

The economic cost of health inequalities in England

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Prepared for The Times Health Commission

31 October 2023



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Executive summary

Health inequalities are unfair and avoidable differences in health across the population in England. They are to a large extent driven by individuals' differences in socio-economic circumstances, such as levels of income, employment, education and exposure to crime and are measured by deprivation. High levels of deprivation can have wide-ranging negative effects on individuals and society, of which the most severe impact is avoidable deaths—deaths from health conditions that could have been prevented or treated. In England in 2021, people in the most deprived areas were over four times more likely to die from an avoidable cause than those in the least deprived areas.¹

Avoidable deaths are tragic, and represent a loss not only to the loved ones of those affected, but also to wider society. In economic terms, one way to measure the impact of avoidable deaths is to estimate the loss of output resulting from a person dying prematurely. This lost output is representative of the economic value a person could have contributed during their working life if their life had not ended early.

Progress was made between 2001 and 2012 in reducing the gap in avoidable mortality rates between the least and most deprived local authorities in England. However, since then, progress has been stagnant, with the gap starting to increase during the pandemic—even after taking into account the avoidable deaths caused by COVID-19.

There are also substantial risks that health inequalities and, as a result, the economic costs of health inequalities, will continue to rise. The combination of the cost-of-living crisis, pressures on the NHS workload, and high absence rates in schools are likely to have a disproportionate impact on the most deprived areas.

The substantial and rising economic costs from health inequalities demonstrate the potential economic value that can be created by implementing policy measures to reduce the gap. In particular, measures aimed at preventing ill health are effective in reducing avoidable deaths.

¹ Oxera analysis based on Nomis (2021), 'Mortality statistics – underlying cause, sex and age', <https://www.nomisweb.co.uk/query/construct/summary.asp?reset=yes&mode=construct&dataset=161&version=0&anal=1&initset=> (last accessed 6 October 2023).

Oxera estimates that the economic cost of lost output in England due to differences in avoidable deaths has risen by over 20% higher since the COVID-19 pandemic—from **£6.3bn in 2019 to £7.7bn in 2021**, equivalent to over £250,000 per person who died in 2019 rising to almost £290,000 in 2021. These estimates control for the impact of avoidable deaths that resulted from COVID-19 directly and reflect the aggregate lost earnings over the working lives of the individuals who prematurely lost their lives in 2019 or 2021.

If these impacts persist over a decade this would represent a substantial loss of the productive capacity to the economy of around **£60bn to £80bn, equivalent to the cost of building between around 250 and 350 new hospitals.**² These costs are likely underestimates since health inequalities have widened and this trend risks continuing.

Oxera's estimates only capture the costs resulting from avoidable deaths, and as a result are only part of the total costs to the economy that arise from health inequalities. Additional costs occur due to, for example, long-term health conditions that keep people out of work. Oxera analysis from earlier this year demonstrated how this cost is rising with the economic cost of lost output among working-age people due to ill health at around **£150bn per annum, equivalent to 7% of GDP.**³ Due to health inequalities, these costs will disproportionately fall on those in deprived areas with the poorest socio-economic outcomes.

Addressing health inequalities requires a holistic policy response. Employment, education and housing conditions are all recognised drivers of health inequalities. For many years, governments have sought to reduce health inequalities with policies aimed at addressing the causes. Recommendations were set out in the Marmot Review in 2010, which focused on, among other areas, policies to support quality work opportunities, and safe and affordable housing, both of which can affect physical and mental health inequalities throughout life.⁴

The substantial economic costs provides justification to take coordinated action to address the causes of health inequalities and reverse the trends that are on the rise. It is not just a social imperative to do so but as demonstrated by Oxera's analysis, can unlock substantial economic value for England's economy for years to come.

² Oxera analysis based on National Audit Office (2023) 'Progress with the New Hospital Programme'

³ Oxera (2023), 'The economic cost of ill health among the working-age population', January, <https://www.oxera.com/insights/reports/the-economic-cost-of-ill-health-among-the-working-age-population/> (last accessed 18 August 2023).

