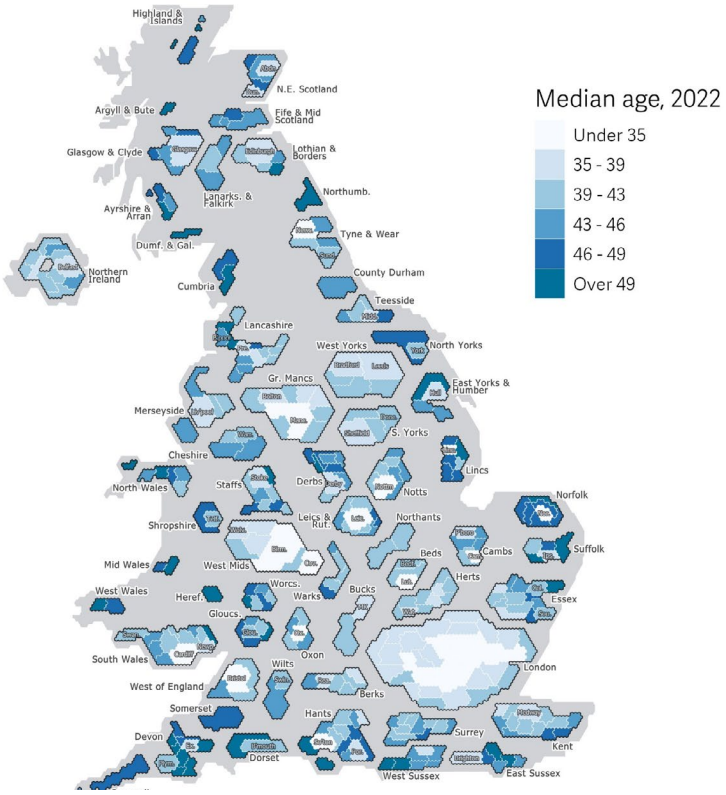
There are big differences in the age of local populations across the country

We start with a look at how age varies across the country. As we showed above in Figure 1, the median age in the UK stood at 40.7 years in 2022.[10] But beneath this average there are stark differences in typical ages across the country, as seen in the map in Figure 2, which shows the variation across local authorities.

The oldest parts of the country are generally rural and coastal areas, while cities, particularly those with large universities, are significantly younger. At the level of local authorities, North Norfolk – the country's oldest local authority – has a typical age of 55.3, with Rother (53.9 years), East Lindsey (53.3 years) and the Derbyshire Dales (52.5 years) not far behind. On the other end of the scale, Tower Hamlets (30.6 years) has the country's lowest median age, closely followed by university cities like Manchester (30.8 years), Nottingham (31.2 years) and Cambridge (31.7 years). Remarkably, there exists a 25-year age gap between the typical age in the oldest (North Norfolk) and youngest (Tower Hamlets) local authority.

5 The Economist, In Britian, immigrants are moving beyond the big cities, November 2022; The Migration Observatory, Migrants in the UK: An Overview, August 2024.
6 V Raleigh, What is happening to life expectancy in England? Kings Fund, April 2024.
7 ONS, Births in England and Wales: 2023, October 2024.
8 Data availability means this refers to a combination of the UK, Great Britain and England and Wales.
9 We focus on 2001-2023 due to the availability of data that covers births, deaths and migration by single year of age at a local level.
10 Population ageing is evident whichever way we look at it: the proportion aged 65+, the old-age dependency ratio or the mean age have all risen. Here we focus on the median age and mean ages, which provide useful proxies of the distribution of ages. Later in the report we focus on the mean age, as that allows a simple decomposition of population ageing into the contribution made by births, deaths and migration. See Figure 1 in C McCurdy, Ageing, fast and slow: When place and demography collide, Resolution Foundation, October 2024.

FIGURE 2: **There are big differences in typical ages across the country**
Median age in local authorities: UK, 2022



NOTES: Map uses House of Commons open access shapefiles.
SOURCE: RF analysis of ONS, Mid-year population estimates.

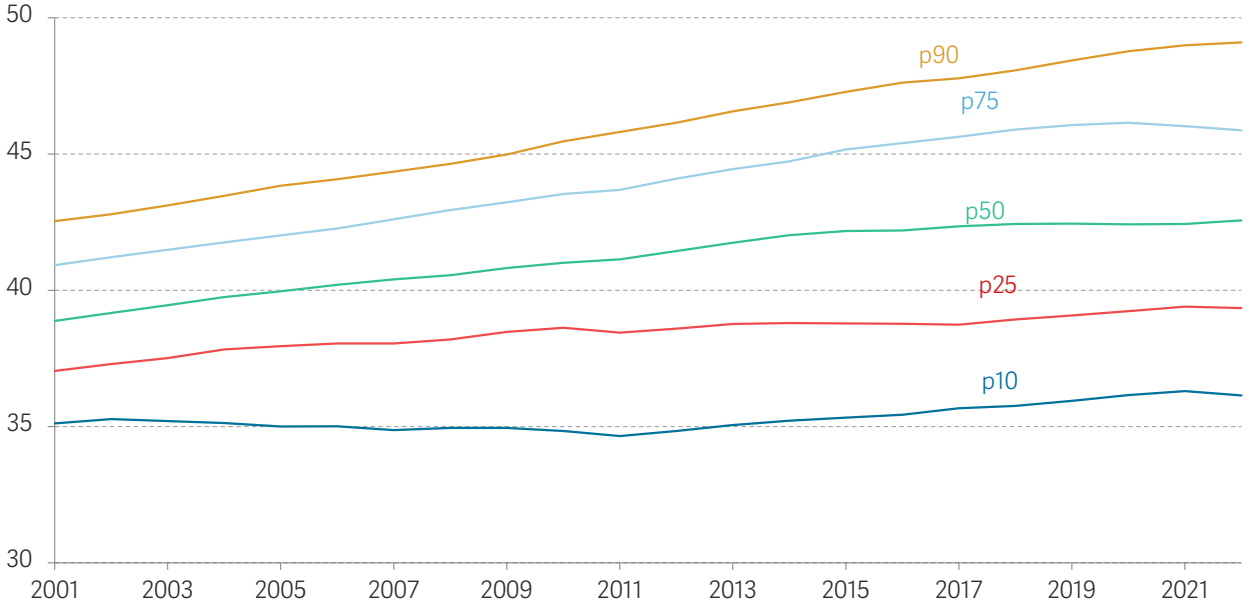
Age gaps between places have widened since the 2000s

We saw in Figure 1 that the UK is getting older, with the median age up by 6.8 years since 1974. But this ageing is not happening equally across the country. Places that were already relatively old have tended to age quicker, seeing the country become more geographically unequal when it comes to the typical age of an area. As Figure 3 highlights, since 2001, the typical age in some the oldest local authorities (i.e. a local authority whose median age is at the 90th percentile of the within-local-authority-median-age) has risen by 6 years and 7 months, or a 15 per cent rise, while the typical age in the youngest local authorities (i.e. a local authority whose median age is at the 10th percentile of the within-local-authority-median-age) is up by just 12 months, a rise of just 3 per cent. Put another way, the oldest local authorities have aged five times as fast as the youngest local authorities. As a result, the age gap between the oldest and youngest local authorities has grown. In absolute terms, the gap between the median age in the

oldest (90th percentile) and youngest (10th percentile) local authorities has grown by 5.5 years; in relative terms, the ratio of ages between the same (what we could call a 90:10 ratio) has risen from 1.2 to 1.4 [11]

FIGURE 3: **Geographic differences in typical ages have grown since 2001**

Range of median ages across local authorities: GB



NOTES: p90 shows the 90th percentile of the within-local-authority-median-age. For example, in 2022, 10 per cent of local authorities had a median age above the p90 line. Percentiles are defined in each year.
SOURCE: RF analysis of ONS, Mid-year population estimates.

