**Who still dies young in a rich city? Revisiting the case of Oxford**

**Authors:**

Nicola Brimblecombe (corresponding author)
Care Policy and Evaluation Centre, London School of Economics and Political
Science, Houghton Street, London, WC2A 2AE, UK. n.s.brimblecombe@lse.ac.uk
0207 955 6376

ORCID iD: https://orcid.org/0000-0002-6147-5726


Danny Dorling
School of Geography and the Environment, University of Oxford, Oxford, OX1
2DLUK.
danny.dorling@ouce.ox.ac.uk

Mark Green
Department of Geography & Planning, University of Liverpool, Liverpool, L69 7ZT,
UK
mark.green@liverpool.ac.uk

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**ABSTRACT**

There are substantial inequalities in mortality and life expectancy in England, strongly linked to levels of deprivation. Mortality rates among those who are homeless are particularly high. Using the city of Oxford (UK) as a case study, we investigate ward-level premature mortality rates for several 3- and 5-year periods between 2002-2016 and explore the extent to which the mortality of people who become homeless contributed to any rise or fall in geographical inequalities during this period. Age-Sex Standardised Mortality Ratios (SMRs) for people aged under 65-years old, with and without deaths among the homeless population, were calculated using Office for National Statistics Deaths Registrations data for England and Wales 2002-2016. Individuals who were homeless or vulnerably housed were identified using records supplied by a local Oxford homeless charity. We found that in an increasingly wealthy, and healthy, city there were persistent ward-level inequalities in mortality, which the city-wide decrease in premature mortality over the period masked. Premature deaths among homeless people in Oxford became an increasingly important contributor to the overall geographical inequalities in health in this city. In the ward with the highest SMR, deaths among the homeless population accounted for 73% of all premature deaths of residents over the whole period; in 2014-16 this proportion rose to 88%. Homelessness among men (the vast majority of the known homeless population) in this gentrifying English city, rose to become the key explanation of geographical mortality patterns in deaths before age 65 across the entire city, particularly after 2011. Oxford reflects a broader pattern now found in many places across England of increasing homeless deaths, widening geographical

inequalities in life expectancy, and sharp increases in all-age SMRs. The answer to the question, 'Who dies young in a rich, and in fact an even richer, place?' is – increasingly – the homeless.

**KEYWORDS**

UK; health-geography; inequality; mortality; homeless; Oxford.

## 1. INTRODUCTION

There are substantial inequalities in mortality and life expectancy in England, strongly linked to levels of deprivation (Kleinow *et al.*, 2019). This is seen at a regional level, but also at much smaller scales, such as between and within wards[1] (Shaw *et al.*, 2008). Mortality rates among homeless people are particularly high.

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[1] 'Wards in the United Kingdom are electoral districts at sub-national level used to elect local government representatives. In 2016 there were 8,297 electoral; wards in England and Wales with mean population by ward of 7,036 (ONS, 2016)

The Office for National Statistics (ONS) reported that there were an estimated 597 deaths of homeless people in England and Wales in 2017 (ONS, 2018a), a figure that has continued to rise since 2013 following decades of decline. In October 2019, ONS reported that 726 homeless people had died in 2018, a rise of 22% in one year. This represents the biggest increase in one year (since these records began in 2013) to the highest mortality levels and rates recorded from homelessness in England and Wales (ONS, 2019a). As ONS acknowledges, these figures are likely to be underestimates. Other research has also found higher mortality rates among the homeless in the UK (e.g. Thomas, 2012; McMillan *et al.*, 2015; Aldridge *et al.*, 2019).

Two decades ago, in 1999, as part of broader analyses of the reasons behind the increase in geographical health inequalities in Britain in the 1980s and 1990s, we investigated local case studies of which Oxford was one (Brimblecombe *et al.*, 1999). Using an apparently affluent city as a case study, we found that although Oxford had a slightly lower SMR[2] overall, as compared to the average for England and Wales, this disguised significant ward-level variation. Higher mortality rates were associated with pockets of deprivation within Oxford. In particular, SMRs were highest among those who had lived in hostels for the homeless within the last six months prior to their death, or lived in very poor quality privately rented housing.

In the last twenty years there has been significant change in Oxford, as indeed there has been nationally. There has been rapid population growth, an increase in

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[2] SMR (Standardised mortality ratio) is the ratio of the number of people who were observed to have died in a particular area to the number that would have been expected to die given the age and sex distribution of the area based on the national level age-specific mortality rates. We used the indirect version of the measure which calculates a ratio where 100 is a SMR equivalent to the national average (i.e. observed mortality was no different to what would be expected), SMRs over 100 represent excess deaths in an area, and SMRs lower than 100 represent fewer deaths than expected. The value can be interpreted as a percentage through taking away 100 from it; 120 means 20% greater deaths than expected.

international immigration and an increase in the ethnic diversity in the city (Oxford City Council, 2017). Over the last two decades, Oxford, like many other cities, has become richer in some respects, but poorer in others, with growing inequalities. For example, while Oxford has one of the highest proportions of population with a degree-level qualification in the UK, one in five adults have no or low educational qualifications.