⁴ Marmot, M. (2010), 'Fair Society, Healthy Lives. The Marmot Review: Strategic Review of Health Inequalities in England post-2010'.

1 Introduction

Oxera was asked by *The Times* to estimate the economic costs of health inequalities in England.

Health inequalities are 'unfair and avoidable differences in health across the population, and between different groups within society'.⁵ These include differences in life expectancy, health conditions, and the quality of medical care that people receive.

Health inequalities, such as avoidable deaths, tend to be driven by the socio-economic conditions in which people are born, grow, live, work, and age.⁶ These conditions, also referred as the level of deprivation, have an impact on an individual's health by determining the quality of life they have. People from deprived backgrounds are, for example, more likely to live in precarious housing that foster ill health.⁷

Health inequalities are a substantial cost to the UK economy. They reduce the number of people in work due to long-term health conditions and reduce the size of the working population through avoidable deaths. This leads to a loss of productive capacity, lower productivity of the workforce, loss of tax revenue, and higher government spending on health care.⁸

This reports focuses on a subset of those costs—the costs of lost productive capacity due to health inequalities that result in avoidable deaths. Avoidable deaths are defined as all deaths that arise from conditions that could have been prevented through effective public health and primary intervention or treated through timely and effective health-care interventions.⁹ If costs from other effects of health

⁵ NHS (2023), 'What are healthcare inequalities?', see: <https://www.england.nhs.uk/about/equality/equality-hub/national-healthcare-inequalities-improvement-programme/what-are-healthcare-inequalities/> (last accessed 18 August 2023).

⁶ Marmot (2010), op. cit., p. 16.

⁷ Other factors that can affect a person's health are the area they live in and their characteristics, such as their ethnicity. Some social groups also report language barriers or discrimination in hindering their access to health services. See Williams, E., Buck, D., Babalola, G. and Maguire, D. (2022), 'What are health inequalities?', <https://www.kingsfund.org.uk/publications/what-are-health-inequalities> (last accessed 23 August 2023).

⁸ Marmot (2010), op. cit., p. 83.

⁹ See Office for National Statistics (2019), 'Avoidable mortality in the UK QMI', <https://www.oecd-ilibrary.org/sites/3b4fdbf2-en/index.html?itemId=/content/component/3b4fdbf2-en;https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/causesofdeath/methodologies/avoidablemortalityinenglandandwalesqmi#:~:text=Avoidable%20mortality%20is%20used%20as,of%20timely%20and%20effective%20healthcare> (last accessed 23 August 2023).

inequalities were included, these estimates would be substantially higher still.

Our analysis reveals that the scale and nature of this challenge has increased substantially following the COVID-19 pandemic and there are risks that this trend will continue to rise in the coming years with a permanent scarring effect on the economy. This provides a justification for government to evaluate its policy and targeting of health, education and wider social policy spending to ensure it reflects the scale and the nature of the future needs of our economy. While further analysis will be needed to estimate the cost of implementing policies that reduce health inequalities, our estimates of costs that can be saved through such policies suggest that there is strong potential for such interventions to offer value for money.

It is important to note that our estimates are illustrative in nature, as even the most successful policies to reduce health inequalities are unlikely to fully close the gap in health inequalities that persist. Moreover, in the design of a policy programme, it is always important to weigh up the costs of those policies against the potential benefits. Instead, our estimates provide an indication of the potential maximum benefit that can be achieved from eliminating the difference in avoidable deaths that arise due to deprivation.¹⁰

¹⁰ It is important to note that this is just one element of the cost of health inequalities, and so although we provide a maximum estimate of this element, the total cost of health inequalities is much larger than our estimate. We also, where possible, choose conservative assumptions so as not to overstate and bias the estimate.

2 Analysis

This section of the report outlines our approach to estimating the lost productivity due to health inequalities that arise from differences in avoidable deaths between areas of high and low deprivation in England in both 2019 and 2021. For 2021, we calculate two estimates: with and without avoidable deaths due to COVID-19.