Figure 4 takes our understanding one step further by plotting local authorities according to their median age in 2001 (horizontal axis) and the change in median age between 2001 and 2022 (vertical axis), where the vertical and horizontal line shows the GB average. We can take several observations from this chart. First, there is a high degree of persistence in the ranking of local authorities. A correlation coefficient of 0.93 between the ranking of 2001 and 2022 median ages means that most young places two decades ago (like Nottingham and Manchester) are still relatively young today, with the reverse is true for old areas (like North Norfolk and the Derbyshire Dales).[12]

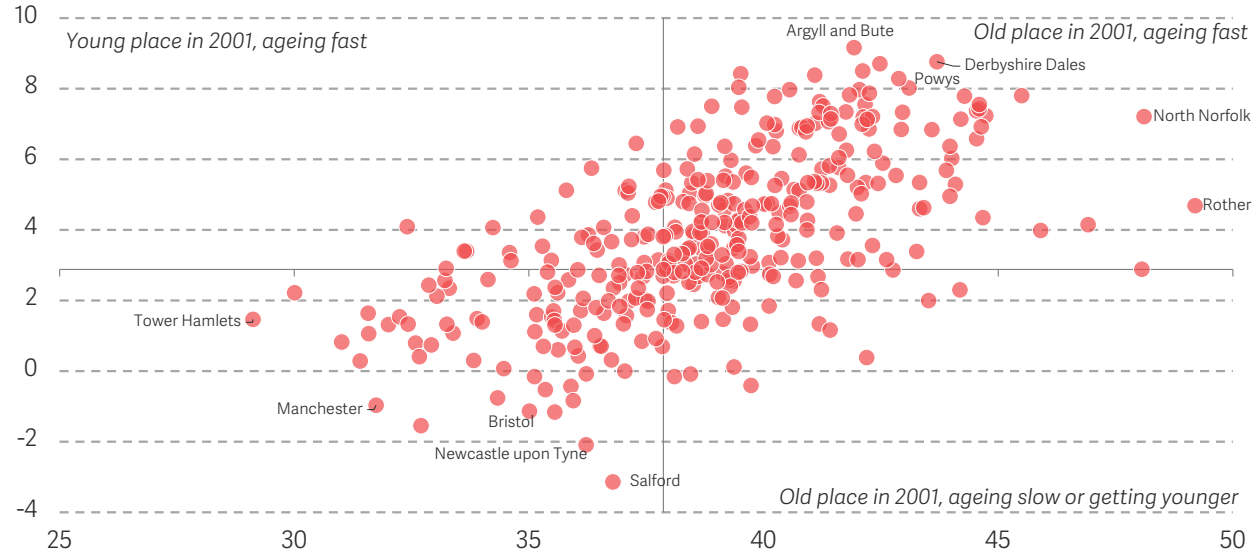
Second, it shows that the vast majority (95 per cent) of local authorities have aged since 2001. There are just 16 local authorities that are younger today than they were in 2001 (all in the bottom left quadrant of Figure 4). This includes local authorities like Salford, Manchester, Newcastle, Nottingham, and Barking and Dagenham. In Salford,

11 This unequal geography of ageing is evident whichever way we measure age – whether we focus on the share of the population aged 75 and over, or the youthfulness of an area, such as the share of the population aged under 30 or under 16.
12 We can add age to a long list of domains in which there is a high degree of persistence in which areas have high or low outcomes. C McCurdy, Uneven ground: Assessing the state of UK geographic economic inequality facing the new Government, Resolution Foundation, August 2024.

for example, the median age has fallen by 3 years since 2001, while it has fallen by 2 years in Newcastle and Nottingham. Third, places that were the oldest in 2001, particularly rural and coastal areas, have aged the most. Argyll and Bute, the Derbyshire Dales and Dumfries and Galloway have all aged by a staggering nine years since 2001, compared to a three-year increase nationally. The reverse is true for the country's youngest local areas, which have tended to either age slowly or, as we have already seen, in some cases become even younger.

FIGURE 4: **Those places that were oldest in 2001 have tended to age fastest**

Median age in 2001 compared to change in median age between 2001-2022 across local authorities: GB



SOURCE: RF analysis of ONS, Mid-year population estimates.

There is a rising median age gap between cities and villages, but London is bucking this trend over the last decade

So, the geographic divide in the UK between older, predominantly rural, areas and youthful, predominantly urban, areas has grown sharper over the 21st century. We can shed further light on this growing demographic divergence by grouping local authorities into 'cities', 'towns' and 'villages', where the classification is based on the type of settlement in which the largest share of a local authorities' population resides.[13]

Figure 5 shows that over the last 22 years, the typical age in villages has increased by nearly 6 years, from 41.6 years in 2001 to 47.4 years in 2023. Cities have aged more slowly, on average. In fact, the group of core cities – including Bristol, Cardiff and Nottingham – has seen its median age fall slightly from 35 years in 2001 to 34.5 years in 2023. Interestingly, London has followed a slightly different trajectory. The capital aged relatively slowly during the 2000s but has aged

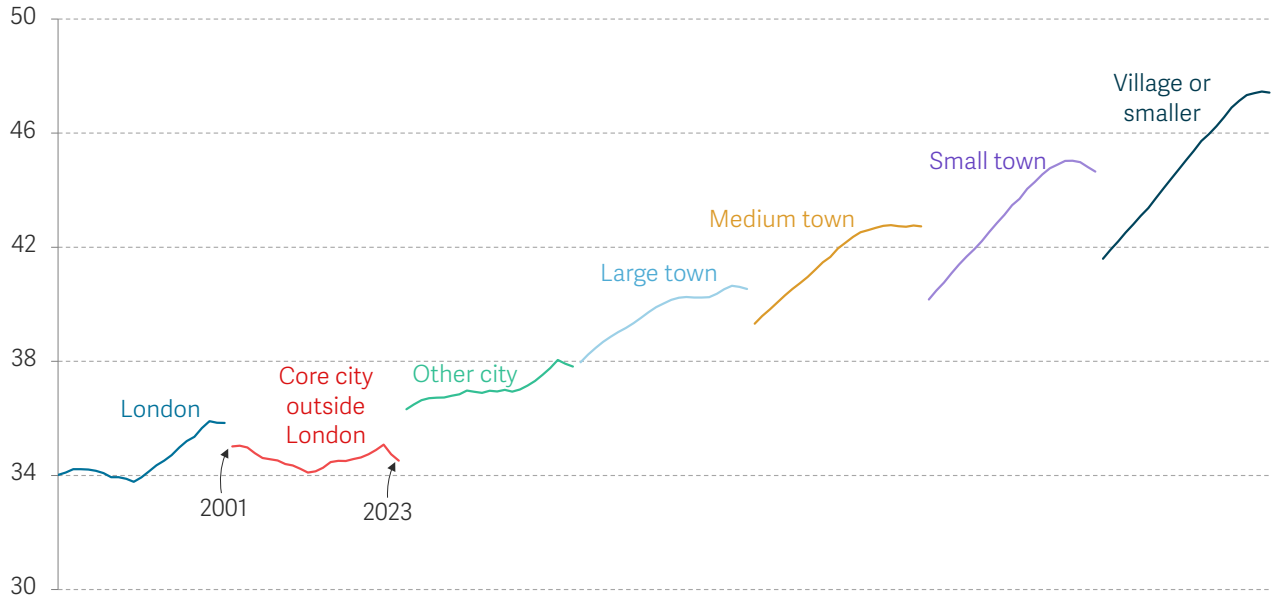
13 Throughout this briefing note, we use settlement classifications from C Baker, City and town classification of constituencies and local authorities, House of Commons Library, June 2018.

much more rapidly since 2011: over the last decade, London's median age has risen by two years – a rate of ageing that matches the country's villages over the same period.