British society has become more atomised over the course of the last twenty years. For instance, mainly because so many children in Oxford are now privately educated, educational attainment in Oxford's state schools is now well below the England average (Oxford City Council, 2017). Some neighbourhoods in Oxford are now amongst the 20% most deprived in England and a quarter of children in the city live below the poverty line; and in some neighbourhoods of Oxford this proportion is nearly half (Oxford City Council, 2017). These neighbourhoods are located within a very short proximity of very affluent ones resulting in dramatic contrasts in the life chances afforded to children now found street-by-street.

In 2015, Oxford city had an Index of Multiple Deprivation (IMD) Score of 17.9, which was lower than the score for England overall (21.8), although not that much lower and, given Oxford's reputation for privilege and wealth, not as low as might be expected. This overall index masked significant inequality within the city which government official measures revealed to have a ward-level range in IMD score from 6.8 to 38.1. Extensive cuts to local authority budgets have hit Oxfordshire (and especially its largest city, Oxford) as elsewhere in England, resulting in reduced

provision in social care, housing and mental health services, at a time of rising need (Burchardt *et al.*, 2016; Institute of Fiscal Studies, 2017a).

Owner-occupation in Oxford has been declining as has social renting. Inevitably this has meant an increase in private renting: in 1991 16% of households in the city were renting from the private sector (OSP 2015); by 2011 this was 30%, the highest proportion of any large English city (Oxford City Council, 2017). A fifth of the city's population live in houses of multiple occupation. House prices in Oxford are increasingly unaffordable, particularly in relation to the city's mean earnings. In recent years Oxford became the least affordable of any city in England, surpassing even London (Dorling, 2014; Lloyds, 2019). Rents are similarly unaffordable, the third most unaffordable of any city in England (Oxford City Council, 2017). This has contributed to staff shortages in many sectors, in particular in health and social care – one of the city's main employers (BBC, 2017).

Homelessness and rough sleeping have increased both in Oxford and nationally, with Oxford having one of the highest homeless rates per head of population, and one of the highest recent increases (Ministry of Housing, Communities and Local Government, 2017). Many of the people who have died while homeless in Oxford in recent years had grown up in the city and went to school in Oxford as children (Booth, 2019).  Over the last few years, several homeless hostels in the city have had capacity cut or have been closed entirely (Oxford Mail, 2016). However, despite rising numbers in vulnerable and precarious housing situations and/or homeless, we know little about mortality among this vulnerable population, about how many of those who die lived and were brought up locally as a proportion of all those who die,

nor how deaths of those who are homeless or very precariously housed might contribute to increases in local geographical inequalities in life expectancy (LE) and healthy life expectancy (HLE) seen in England (ONS, 2018b).

Given the changes in Oxford and nationally since our original research, and the rise in homelessness, this paper aims to revisit the question of who dies young in a rich city, and consider what implications this has for the widening local-area health inequalities. In particular it aims to replicate our 1999 analysis by investigating again mortality at ward-level in Oxford, but now from 2002 to 2016, and to explore the extent to which mortality of the homeless and vulnerably-housed population contributes to any inequalities seen. Because official individual level data are not yet available for those years, the analysis below excludes the more recent years of 2017, 2018 and 2019 - the period that saw the biggest increases in mortality among homeless people in both Oxford and across all of England.

## 1. METHODS

In looking at ward-level inequalities in health, we used 2011 Census wards. We are investigating patterns at the ward-level to enable comparison with our earlier findings, as well as to use areas that are large enough to contain enough deaths to produce stable estimates. The health measures used here are mortality rates, presented as Age-Sex Standardised Mortality Ratios (SMR) for deaths for under 65-year olds. Deaths of under 65-year olds are considered premature and largely preventable. We used Deaths Registration data collected by the ONS to calculate ward level SMRs (ONS, 2019b). It is a legal duty to register all deaths in the UK and a database containing a list of all deaths is collected for the ONS. With special

permission researchers can analyse this dataset as long as anonymity is preserved and strict disclosure rules are followed. The dataset includes the age at which an individual died, sex, cause of death and the postcode of their last known residence. Using this comprehensive database of all deaths, we selected those deaths under 65 years for Oxford. SMRs were then calculated for wards using indirect standardisation by 5-year age bands and sex. While SMRs were calculated for each ward for 3-year time periods overall and 5-year periods by sex, the standard population figure was calculated for England and Wales for the entire period to allow SMRs be comparable over time. As such, a value of 100 is the average for England and Wales for all of 2002-2016.

To ascertain which of the deaths were of the homeless population, we employed a number of processes. Firstly, discussion with local informants/homeless charity groups in Oxford gave us information on which postcodes were usually assigned to people with no fixed abode, which were postcodes of current or historical homeless hostels, and which were postcodes for precarious, vulnerable and/or first stage housing for people who were recently homeless. Secondly, we followed ONS methods (ONS, 2018a) for including deaths in hospital where the recorded postcode of the place of residence was identical to the postcode of the place of death. Before including them in the homeless death count, we looked at age of death and other demographic characteristics to ensure we were not including people who had had a long hospital stay and/or had not ever lived elsewhere (for example were babies). Finally, we used information from coroner's reports where available in the Death Registration data. These processes allowed us to identify mortality records that were of homeless adults. We removed these from our measures to estimate SMRs without

these deaths included in calculations. This allowed us to ascertain the extent of geographical inequalities in health in the hypothetical case that these deaths never occurred.