In the absence of health inequalities, many of the people who died an avoidable death would have lived longer and would have been an active part of the labour force contributing to the country's economic output. Our estimates measure the aggregate lost earnings over the working lives of the individuals who prematurely lost their lives in 2019 or 2021 due to differences in avoidable deaths, which we then use to scale up and estimate a longer-term impact of persisting health inequalities over a decade. We use a ten-year horizon because health inequalities persist over a long period and any policy response will take years to close the gap.

There have been various approaches used to calculate lost productivity due to health inequalities in the past, such as estimating the impact of raising the disability-free life expectancy (DLFE) of all middle-level Super Output Areas (MSOAs) to the DFLE of the least deprived decile of MSOAs.¹¹ Due to data availability, Oxera's approach adopts a slightly different approach by seeking to estimate health inequalities in terms of avoidable deaths based on differences in deprivation observed across England at the local authority level.

We first estimate the differences in avoidable deaths between local authorities of high and low deprivation. We then estimate the number of productive years lost due to avoidable deaths resulting from health inequalities. Lastly, we estimate the output that could have been generated in these productive years, had there been no health inequalities.

¹¹ Marmot (2010), op. cit., p. 82.

2.1 Estimating the number of avoidable deaths due to health inequalities

Health inequalities are primarily driven by socio-economic circumstances.¹² Differences in these socio-economic circumstances across England are captured in the index of multiple deprivation (IMD). The index is based on a set of factors that measure the impact of income, employment, education, housing, and local levels of crime.¹³

Table 2.1 shows how in England in 2021, people in the ten most socio-economically deprived local authorities, as measured by the IMD, were over four times more likely to die from an avoidable cause than those in the ten least deprived local authorities.¹⁴

Table 2.1 Avoidable deaths per 10,000 people aged 15 to 69 in the ten least and most deprived local authorities in 2021

Most deprived local authorities in order of IMD	Avoidable deaths per 10,000	Least deprived local authorities in order of IMD	Avoidable deaths per 10,000
1. Blackpool	30.6	1. Hart	2.3
2. Manchester	18.9	2. Wokingham	6.2
3. Knowsley	22.2	3. Rushcliffe	7.0
4. Liverpool	24.6	4. Waverley	3.9
5. Barking and Dagenham	14.6	5. Mid Sussex	6.8
6. Birmingham	23.5	6. Elmbridge	4.3
7. Hackney	12.4	7. Surrey Heath	3.3
8. Sandwell	21.8	8. Harborough	4.7
9. Kingston upon Hull, City of	23.5	9. East Hertfordshire	7.1
10. Nottingham	18.6	10. St Albans	5.2
Average	21.1	Average	5.1

Notes: The table shows the total number of avoidable deaths including deaths due to COVID-19.