Another important observation from Figure 5 is the recent stagnation and decline in median ages across all areas. This will be heavily influenced by the Covid-19 pandemic, which, in England at least, resulted in the largest fall in life expectancy since the Second World War.[14] In particular, between 2020 and 2022, life expectancy at birth fell by 40 weeks for men and 23 weeks for women in England and Wales. [15] On the other hand, the slowdown in median age growth is part of a broader deterioration in the country's health, given that the growth in life expectancy had been slowing for over a decade prior to the pandemic.[16] And this resulted in a decline in median ages in most areas in 2023, which at the national level was the first year in 50 years (excluding the pandemic period) when deaths outnumbered births.[17]

FIGURE 5: **There is a rising median age gap between cities and villages, but London is bucking this trend over the last decade**

Median age by area type: England and Wales, 2001-2023



NOTES: Core cities outside London in England & Wales include Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham, Sheffield and Cardiff.
SOURCE: RF analysis of ONS, Mid-year population estimates.

Next, we focus on changes in the age structures of cities and villages between 2011 and 2022 (as shown in Figure 6). Villages have aged primarily because there has been an increase in the share of people aged 65 and over, whose share has risen from one-fifth (21 per cent) to

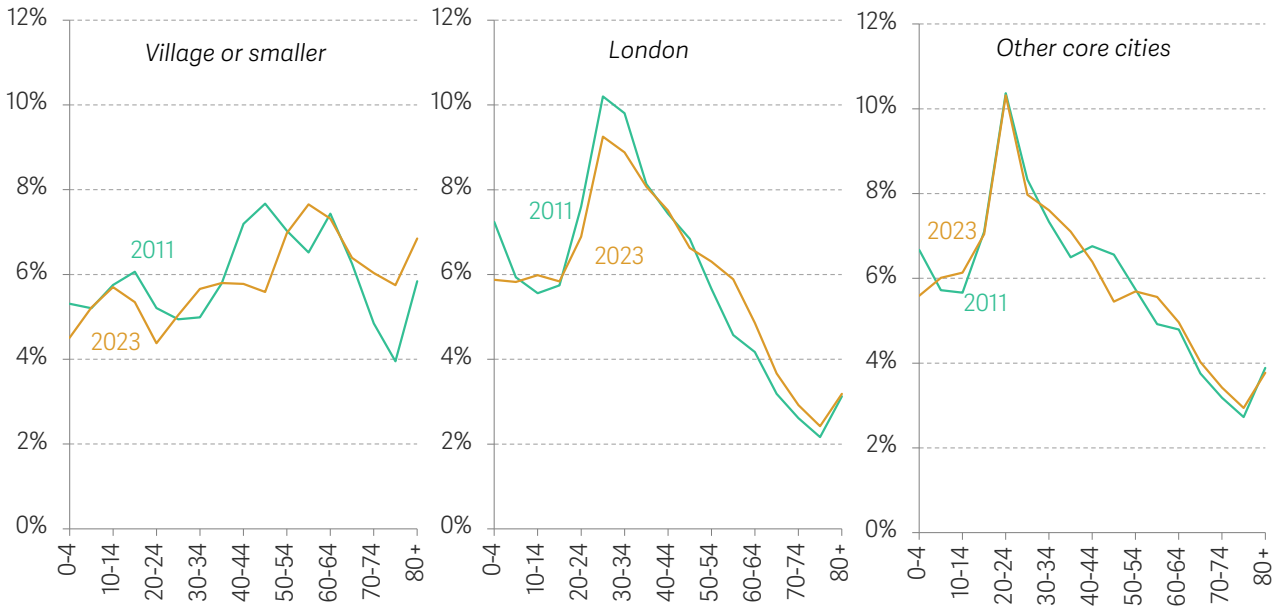
14 V Raleigh, What is happening to life expectancy in England? Kings Fund, April 2024.
15 ONS, National life tables – life expectancy in England and Wales: 2021 to 2023, October 2024.
16 L Judge & L Murphy, Under strain: Investigating trends in working-age disability and incapacity benefits, Resolution Foundation, June 2024.
17 ONS, Population estimates for the UK, England, Wales, Scotland and Northern Ireland: mid-2023, October 2024.

one-quarter (25 per cent) over the past 12 years. London, on the other hand, has seen its share of residents aged 50-64 grow from 12 per cent to 14 per cent, while the share of children under 5 has dropped from 7 per cent to 6 per cent (equivalent to a 12 per cent fall in the number children under 5).[18]

It's worth noting just how youthful core cities outside London are, with one-in-ten aged 20-24, compared to just one-in-twenty in villages. Moreover, the age distribution in these core cities has remained relatively stable over the past 12 years, which helps explain why these cities haven't aged.

FIGURE 6: **London has aged in a different way to the country's rural villages**

Population shares by 5-year age groups by area type: England and Wales, 2011 and 2023



NOTES: Core cities outside London in England & Wales include Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham, Sheffield and Cardiff.
SOURCE: RF analysis of ONS, Mid-year population estimates.

The age profile of young women and migration patterns help us explain local area age differences

So far, we have established that the UK is getting older, and that geographic age differences have grown since 2001, reinforcing a split between relatively young cities and relatively old rural areas.

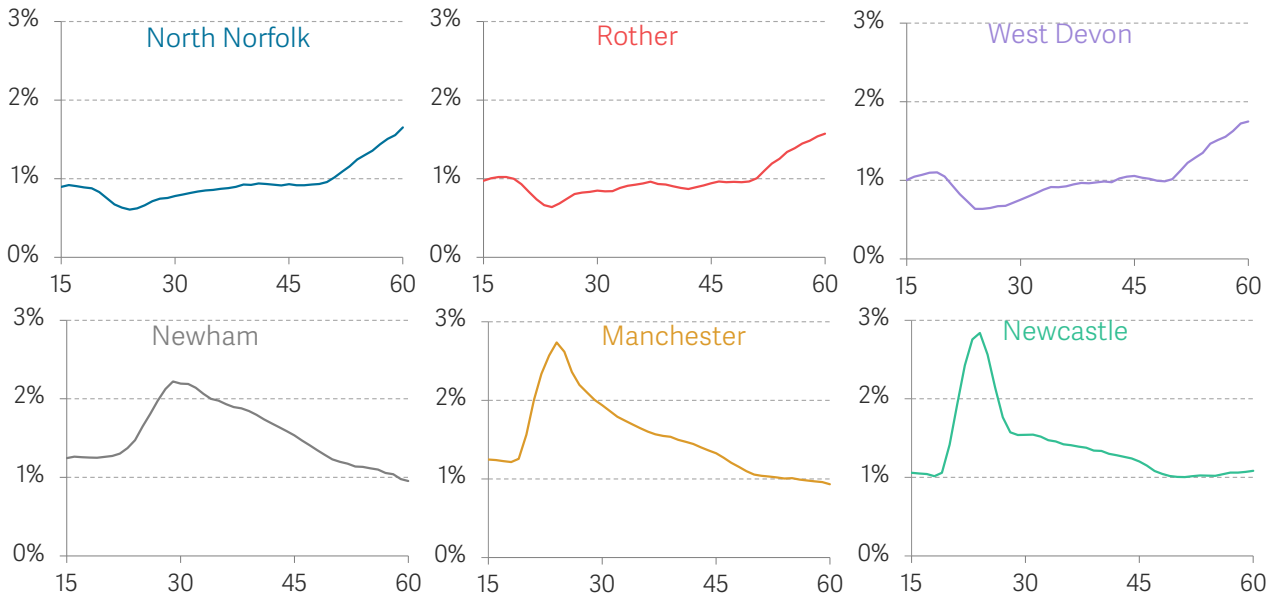
18 This falling share of London's young children has been observed elsewhere, see: Greater London Authority, London's population of young children – current and future, July 2024.

But it's important to note that these changes aren't simply the result of people getting older. Ageing alone affects all people – and therefore all areas – equally. What causes the age profile of a local authority to change are the key demographic forces of births, deaths and migration (which we can further divide into 'internal' and 'external' migration, or migration from another part of the UK, and migration from a different country). Below, we show how these factors help us understand local area age differences before decomposing their contribution to the growing age divergence seen over the 21st century.