Area deprivation was measured using Index of Multiple Deprivation Scores (2015). This score comprises eight domains of area-level deprivation: income; employment; education; health; crime; barriers to housing and services; and living environment (Department for Communities and Local Government, 2015). Life expectancy and healthy life expectancy data for Oxford wards was obtained from ONS (ONS, 2018c).

Although ward boundaries have been altered since we last studied the distribution of mortality in the city in the late 1990s (introducing the possibility of errors arising from the modifiable areal unit problem; Openshaw, 1984), those alterations make the comparisons over time more, not less, valid. This is because boundaries are altered to ensure that each ward still has a similar number of electors. If this were not done, then the wards would become progressively less representative of the population over time and inequalities could appear to rise as underlying population sizes altered.

## 2.  FINDINGS

### 3.1 Changes in premature mortality in Oxford 2002-2016

Figure 1 shows a map of the wards within Oxford city, a map of 2015 ward-level IMD values, and a map of 2014-2016 ward-level SMRs for under 65-years olds for men and women combined.

FIGURE 1 ABOUT HERE

Table 1 shows the results for Oxford overall and for the two wards that consistently had premature mortality rates above the Oxford and national averages. (The full ward table is provided in the Supporting Information available from the on-line version of the paper.) In 1981-92, the SMR for Oxford for men and women aged under 65 was 96. This was just below the average for England and Wales (100), showing that people living in Oxford had a slightly lower chance of dying prematurely than the national average. By 2002-2004, the SMR for Oxford was 117 (table 1). While this suggests an increase since 1981-92, the higher figure is purely down to standardising for the period 2002-2016 and since mortality rates were higher at the start of the period, the Oxford SMR is larger than the average for England and Wales 2002-2016. Discounting Holywell ward, where there were very few deaths, we observed wide geographical inequalities ranging from a low of less than 50 (St Margaret's ward) to the highest being 216 (Carfax ward). This means that those aged under 65 living in St Margaret's ward were less than half as likely to die prematurely between 2002-04 as compared to their counterparts of the same age and sex in Oxford overall, and less than half as likely as the national average for England and Wales. Those in Carfax ward were just under twice as likely to die prematurely than were those in Oxford overall, and more than twice as likely as the population of England and Wales as a whole. This range, and hence the extent of inequality in premature mortality observed at local area-level, is higher than the period covered by our previous research (1981-92) where the range was 65 to 130 (Brimblecombe *et al.*, 1999). Over time, consistent with an increasingly gentrifying and wealthy city (Osborne, 2014), the SMR for Oxford decreased until in the most recent period for which data were available – 2014-2016 - when it was 79 (mortality

under age 65 being roughly a fifth less common in Oxford than nationally). Even in this period, the least unequal of all the 3-year timeframes we studied, inequalities in mortality were still wider than in 1982-1991 (a range of <40 to 132 in 2014-2016, again discounting Holywell ward).

**3.2 Ward-level changes in mortality 2002-2016, male and female combined 3-year SMRs**

The picture for individual wards was more complex than the above summary reveals. North ward and St Margaret's ward - the most affluent wards in Oxford - consistently had the lowest premature mortality rates in the city. Given that higher premature mortality is associated with higher levels of deprivation, we might expect that the wards in Oxford with the highest SMRs are also those with the highest levels of area deprivation. To some extent this is the case: many of the wards with SMRs consistently above the Oxford average were among the most deprived. However, two wards in particular stand out - Carfax and Headington wards. In all of the 3-year timeframes between 2002 and 2013, Carfax ward had premature mortality rates significantly above the Oxford and national averages (table 1). Carfax ward contained most of the city's homeless hostel beds during this period and the city's homeless medical centre, to the latter of which many no fixed abode addresses were ascribed. In our 1999 paper, the hostels were in the same area in Oxford, but the ward was at that time called South ward. In that paper, using data from 1981-1992, the under 65 SMR for South ward was 130. Twenty years later, the 3-year SMR for the same ward was 216, increasing to 252 by 2005-2007, and gradually decreasing since then (as hostel bed provision did not keep pace with rising need and people who were homeless relocated within the city) to 114 by 2014-2016.  In 2014-2016,

the 3-year SMR for Oxford was also at its lowest, and at 79 was significantly lower than the national average of 100.

TABLE 1 ABOUT HERE

### 3.3 Mortality rates among the homeless population in Oxford

In exploring the higher premature mortality rate seen in Carfax, we looked in detail at deaths among the homeless and recently-homeless and recalculated the SMRs for that ward without those deaths (table 1). Between 2002 and 2016, there were 91 deaths among the homeless or recently-homeless in Carfax ward alone. The vast majority lived in a hostel at the time of their death or had no fixed abode. Recalculating the mortality rates without these deaths, the SMRs for Carfax are much lower; in some periods they fall below the Oxford average, although confidence intervals are wide, reflecting the low number of deaths in Carfax ward that were not attributable to deaths among homeless people (see note 2 below Table 1).