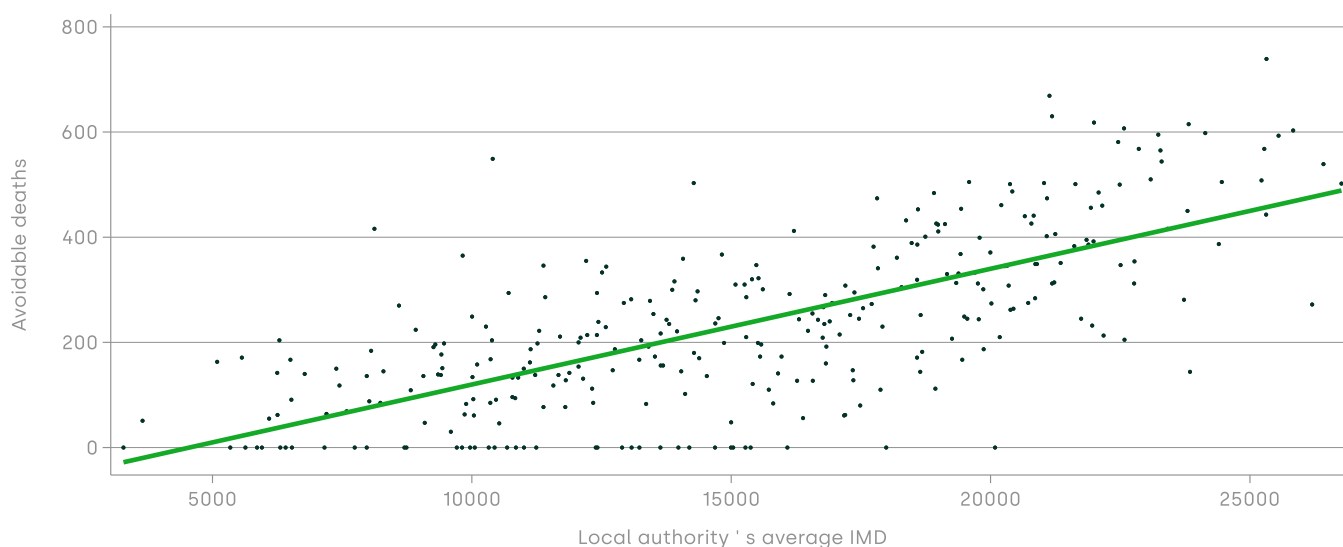
¹² The King's Fund website, 'What are health inequalities?', <https://www.kingsfund.org.uk/publications/what-are-health-inequalities> (last accessed 13 October 2023).

¹³ Ministry of Housing Communities & Local Government (2019), 'The English Indices of Deprivation 2019', https://assets.publishing.service.gov.uk/media/5d8b364ced915d03709e3cf2/loD2019_Research_Report.pdf (last accessed 6 October 2023).

Source: Nomis (2021), 'Mortality statistics – underlying cause, sex and age', <https://www.nomisweb.co.uk/query/construct/summary.asp?reset=yes&mode=construct&dataset=161&version=0&anal=1&initset=> (last accessed 6 October 2023). Office for National Statistics (2021), 'Population and household estimates, England and Wales: Census 2021', <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationandhouseholdestimatesenglandandwalescensus2021> (last accessed 11 October 2023).

Figure 2.1 shows that local authorities with a higher level of deprivation, as measured by the IMD, are more likely to have a greater number of avoidable deaths.

Figure 2.1 Correlation between a local authority's average IMD and the number of avoidable deaths in 2021



Note: The number of avoidable deaths in this chart includes those that occurred as a result of COVID-19 and has been adjusted for differences in the age distribution of the population of each local authority by applying the observed age-specific mortality rates for each population to a standard population.

Source: Nomis (2021), 'Mortality statistics – underlying cause, sex and age', <https://www.nomisweb.co.uk/query/construct/summary.asp?reset=yes&mode=construct&dataset=161&version=0&anal=1&initset=> (last accessed 6 October 2023). Ministry of Housing Communities & Local Government (2019), 'The English Indices of Deprivation 2019', https://assets.publishing.service.gov.uk/media/5d8b364ced915d03709e3cf2/loD2019_Research_Report.pdf (last accessed 6 October 2023).

While we acknowledge that a number of other factors (such as ethnicity, sex and disabilities, and whether situated in a rural location) will affect the number of avoidable deaths in a local authority, health

inequalities are primarily driven by socio-economic circumstances as measured by deprivation.¹⁵ Indeed, widespread evidence from the literature suggests that high levels of deprivation are a leading cause of avoidable deaths.¹⁶ As a result, we make the assumption that a reduction in deprivation levels will lead to a reduction in avoidable deaths. Therefore, we will use the difference in the IMD in local authorities to estimate the number of deaths that could have been avoided by eliminating health inequalities between these local authorities

Even in the least deprived authorities there are avoidable deaths, as there are still opportunities to improve health. We therefore first identify the mean number of deaths for each gender and age group in the least deprived decile of local authorities.¹⁷ These are the number of avoidable deaths that are not due to health inequalities.