First, births clearly lower the average age of an area, meaning that local authorities with more births will be aging more slowly than those with fewer. As it is, the oldest parts of the country tend to have the lowest birth rates: for example, in 2023 there were 7 births per 1,000 population in the oldest ten per cent (or decile) of local authorities, compared to 12 births per 1,000 population in the youngest tenth of local authorities.[19] As Figure 7 shows, the demographic profile of these older areas makes a lower birth rate unsurprising. The share of the women who are aged 20-to-45-years-old is especially low in rural areas like North Norfolk (21 per cent), Rother (22 per cent) and West Devon (22 per cent). By contrast, younger urban areas like Newham (47 per cent), Manchester (48 per cent) and Newcastle (43 per cent) have much higher shares of women in this age group, leading to higher birth rates higher that help keep these places young.

FIGURE 7: **Young women comprise a smaller share of the population in rural than in urban areas**

Population shares of women by single year of age in selected local authorities: 2023



SOURCE: RF analysis of ONS, Mid-year population estimates.

19 Source: RF analysis of ONS, mid-year population estimates.

Second, mortality patterns both affect, and are determined by, the demographic structures of different areas. In 2023, there were 14 deaths per 1,000 population in the 'oldest' local authorities (those whose median age sits in the top tenth across all local authorities), compared to 6 deaths per 1,000 population in the youngest tenth of the population (those whose median age is in the lowest tenth, across local authorities). As with births, this pattern is also clearly related to the underlying age structure: areas with more elderly people are inevitably going to experience a higher rate of deaths, on average. Broadly speaking, higher mortality among people with above-average ages will act to lower the average age of an area.

Third, internal migration within the UK is an important driver of changing demographic patterns. Mechanically what matters here is the age of people moving relative to the typical age of the area they left or arrived at. But as Figure 8 illustrates, actual patterns of internal migration within the UK are determined by people making choices to move to cities at young ages and then moving out to rural areas as they age. (The chart shows net migration rates at different ages over the 2012-2022 period, expressed as a proportion of the total population, for core cities outside London, London, and villages. A positive net migration rate indicates that more people move in than move out, while a negative rate means more are leaving than arriving).[20]

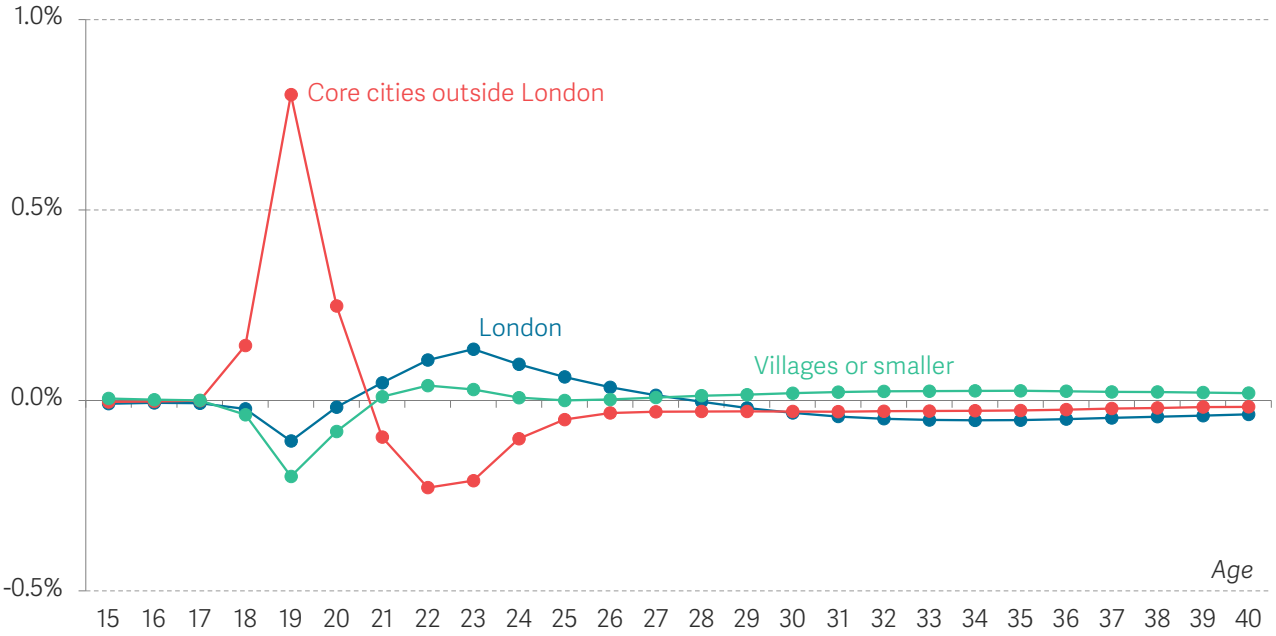
At age 19, young people flock to core cities in their masses – with 50,000 arriving and just 8,000 leaving each year across all 'core' cities outside London. This young age group heads to cities like Manchester, Birmingham and Cardiff for university. As people enter their 20s, many young adults move to London – the capital experiences a net gain of people aged 21-27, with 40,000 more moving in than out each year. However, as people enter their 30s, more leave London than arrive, as many people begin to start families. At this point, net migration rates for villages turn positive, as people leave cities in favour of more rural or family-friendly settings.

It's unsurprising that many more young people aged 19 leave villages than enter them (30,000 vs 10,000 per year), with university the most obvious draw for these people. What's more surprising is that at this age more people moving within the UK leave London than arrive. Many of these young Londoners spread out across the country, moving to cities like Nottingham, Coventry and Brighton – with the most common reason being to start university.[21] However, many young Londoners will return home after graduating – separate research suggests that between half and two-thirds of these students move back to London after university.[22]

20 Note that internal migration data by local authority is only available for the 2012-2022 period.
21 P Swinney & A Carter, London population: Why so many people leave the UK's capital, BBC News, March 2019.
22 ONS, Geographical mobility of young people across English towns and cities, March 2024.

FIGURE 8: **The urban-rural age divide is growing because people move to cities at young ages and then move out as they age**

Internal net migration rate by single year of age by classification: England and Wales, 2012-2022 average



NOTES: Core cities outside London in England & Wales include Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham, Sheffield and Cardiff.
SOURCE: RF analysis of ONS, Internal migration statistics.

Finally, while internal migration reshuffles the existing population, international migration brings in new residents – especially to cities – and so also plays a role in shaping the country's geographic age divides. (Though we should note that there are many more internal moves than there are international moves: for example, around seven times as many people aged 18-24 move into 'core' cities from elsewhere in the UK than from abroad each year).[23]

As Figure 8 shows, international migration patterns between 2002-2023 have been dominated by young people aged 19-30, many of whom move to London and other 'core' cities.[24] Universities are a key driver of this: London alone is home to around one-third of the international student population; Manchester and Birmingham are the local authorities with the highest international student populations in England; and half of the Welsh international student population reside in Cardiff.[25] But universities aren't the only determining factor. London is particularly successful at attracting and retaining international migrants well into their mid-to-late 20s. On average, 22,000 more people