The other ward that stands out over the period is Headington ward which showed an apparent spike in its SMR in 2011-2013 to become the ward with the highest SMR, despite it being a relatively affluent ward.  Headington is where three of Oxford's main, and biggest, hospitals are located, including the city's largest private hospital. Deaths are registered to a hospital in cases where there is no residential address or no known address. This includes those who are homeless and have no fixed abode. In Oxford, this may represent the most destitute who are not accessing either hostels

or any medical care (people who have accessed any medical care at all will have their address registered as one of the city's medical practices even if they are sleeping rough). Recalculating SMRs for Headington excluding homeless deaths also reduces SMRs.

Including deaths attributable to people who were homeless prior to their deaths, just in those two wards alone, there were 122 known deaths among the homeless with a slight peak in 2011-2013. For the city as a whole, homelessness became over these years increasingly important as an explanation for above England and Wales average mortality ratios below age 65.  In 2002-2004, the proportion of the SMR accounted for by people who were homeless in just those two wards was 4.4%, in 2005-07 it was 4.5%, 3.1% in 2008-10, 5.5% in 2011-13, with a small improvement in 2014-16 to 5.0%. Deaths among the homeless population accounted for nearly three-quarters (73%) of all premature deaths in Carfax ward over the period studied. This percentage ranged from 55% in 2008-2010 to 88% in 2014-2016. There were an additional 22 known homeless deaths of people aged under 65 in other wards in Oxford 2002-16, taking the known total to 144, almost certainly an underestimate. Homeless deaths also continued to contribute to local-level inequalities in premature mortality. In every time period except the most recent one, the range in SMR was narrower when deaths among the homeless population were excluded.

Table 2 shows the 5-year SMRs for men only. The picture for men is similar to the pattern for men and women overall. Between 2002 and 2011, the highest SMRs were observed in Carfax ward. SMRs in Carfax ward decreased over time for men but remained significantly above the Oxford and national average. From 2012-2016,

the ward with the highest SMR for men was Headington. Excluding premature deaths of homeless men from the calculations decreased the SMRs in Carfax and Headington wards and narrowed the inequalities in mortality found across the city. However, the proportion of the SMR accounted for by people who were homeless in Carfax and Headington is higher than for men and women combined. This increased over the period from 5.7% in 2002-6, 5.4% in 2007-2011 to 7.6% in 2012-2016 showing that homelessness among men in this gentrifying city rose as an explanation of mortality in the city, particularly after 2011.

TABLE 2 ABOUT HERE

Whilst recalculating SMRs in Headington excluding homeless deaths reduces the under 65 SMRs in that ward, this was by much less than in Carfax, and in 2011-2013 even the recalculated SMRs remain higher than both the Oxford and the national average. However further investigation revealed that this was almost entirely due to a spike in the number of babies who were both born and died in the largest hospital in the ward in that period. During this time, there was a centralisation of services for sick and very premature babies in the region, a process seen nationally in NHS services more generally.

**3.4 Life expectancy and healthy life expectancy**

Differences in life expectancy and healthy life expectancy are another measure of health inequalities. At ward level, the only data currently available are for 2011-15 (LE) and 2009-13 (HLE) (ONS, 2018c). In Oxford, in 2011-2015, LE at birth for men

was lowest in Carfax ward – 73.2 years - and highest in North ward – 90.1 years, a difference of 17 years.  Average age of death over the same period among the homeless in Oxford was 46.8, with many homeless people only in their 20s or 30s when they died.  Whilst not directly comparable, this was more than 30 years lower than the life expectancy at birth for both England (79.4) and Oxford (79.6) in 2011-15. The inequality in HLE was even greater with an HLE of 57.3 years for Carfax ward and 77.3 years in North ward, a difference of 20 years. Whilst we are unable to calculate the LE and HLE excluding the homeless population, it seems more than plausible, given this group's very low average age of death and poor health, that the range and hence the ward-level inequality observed in LE and HLE would be narrower if the homeless population were not now such a significant part of the picture.


## 3.  DISCUSSION AND CONCLUSIONS

### 4.1 Who still dies young in a rich place?

Our study is one of the few recent studies to look at local-level SMRs and LE in detail. In doing so we find that the extent of inequality in premature mortality observed at local area-level in the city of Oxford was higher in 2014-2016 than in the period covered by our previous research, 1981-92. Inequalities in mortality and life expectancy seen in our earlier study related in most cases to deprivation, thus not only persist 20 years later but they appear to have widened. These findings are in spite of the substantial increase in the city's gentrification, and the city-wide premature mortality and its range across wards being at their lowest in 2016.  Such local-level inequalities in health are seen nationally with recent ONS data showing geographical inequalities in life expectancy widening between 2011-2013 and 2014-

2016 (ONS, 2018b). In the 11 years (1981-92) that our previous study covered there were 39 deaths among the homeless in what was then termed South ward. Over an 11-year period twenty years later (2002-2013), there were 77 premature deaths among those people who had become homeless and now resided in the comparable ward. So, who does die young in a rich, and in fact as housing wealth also concentrates over time within Oxford, an even richer place? One part of the answer to that question is still, and now increasingly, the homeless.