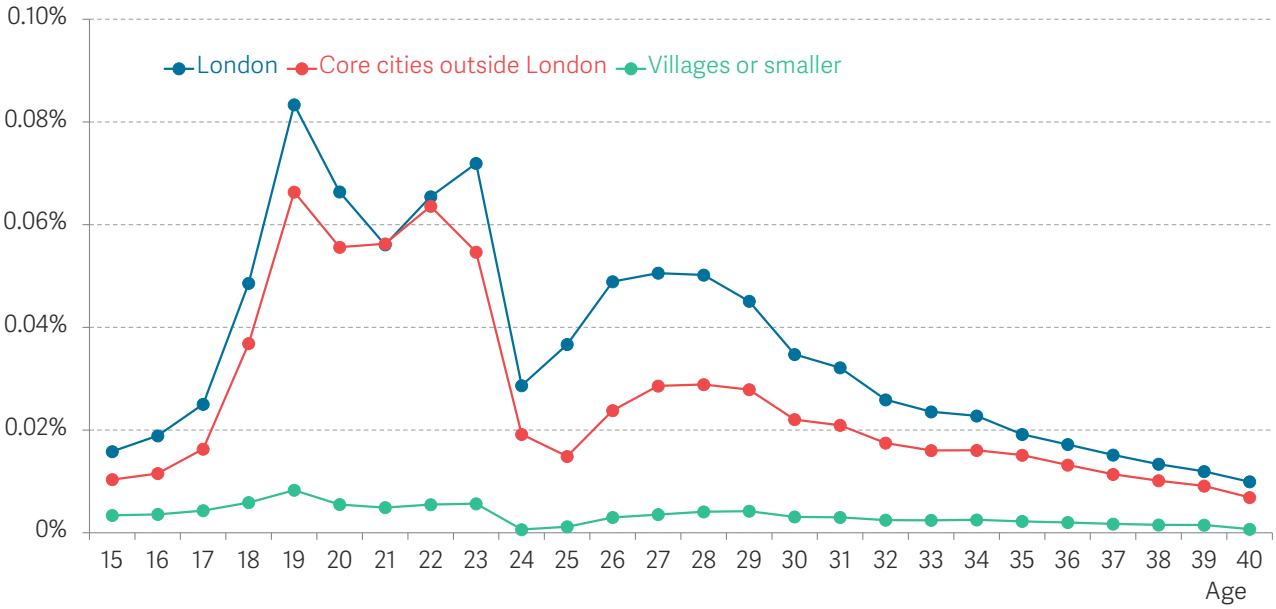
23 Comparing annual moves within the UK 2012-2022 and annual moves from abroad 2002-2023. Source: RF analysis of ONS, Internal migration statistics; ONS, Mid-Year Population Estimates.
24 The steep drop in the number of international in-migrants compared to out-migrants at age 25 likely reflects that international students can obtain a two-year VISA post-study, after which point may will leave the country.
25 S Noble & B Fitch, The international student population in England and Wales: Census 2021, ONS, April 2023.

aged 25-30 move to London from abroad than leave each year, compared to just 8,000 across all other core cities combined.

By contrast, villages or other smaller areas see almost no international migration gains at any age, reinforcing the fact that international migrants overwhelmingly favour cities, where job prospects and universities are most concentrated.

FIGURE 9: **Young international migrants move to London and other core cities**

International net migration rate by single year of age by classification: England and Wales, 2002-2023 average



NOTES: Core cities outside London in England & Wales include Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham, Sheffield and Cardiff.
SOURCE: RF analysis of ONS, Mid-year population estimates.

Fewer births and in-migration have aged villages, while internal and external migrants have kept cities young

Next, we turn to the crux of our analysis that uses an accounting technique to identify the contribution to population aging in each local authority (measured here using the mean age) of the four demographic drivers discussed above.[26] This method is described in Box 1.

26 Unless otherwise stated, the analysis throughout this section refers to the average annual change in mean age over the 2001-23 period.

BOX 1: The Preston, Himes and Eggers (PHE) decomposition method

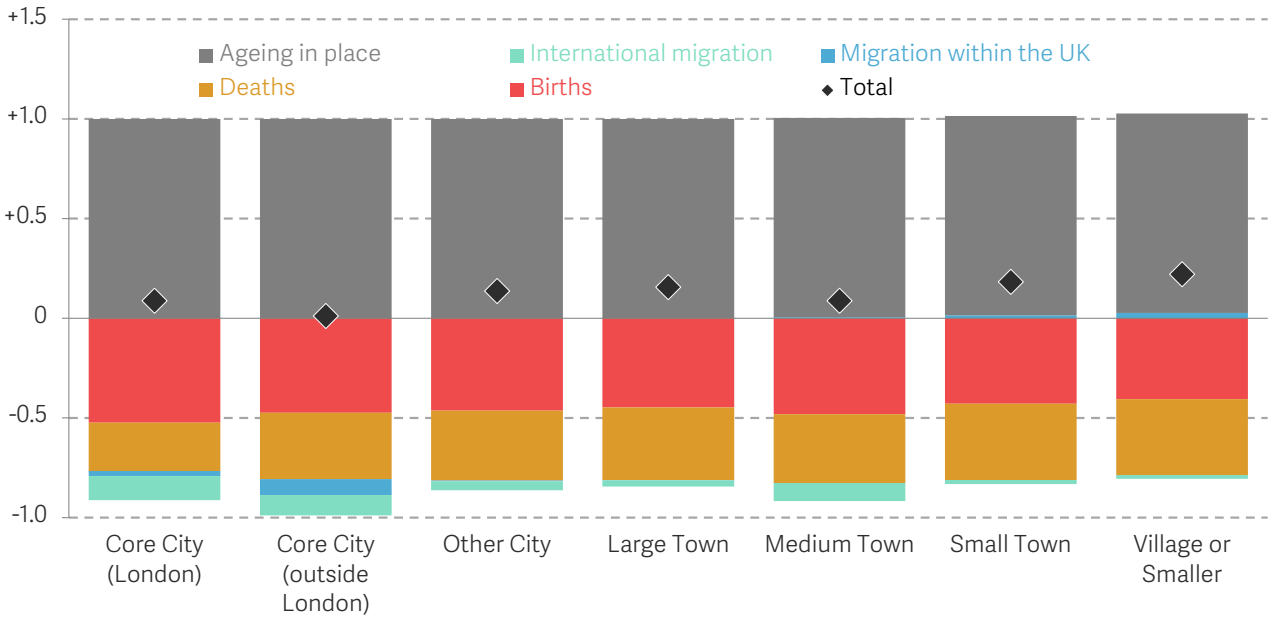
The decomposition approach relies on the fact that population change over time can be expressed in terms of aging, births, deaths, and migration.[27] In particular, in a scenario where there were no births, deaths or migration, then all parts of the country would age at the same rate, and the average age would rise by one year in every year. Both births and (unless people on average die younger than the average age of the population) deaths push against this trend. In-migrants will push against the trend if their mean age is below the mean age of the population, and out-migrants also push against ageing if their ages are older than the mean age of the population (with the opposite happening for the source and destination areas, respectively). [28]

Figure 10 presents the results of our decomposition for cities, towns and villages, showing the contribution made by each demographic component to the annual change in average age over the 2002-2023 period. The black diamonds show the average annual change in the mean age (for example, London has aged by 0.1 years, on average, each year between 2001 and 2023, meaning that the capital has aged by around 2 years since 2001, (a figure which broadly matches the analysis set out earlier in this briefing note that was based on median ages), and the coloured rectangles show the contribution of the different factors.

27 S Preston, C Himes & M Eggers, Demographic Conditions Responsible for Population Aging, Demography 26(691), 1989.
28 For a full discussion of the PHE decomposition method, see Box 8 in C McCurdy, Ageing, fast and slow: When place and demography collide, Resolution Foundation, October 2024.

FIGURE 10: **Decomposing the change in average ages reveals that births play the largest role in offsetting ageing**

Decomposition of annual change in average age by area type: 2001-2023 average



NOTES: The chart uses a method of decomposition that relies on simple accounting to show the contribution that each component of population change makes to the rate of population ageing (measured by the change in the mean age). Core cities outside London in England & Wales include Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham, Sheffield and Cardiff.
SOURCE: RF analysis of ONS, Mid-year population estimates.

As described in Box 1, "ageing" by definition adds one year to the mean age in all areas. In broad terms, we can see that births and deaths exert the largest downward pressure on ageing across all areas, counteracting the effect of people ageing in the place that they live. The fact that the UK has experienced positive net migration, and that international in-migrants tend to be relatively young, means that international migrants – on average – reduce average ages across the country, particularly in cities. Internal migration, on the other hand, cannot affect the mean age of the country, but only redistributes people from some areas to others. Figure 10 shows that internal migration is acting to lower average ages in core cities and increasing it in small towns and villages.

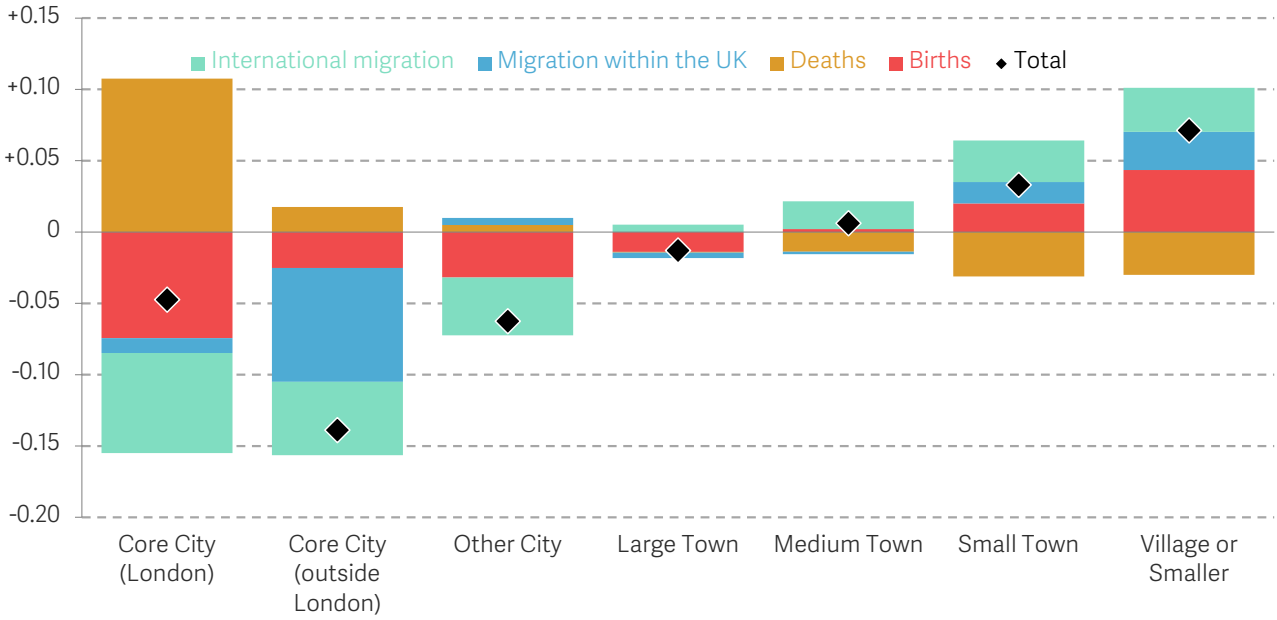
We can get a clearer picture of the relative weight of each demographic component if we subtract the results of the decomposition for each area type from the England and Wales average, as shown in Figure 11.[29] For example, this clearly shows that births (or rather the lack of them) are an important contributor to the ageing of villages over the past two

29 Here we use the simple arithmetic mean for England and Wales as our comparison because otherwise the national figure for internal migration would be zero (given that in a closed migration system the number of internal in-migrants is equal to the number of internal out-migrants).

decades: this is because the birth rate of villages at 9.5 births per 1,000 people is 19 per cent lower than the England and Wales average (11.7 per 1,000 people). Similarly, the fact that there is very little international migration to villages (as shown in Figure 9) is also pushing up the average age there compared to the national average.[30]

FIGURE 11: **Compared to the England and Wales average, lower birth and in-migration rates have sped up ageing in the fastest-ageing areas**

Decomposition of annual change in average age by area type, relative to England and Wales average: 2001-2023 average



NOTES: The chart uses a method of decomposition that relies on simple accounting to show the contribution that each component of population change makes to the rate of population ageing (measured by the change in the mean age). Core cities outside London in England & Wales include Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham, Sheffield and Cardiff.
SOURCE: RF analysis of ONS, Mid-year population estimates.

For core cities outside of London, migration within the UK is the component with the largest impact on their differential aging. As we showed earlier, the main driver of this outcome is the age at which people move into these cities. Over the last 22 years, the average age of someone moving into a core city has been 26.4, which is 10.4 years lower than the average age in these cities – compared to a gap of 8.6 years across England and Wales.

Given the younger age profile of internal migrants (as shown earlier in Figure 8), this result will be heavily influenced by the expansion of higher education. Domestic students studying in core cities make up around one-in-four higher education student enrolments

30 In principle there could also be an impact on age structures if those international migrants to villages were differently aged from those elsewhere. In fact, there are similar average age gaps between international in-migrants (29.6 years) and out-migrants (31.7 years) and the average age of the population in the villages (43 years) as seen across England and Wales as a whole.

nationwide.[31] Over the past eight years alone, domestic student enrolments have surged in these cities, with Nottingham Trent (up by 44 per cent), the University of Bristol (34 per cent), the University of Liverpool (36 per cent) and Liverpool John Moores University (34 per cent) all seeing growth more than double the national average (16 per cent). Since students tend to be more geographically mobile, the growing rates of young people participating in higher education is playing an important role in the country's demographic divergence.

Interestingly, though London has long been a magnet for students and young workers, internal migration does less to keep London young than it does in other core cities. This is because the average age of in-migrants in London (29.2 years) is considerably older than in other core cities (26.4 years). Indeed, Figure 11 highlights how London's story of ageing differs from other core cities. The capital stands out for its low rate of deaths of 6.2 per 1,000 people, compared to the England and Wales average of 9.3 per 1,000 people – which reflects that just 12 per cent of Londoners are aged 65 and above, compared to 17 per cent nationally (and 14 per cent in other core cities).[32] On the other hand, London's higher birth rate brings down its average age; the birth rate in London stands at 14.6 per 1,000 compared to 11.7 per 1,000 across England and Wales. Additionally, London has a high rate of net international migration, compared to England and Wales overall, and this has a large downward effect on the average age in the capital.[33]

The analysis above covered the 22-year period between 2001-2023, but as we discussed at the outset of this note recent demographic trends – including falling birth rates since 2010 and shifts in the amount and type of migration post-Brexit – may have shifted this picture. To capture these changes, it is helpful to focus the decomposition on the period since 2010.

If we do this then, in headline terms, the story remains the same: spatial differences in ageing are largely driven by births combined with the movements of young migrants from within the UK and abroad. But there have been some more subtle shifts over the last decade that suggest recent national demographic trends aren't yet redrawing the map of ageing, but they may be finetuning its contours.