The extremely poor health and high mortality among people experiencing homelessness is now a key concern both in Oxford and across the UK. The high death rates seen in Oxford are replicated elsewhere (Hassannally & Asaria, 2018; ONS, 2018a) and there has been a marked nation-wide rise in homelessness (ONS, 2018a; Fitzpatrick *et al.*, 2018). Aldridge and colleagues found that just under a third of the deaths that occur to people when they are homeless in their study were from causes 'amenable to timely and effective health care' (Aldridge *et al.*, 2019, p2). As reported in the British Medical Journal, a recent report by the British Medical Association noted both an almost threefold rise in visits to emergency departments of patients with no fixed address between 2010/11 and 2017/18, and that these patients now presented with increasingly complex physical and mental health conditions (Iacobucci, 2019). Other predominant causes of death among people who are homeless are alcohol and drug dependency (Aldridge *et al.*, 2019). Nationally, alcohol overtook heroin over the period between our two studies as the most prevalent drug of dependency among those experiencing homelessness (Hewett *et al.*, 2012). It is also likely that alcohol and drug dependency as causes of death are

under-reported. Suicide is another main cause of death among this group (Hewett *et al.*, 2012; ONS, 2018a)

Whilst there was still considerable inequality, premature mortality in Carfax ward decreased after 2010 and most notably between 2014 and 2016. There may be both positive and negative reasons for this. During this time Oxford benefited from dedicated specialist homeless medical organisations. Without these types of organisation, deaths and poor health among the homeless may well have been higher. For example, one randomised control trial of specialist hospital homeless care teams found improved quality of life and reduced street homelessness as a result of their interventions (Hewett *et al.*, 2016).  The numbers of hostels in a particular ward also means more concentrated specialist support for homeless people can be found there. On the more negative side, closure of hostels, reduction of hostel beds, the increasing unaffordability of private housing, and the decreasing availability of social housing, may have resulted in increasing dispersal of homeless people throughout the city, or even outside of the city, potentially with less access to services and support. Many homeless people now sleep in tents in Oxford, often hidden away, or without even a tent.

In our study we only had death-record data available until 2016 (as individual data are released far more slowly than national data) and life expectancy data for small areas available only until 2015.  Overall homelessness and deaths among the homeless have increased greatly since then (ONS, 2018a, 2019a). Furthermore, local authority budgets that include provision for support of homeless people have been decreased even further as a result of central government austerity cuts; these

cuts have happened in both Oxford (BBC, 2016) and nationally (Burchardt *et al.*, 2016; Institute of Fiscal Studies, 2017a). To see how this may have affected inequalities in mortality, timely and easily-available local and national data are needed.

We initially set out to answer the research question we had concerning what had changed since publication of our first report two decades ago using publicly-available data. This was not possible. Other recent research on deaths among the homeless (e.g. Aldridge *et al.*, 2019; ONS, 2018a) has also involved intensive methods and having to gain access laboriously to what is now restricted data. In order to understand the picture and respond appropriately, publicly-accessible and up-to-date information is needed with far less complex access requirements. ONS itself, whose recent research has done much to highlight increasing deaths among the homeless, recognise both that its figures are likely to be underestimates and that there is a 'need for high-quality health intelligence to inform local homelessness strategies and the most appropriate provision of services' (ONS, 2018a).

## 4.2 What can be done?

Many premature deaths among people who become homeless are from causes potentially amenable to health care (e.g. Aldridge *et al.*, 2019). Morrison (2009) found that whilst there is an increased prevalence of ill health among people who were homeless, homelessness itself acted as an additional risk factor. Patients with a history of drug misuse, and/or circulatory and respiratory disorders, were at higher risk of dying from their conditions if they were or become homeless (Morrison, 2009). People who are homeless or became homeless may have additional difficulties

accessing medical care (e.g. Wood & Valdez, 1991). There is evidence that specialist health services for this population can make a difference (e.g. Hewett *et al.*, 2016) and such services help overcome some of the barriers homeless people face in accessing primary healthcare. That drug and alcohol misuse are other main causes of death means there is a need for greater availability of drug and alcohol support services. However, these too have been a recent victim of austerity cuts (Drummond, 2017). Local and national government and the alcohol industry also have a responsibility. For example, there is evidence of an association between density of alcohol outlets and admission rates for conditions wholly attributable to alcohol consumption (Maheswaran *et al.*, 2018). Local environments can be modifiable (e.g. rent price changes or planning restrictions) enabling public authorities to tackle these issues as well. Not everyone is powerless.

Housing is a crucial part of what needs to be done to support homeless people, and prevent homelessness from occurring in the first place. There is an increasing crisis in housing in England which has impacted disproportionately on those on the lowest incomes. In the twelve years leading up to the period 2013/15, the rise in the cost of housing for low-income families - who often rent privately - was four times greater than the rise for middle-income families who more often have a mortgage (Institute of Fiscal Studies, 2017b). Of all families with children in the poorest fifth of population, their housing costs rose by a remarkable 47% in the last fifteen years. It is worth noting that the wages of such families have, on average, remained below 2008 levels in real terms and benefits were frozen at certain point so fell in real terms. Wages fell during the great economic recession and still have yet to fully recover across the UK. Housing costs for lower income families are increasingly no longer

covered by the provision of housing benefit. The number of families for whom housing costs are no longer covered by housing benefit has risen by 80% during this period for those in the poorest fifth of the population (Institute of Fiscal Studies, 2017b). Despite rising rents, since 2016 Local Housing Allowance (LHA) (housing benefit for private renters) has been frozen. This freeze is due to last until 2020.