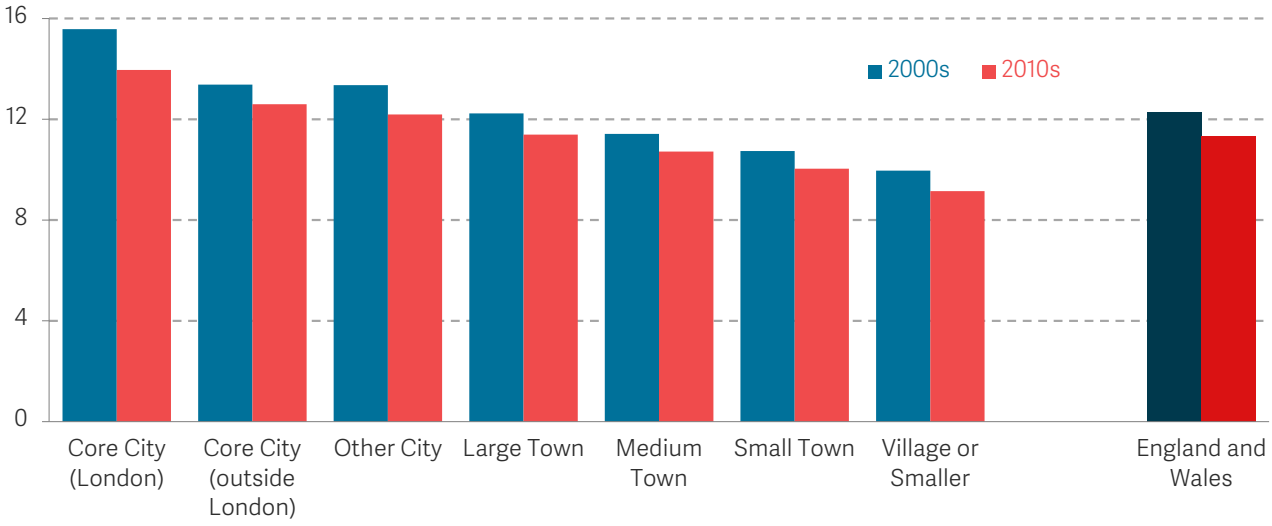
Two important changes stand out. First, the contribution of births to 'de-ageing' has fallen particularly steeply in London. As Figure 12 shows, the birth rate in the capital fell from 16 per 1,000 people in the 2000s to 14 per 1,000 people in the 2010s, compared to

31 HESA, HE student enrolments by HE provider 2014/15 to 2022/23, August 2024.
32 This low rate of deaths explains why deaths pull up the average rate of ageing in the capital compared to the England and Wales average.
33 Over the 2002-2023 period, the average international in-migration rate across England and Wales was 11.5 per 1,000 population a year, compared to 28 per 1,000 in London.

a more muted fall across England and Wales as a whole (from 12 to 11 per 1,000).[34] The contribution of births to the change in the mean age in London has fallen by around 0.05 years annually between the 2000s and 2010s, which effectively means that a lack of births has increased the mean age by approximately half a year over this period as a whole. This implies that London's ageing (of roughly two years) over the 2010s is mostly explained by its existing population getting older – something which is referred to in the field of demographics as 'ageing in place'.

FIGURE 12: **In the 2010s the birth rate fell most steeply in London**

Average birth rate by area type: England and Wales, 2000s and 2010s average



NOTES: Core cities outside London in England & Wales include Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham, Sheffield and Cardiff.
SOURCE: RF analysis of ONS, Mid-year population estimates.

Second, the role of international migration has shifted subtly in recent years. As international migration has boomed in the post-Brexit era, there are signs that young international migrants, particularly those in their mid-to-late 20s, are now more evenly distributed between London and other core cities.[35] Historically, this age group of international migrants has tended to favour London (as Figure 8 showed), but this appears to be changing. Over the past five years, core cities have gained an additional 15,000 international migrants aged 25-30 each year, compared to 22,000 in London – and this gap has halved compared to the first 15 years of the 21st century. This suggests that the post-Brexit migration system may have shifted the patterns of internationa migration, leading to a more even distribution between London and other core cities.[36]

34 As separate analysis highlights, births in London have been falling since a peak in 2012, with this fall considerably steeper than the national average in Inner London. Greater London Authority, London's population of young children – current and future, July 2024.
35 P Bolton, J Lewis & M Gower, International students in UK higher education, House of Commons Library, September 2024.
36 This may also reflect that the boom in students we can observe at a national level has been driven by post-graduate students, who are typically older. See: M V Cuibus & P W Walsh, Student Migration to the UK, The Migration Observatory, January 2024; C McCurdy, The nature of the post-Brexit migration change is different to what many expected, Resolution Foundation, May 2023.

Falling birth rates have implications for the country's schools

So far in this note, we have shown that population ageing has not happened equally across the country. Older rural places have aged fastest, while younger urban areas have aged more slowly. These spatial differences in ageing are largely driven by births combined with the movements of young migrants from within the UK and abroad. In our introduction, we stated that this demographic divergence matters for politics and public services writ large, but in what follows we focus on the implications for essential public services, principally schools and social care for the elderly.

As we have shown, low birth rates help explain why some areas have aged rapidly, while relatively high birth rates have kept other areas younger. But nationally, birth rates have plummeted since 2010, and declines have been especially high in parts of inner London.[37] It is this more recent baby bust that will have consequences for the country's schools. Across England, falling birth rates already mean that fewer children are entering the school system – state-funded primary pupil numbers have dropped by 1.5 per cent since 2016-17, a fall of around 70,000 pupils.[38]

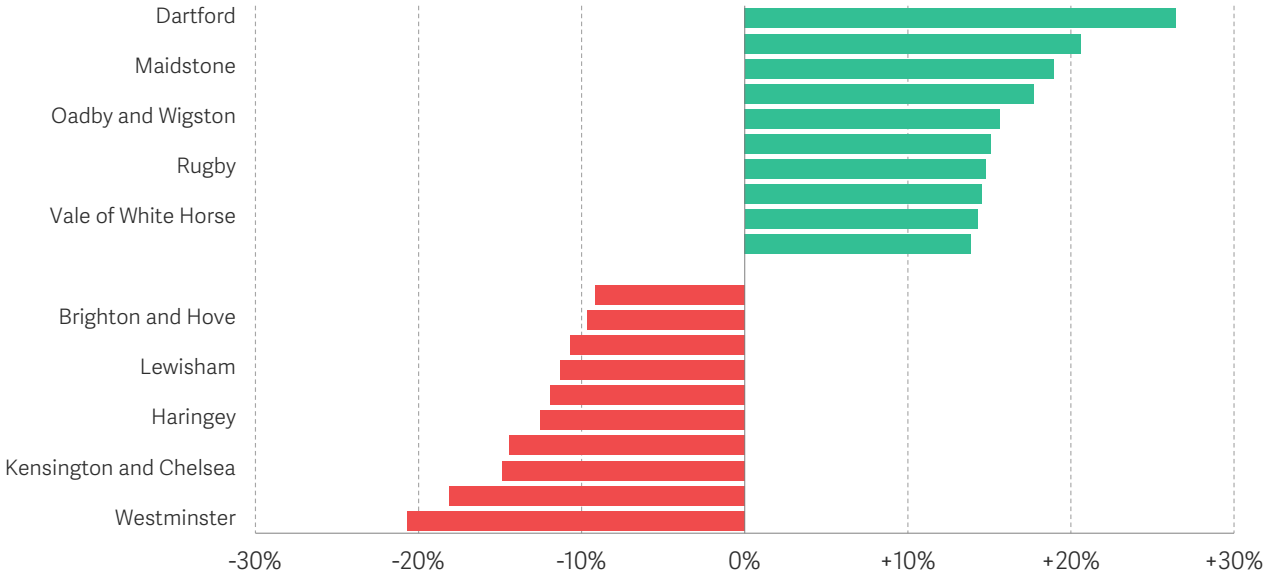
The process of adapting to changing pupil numbers can be disruptive for schools and local authorities. As Figure 13 shows, some areas have continued to see big increases in the number of primary school-age children (5-11) while others have seen particularly large falls. Dartford, for example, which has experienced an exceptional population boom in recent years, has seen its population aged 5-11 increase by one-quarter (26 per cent). In contrast, Westminster and Lambeth have each seen their population aged 5-11 fall by around one-fifth (21 per cent and 18 per cent respectively). This latter trend is particularly problematic given that school funding is heavily tied to rising pupil numbers, but costs – like building new schools or teachers' salaries – are relatively fixed. This challenge of falling pupil numbers is also problematic because the decline in primary school-age children has tended to be concentrated in neighbouring local authorities: nine of the ten areas with the sharpest decline are in inner London, for example.[39] This offers little scope for local authorities with falling pupil numbers to take on pupils from adjacent areas.

In principle, this decline in pupil numbers could ease spending pressures – if there are fewer pupils to educate then we might not need as many teachers or supplies, for example.[40] However, in practice, if demand for schooling continues to grow unevenly, this may prove even more costly for the state if school provision has to expand quickly in fast-growing areas, but can't shut down quickly enough in places where pupil numbers are falling.