Over the last few years, there has been a marked increase in homelessness and rough sleeping (Ministry of Housing, Communities and Local Government, 2018). Homelessness rates in Oxford have risen far more than in many other areas in the country (Ministry of Housing, Communities and Local Government, 2017). House prices in Oxford are the least affordable of any city in England (Dorling, 2014; Lloyds, 2019) and rental prices are the third most unaffordable (Oxford City Council, 2017). In Oxford, the LHA shortfall is on average more than £100 a month (BBC, 2019). In recent years in Oxford the very lowest quality rented housing, that which used to be available to people who are now homeless, has been quickly and usually cheaply renovated and is now rented out to university students and young professionals at a very high price. Increased access to affordable housing can contribute to preventing people becoming homeless in the first place, as can other housing-related strategies (see, for example, Chambers *et al.,* 2018; Fransham & Dorling, 2018). The 'housing first' model whereby stable housing is arranged as the first priority, and health, substance misuse and other needs addressed subsequently, has also been shown to be effective and potentially cost saving, most successfully of all in Finland where it originated many years ago (Chambers *et al.,* 2018; Fransham & Dorling, 2018).

In England the 2017 Homelessness Reduction Act was intended to bring in new statutory duties for how councils and other public bodies (e.g. prisons, probation services, jobcentres and NHS Trusts) support people who are homeless or are at risk of losing their home. This included duties to refer those seen to be most at risk of homelessness, for example care leavers, people leaving prison or the armed forces, survivors of domestic abuse, and people with mental health issues (Homelessness Reduction Act, 2017).  However, a Local Government Association (LGA) study found that, despite the introduction of the Act, the majority of councils had seen increases in the numbers of homeless people in temporary accommodation (LGA, 2018). The vast majority of councils said welfare reforms had hampered their ability to find affordable homes for the homeless. The Act had not changed the underlying structural issues relating to housing.

There are many risk factors for homelessness. Fazel and colleagues point to a combination of individual and structural factors including poverty, family problems, mental health and substance misuse problems, and availability of low-cost housing (Fazel *et al.*, 2014). Using longitudinal data, Bramley and Fitzpatrick found that there was a combination of risk factors for adult homelessness. These included childhood poverty (by far the biggest contributor statistically); other childhood factors (such as being in care); adult economic situation; and major adult life events such as relatively young age of having children and/or long-term mental; or physical illness or disability. This importance of childhood context for risk of adult homelessness reinforces the case for prevention and early intervention.

Above all, a systems-based rather than individual approach is needed; one that recognises that the causes and therefore the solutions to homelessness lie in multiple domains and at multiple levels. The influential Homelessness and Rough Sleeping Action Group (HARSAG) report for the Scottish Government (Homelessness and Rough Sleeping Action Group (HARSAG), 2018) and the Centre for Homelessness Impact's SHARE framework (Russell & Thomas, 2019), among others, call for action to address the wider risks of homelessness, as well as actions to tackle it when it does occur. The HARSAG report recommends foremost a need to address the greatest risk factor for homelessness – poverty, especially childhood poverty. It also, and not un-relatedly, recommends changes in housing policy and supply, welfare reform, addressing the structural causes of migrant homelessness, and early intervention with at-risk groups. Yet, as the recent 'Evidence and Gap Map' from the Centre for Homelessness Impact shows, it is in some of the more preventative, system-wide interventions where there are the biggest gaps in the evidence base (White & Saran, 2019).

## 4.3 Situating homelessness in Austerity Britain

Nationally Britain has been experiencing a health crisis since 2010. Since 2011 there has been a flattening in improvements in life expectancy in England and Wales (Hiam *et al.*, 2018). LE in England has fallen since then, especially in more deprived areas, and local-area geographical inequalities in LE and HLE have increased (ONS, 2018b). In September 2019, ONS released data showing life expectancy across all of the UK was lower each year 2015-2018 than it had been in 2014 (ONS, 2019c). This was true for both men and women. For women UK wide life expectancy fell from 82.99 years (in 2014) to 82.93 (in 2018) or by 3 weeks overall. For men, it fell from

79.50 years (in 2014) to 79.24 (in 2018) or by 14 weeks overall. These changes are statistically significant (Deville *et al.,* 2016) and social devastating; a sustained fall of this kind has not been seen since World War Two.  No similar fall occurred elsewhere in Europe. Worldwide, in affluent countries, only Japan and the USA saw similar decreases. For Japan, this was in the year of the East Asian tsunami, and due to that tsunami.  The USA is following the same trajectory at the UK (ONS, 2018d). Rates of premature mortality plateaued in the UK between 2010 and 2014, following four decades of falling rates and in 2015 deaths and all-age SMRs increased sharply (Green *et al.*, 2017; Hiam *et al.*, 2017). This rise in mortality has continued and is predicted by ONS to further increase (ONS, 2017).

In early 2017, the following factors were listed by Hiam and colleagues in support of the proposition that austerity is the most likely cause of increasing mortality: the older population particularly relies on a functioning health and social care system, and increase in mortality, especially by 2015 appears to be closely related to the timing of austerity and the resulting health and social care cuts (Hiam *et al.*, 2017). Concerns over the public health consequences of austerity have also been raised by both the British Medical Association (British Medical Association, 2016) and the Royal College of Physicians (Royal College of Physicians, 2016).  The cuts to services for people who find themselves homeless are just a miniscule fraction of the overall cuts that have been made to public services more widely. Vulnerable populations might be more sensitive to changes in funding cuts than other populations, however the structural issues underpinning this disadvantage affects many more.

## 4.4 Concluding remarks

Who dies young in a rich city? Increasingly, homeless and vulnerable populations. While Oxford is merely one place in the UK, its context is not too different from other areas. It tells us a story about how the nature of who live and die in a city has changed rapidly within a fairly short time frame. These changes are happening within broader narratives of austerity and societal change. Without the intervention of organisations giving medical, housing and other support to homeless people in Oxford, the situation would likely have been much worse. There is also a need to address the holistic and systemic underlying causes of homelessness and premature mortality among the homeless for Oxford's current trends not to become its future.

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Figure 1. Oxford city wards, 2015 ward-level Index of Multiple Deprivation (IMD) values, 2014-2016 ward-level Age-Sex Standardised Mortality Ratios (SMRs) for under 65-years olds, men and women combined
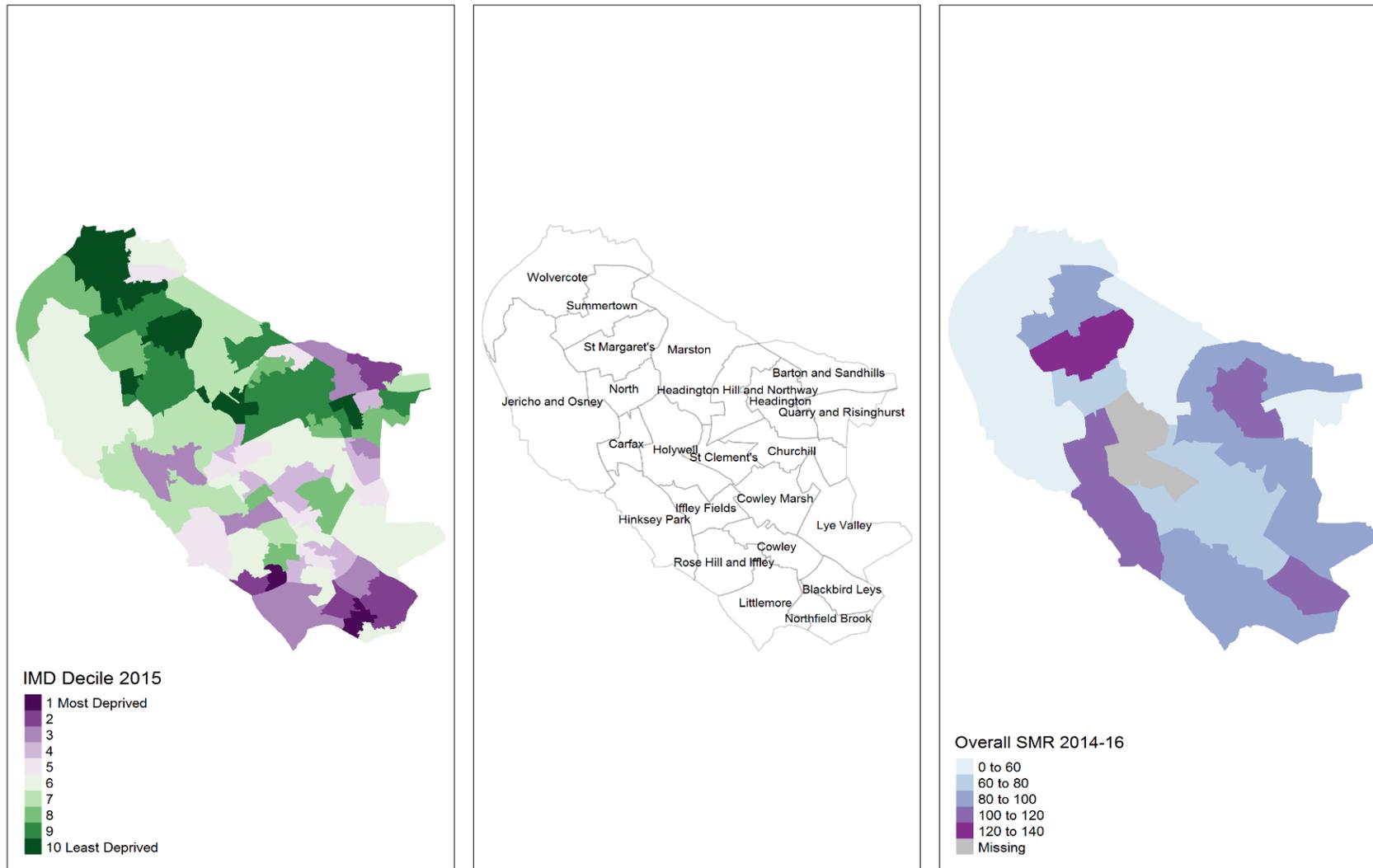


Data citation: Office for National Statistics (2019). *Death Registration in England and Wales, 1993-2016: Secure Access* [data collection] 3rd Edition. UK Data Service. SN: 8200, http://doi.org/10.5255/UKDA-SN-8200-3

Notes: (i) excluding Holywell ward because of low number of deaths in that ward; (ii) overall SMR for Oxford city in 2014-2016 was 79 and for England and Wales was 100.