37 ONS, Births in England and Wales: 2023, October 2024.
38 M Scott & L Tungate, What happens when pupil numbers fall?, National Foundation for Educational Research, September 2024.
39 It's no surprise, then, that London councils are at the centre of this current crisis: Hackney Council has already announced the permanent closure of four primary schools, while Southwark has earmarked at least 16 schools at risk. A Elgueta, More school closures predicted in London, BBC News, January 2024; Hackney Council, Proposed changes to Hackney primary schools, September 2024.
40 L Sibieta, School spending in England: a guide to the debate during the 2024 general election, Institute for Fiscal Studies, June 2024.

FIGURE 13: **The challenge of falling pupil numbers is particularly acute in inner London**

Change in population aged 5-11, by local authority: GB, 2016-2023



NOTES: Showing the 20 local authorities with the biggest positive and negative changes in 5-11 population.
SOURCE: RF analysis of ONS, Mid-year population estimates.

Adult social care services aren't being rationed in the oldest areas

The unequal geography of ageing also has implications for social care. Most obviously, old places are more likely to need more adult social care services to support older people.

While the link between old age and greater health and social care requirements is not set in stone, adults aged 65 and above made up 69 per cent of requests for adult social care in England between 2001-2022.[41] It's reasonable, therefore, to expect that local authorities with particularly old populations will be processing a large number of social care requests. This is likely to be the case in places like North Norfolk and Rother, where one-third of the population are aged 65 and above (34 and 33 per cent, respectively) and one-in-six (17 per cent in each) are aged 75 and above.

On top of this, we know that, nationally, there is a growing mountain of social care requests that aren't resulting in a service or referral to another service such as the NHS. Unsurprisingly, this substantial amount of unmet demand for social care services is particularly evident in some parts of the country (as the vertical axis in the left-hand panel of Figure 14 shows). In Gloucestershire, for example, seven-in-ten of those aged 65 and older don't receive the support they request, with Knowsley not far behind at six-in-

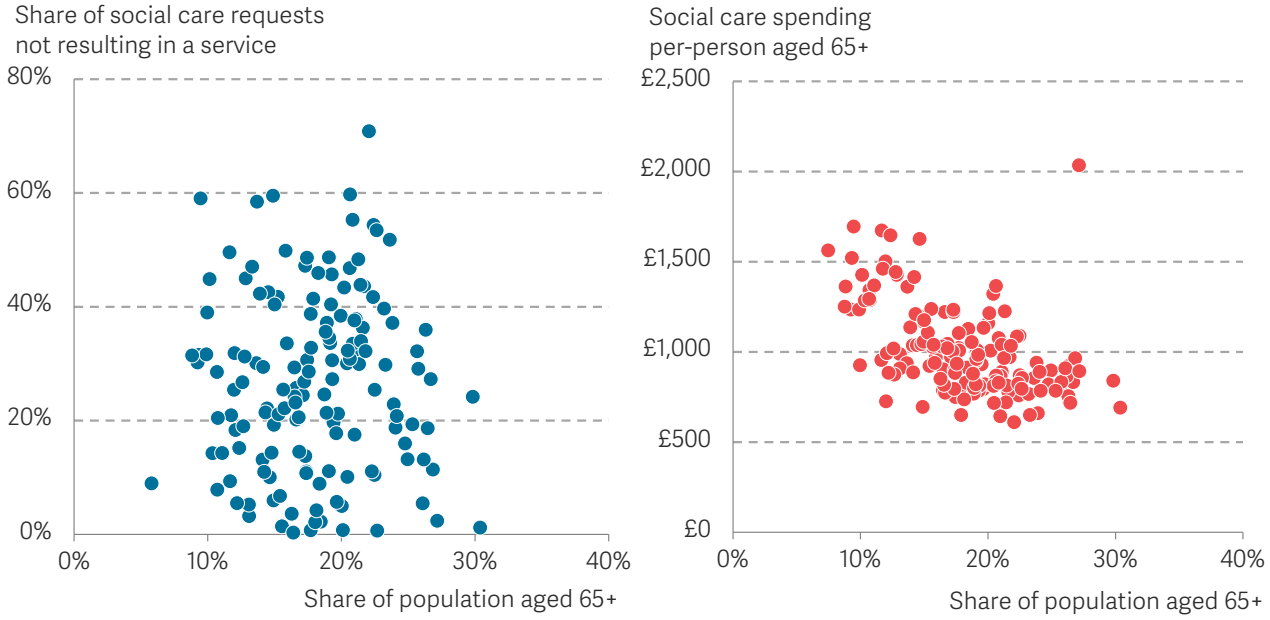
41 NHS, Adult Social Care Activity and Finance Report, England, 2021-22, October 2022.

ten. More positively, however, the left-hand panel of Figure 14 shows that local authorities don't appear to be rationing their social care services in some of the oldest areas – places like Dorset and the East Riding of Yorkshire.[42] Put another way, there isn't a clear relationship between the share of the local population aged 65 and above and how many people apply for adult social care but don't get it.

However, there is evidence that social care spending on older adults isn't evenly distributed across the country after accounting for age.[43] As the right-hand panel of Figure 14 shows, the youngest parts of the country have the highest adult social care spending per person aged 65 and above. If spending were equally distributed across areas according to age, the data points in the chart would fall along a horizontal line, as each area would have the same per-person spending, regardless of its share of older residents. Overall, then, while older local authorities don't seem to rationing social care requests more than other areas, they do seem to be rationing social care spending.[44]

FIGURE 14: **Local authorities aren't rationing their social care services in the oldest areas**

Proportion of the population aged 65 and above, compared to the proportion of social care requests not resulting in a service (left panel) and social care spending per person aged 65 and above (right panel): England, 2023 and 2022-23



SOURCE: RF analysis of NHS, Adult Social Care Statistics in England; ONS, mid-year population estimates.

42 NHS England local authority coding doesn't precisely match ONS mid-year population estimates.
43 G Stevenson et al., Social care funding: Three key questions about funding in England, The Health Foundation, September 2024.
44 It's important to acknowledge that adult social care spending stems from a variety of sources – and these sources reflect more than just demographics. Central government grants are intended to adjust for population ageing via the social care funding formula. However, councils' social care spending power is also determined by councils' ability to raise revenue locally, such as through Council Tax (in particular, via the social care precept). But there is evidence that an area's ability to raise revenue locally isn't related to that area's need for adult social care services: less-deprived areas are often better-placed to finance adult social care, despite their lower levels of need, for example. See: D Foster, Funding for adult social care in England, House of Commons, February 2024.

Demographic divergence will continue to have implications for local areas and public services

The big-picture story is that the country has grown apart by age over the 21st century – leaving us with stark age gaps between places. This demographic divergence is expected to continue: coastal and rural areas are projected to continue ageing quickly, as younger people move towards cities and keep them relatively young.[45]

We have shown that national demographic trends – including the post-Brexit migration regime and plummeting birth rates – have subtly reshaped the country's map of ageing. But these demographic shifts also have important implications for key public services. Most obviously, a falling birth rate creates challenges for the country's schools – with the number of primary school-age children having already fallen sharply in inner London. In principle, this decline in pupil numbers could ease state spending pressures. But in practice, the uneven rates of change across areas mean that costs may rise if school services can't adapt quickly enough to changing pupil numbers. Meanwhile, older places and fast-ageing areas will likely see the demand for adult social care services to support older age groups continue to grow. Encouragingly, there is no evidence that local authorities are rationing their social care services in the oldest places.

Ultimately, how these demographic trends shake out at a local level will have profound implications for public services for many years to come. As the country continues to age and the demographic effects of Brexit become still clearer, it will become even more important to consider the geographic implications of population ageing.

45 C Whitty, Chief Medical Officer's annual report 2023: health in an ageing society, Department of Health and Social Care, November 2023.

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