Table 1. Three-year Standardised Mortality Rates (SMR), deaths aged under 65 in Oxford Local Authority area and selected wards. Men and women combined

| Year | All deaths | | | | | Excluding deaths among the homeless population | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Carfax ward SMR (95% CI) | Headington ward SMR (95% CI) | Oxford SMR (95% CI) | Oxford range[1] | Total deaths (Oxford) | Carfax ward SMR (95% CI) | Headington ward SMR (95% CI) | Oxford SMR (95% CI) | Oxford range[1] | Total deaths (Oxford) |
| 2002-2004 | 216 (133, 300) | 110 (65, 155) | 117 (108-127) | <50-216 (St. Margaret's ward – Carfax ward) | 593 | <60 (<20, <110) | 77 (39, 114) | 112 (103, 121) | <50-195 (St. Margaret's ward – Barton ward) | 567 |
| 2005-2007 | 252 (163, 340) | 83 (45, 121) | 105 (97, 114) | 58-252 (St. Margaret's ward – Carfax ward) | 560 | 81 (31, 131) | 64 (31, 98) | 101 (92, 109) | 58-162 (St. Margaret's ward – Blackbird Leys ward) | 535 |
| 2008-2010 | 197 (123, 271) | 85 (47, 123) | 106 (97, 114) | <50-197 (North ward – Carfax ward) | 584 | 88 (38, 137) | 76 (40, 112) | 103 (94, 111) | <50-183 (North ward – Blackbird Leys ward) | 566 |
| 2011-2013 | 177 (108-246) | 186 (130-243) | 96 (88, 104) | <40-186 (North ward – Headington ward) | 549 | <30 (<0, <50)[2] | 155 (104-207) | 91 (83, 99) | <40-168 (North ward – Blackbird Leys ward) | 519 |
| 2014-2016 | 114 (58, 170) | 104 (62, 145) | 79 (72-86) | <40-132 (St. Margaret's ward – St. Mary's ward) | 460 | <20 (<0, <40)[2] | 65 (32, 97) | 75 (68, 82) | <40-132 (St. Margaret's ward – St. Mary's ward) | 437 |
| Total homeless deaths 2002-2016 | 91 | | 122 | | | | | | | |

Data citation: Office for National Statistics (2019). *Death Registration in England and Wales, 1993-2016: Secure Access* [data collection] *3rd* Edition. UK Data Service. SN: 8200, http://doi.org/10.5255/UKDA-SN-8200-3
1. Excluding Holywell ward because of low number of deaths in that ward
2. SMRs of less than zero are logically impossible but are produced by the equations for estimating confidence limits for mortality ratios that are extremely low.

Table 2. Five-year Standardised Mortality Rates (SMR), deaths aged under 65 in Oxford Local Authority area and selected wards. Men only

| Year | All deaths: men | | | | Excluding deaths among the male homeless population | | | |
|---|---|---|---|---|---|---|---|---|
| | Carfax ward SMR (95% CI) | Headington ward SMR (95% CI) | Oxford SMR (95% CI) | Oxford range[1] | Carfax ward SMR (95% CI) | Headington ward SMR (95% CI) | Oxford SMR (95% CI) | Oxford range[1] |
| 2002-2006 | 242 (163, 321) | 101 (58, 144) | 116 (107, 125) | 57-242 (Lye Valley ward - Carfax ward) | <70 (<25, <100) | 62 (28, 96) | 110 (101, 119) | 57-195 (Lye Valley ward - Blackbird Leys ward) |
| 2007-2011 | 213 (143, 282) | 85 (47, 123) | 104 (95, 112) | <50-213 (North ward - Carfax ward) | 59 (22, 96) | 62 (30, 95) | 98 (90, 106) | <50-174 (North ward – Blackbird Leys ward) |
| 2012-2016 | 156 (97-216) | 188 (131, 245) | 86 (79, 94) | <30-188 (St. Margaret's ward – Carfax ward) | <20 (<0, <30)[2] | 130 (73, 87) | 80 (73, 87) | <30-146 (St. Margaret's ward – Blackbird Leys ward) |

Data citation: Office for National Statistics (2019). *Death Registration in England and Wales, 1993-2016: Secure Access* [data collection] 3rd Edition. UK Data Service. SN: 8200, http://doi.org/10.5255/UKDA-SN-8200-3

1. Excluding Holywell ward because of low number of deaths in that ward
2. SMRs of less than zero are logically impossible but are produced by the equations for estimating confidence limits for mortality ratios that are extremely low.