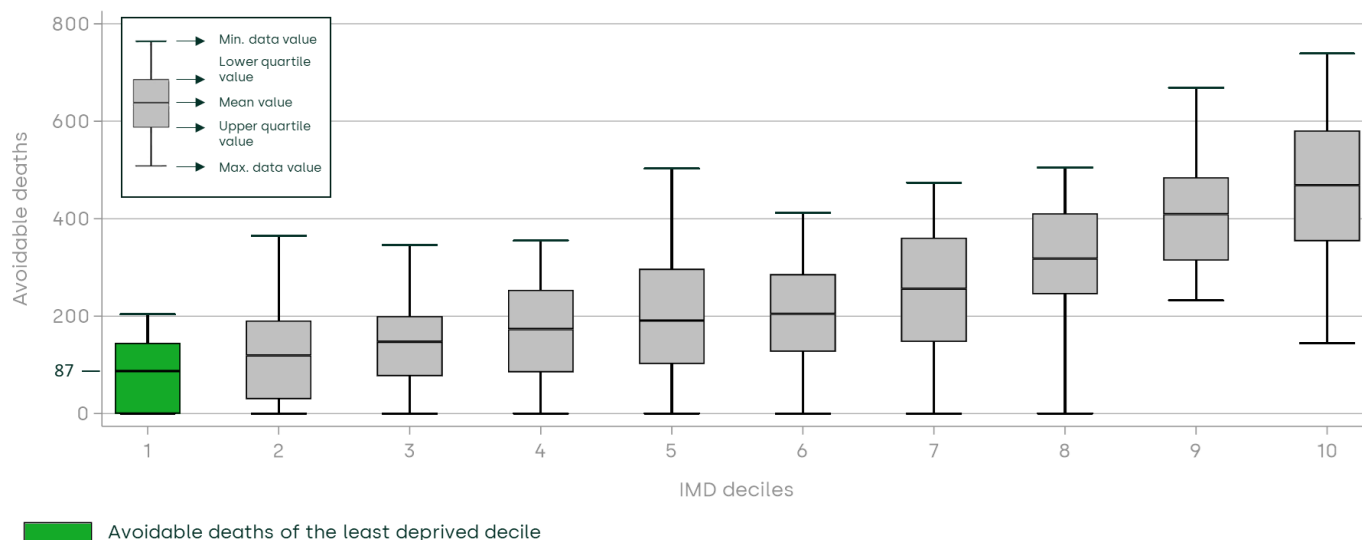
An example for men aged 55 to 59 is shown in Figure 2.2 below with the horizontal line in the green box plot representing the mean number of deaths in the least deprived decile.

¹⁵ The King's Fund website, 'What are health inequalities?', <https://www.kingsfund.org.uk/publications/what-are-health-inequalities> (last accessed 13 October 2023).

¹⁶ The Health Foundation (2019), 'Preventable deaths and deprivation', <https://www.health.org.uk/news-and-comment/charts-and-infographics/preventable-death-and-deprivation> (last accessed 13 October 2023).

¹⁷ In forming the deciles, we rank all local authorities based on the average IMD of all Lower Layer Super Output Areas (LSOAs) in each local authority.

Figure 2.2 Distribution of avoidable deaths for men aged 55 to 59 split by deciles of local authorities' IMD



Note: The number of avoidable deaths in this chart includes those that occurred as a result of COVID-19 and has been adjusted for differences in the age distribution of the population of each local authority by applying the observed age-specific mortality rates for each population to a standard population.

Source: Nomis (2021), 'Mortality statistics – underlying cause, sex and age', <https://www.nomisweb.co.uk/query/construct/summary.asp?reset=yes&mode=construct&dataset=161&version=0&anal=1&initse=> (last accessed 6 October 2023). Ministry of Housing Communities & Local Government (2019), 'The English Indices of Deprivation 2019', https://assets.publishing.service.gov.uk/media/5d8b364ced915d03709e3cf2/loD2019_Research_Report.pdf (last accessed 6 October 2023).

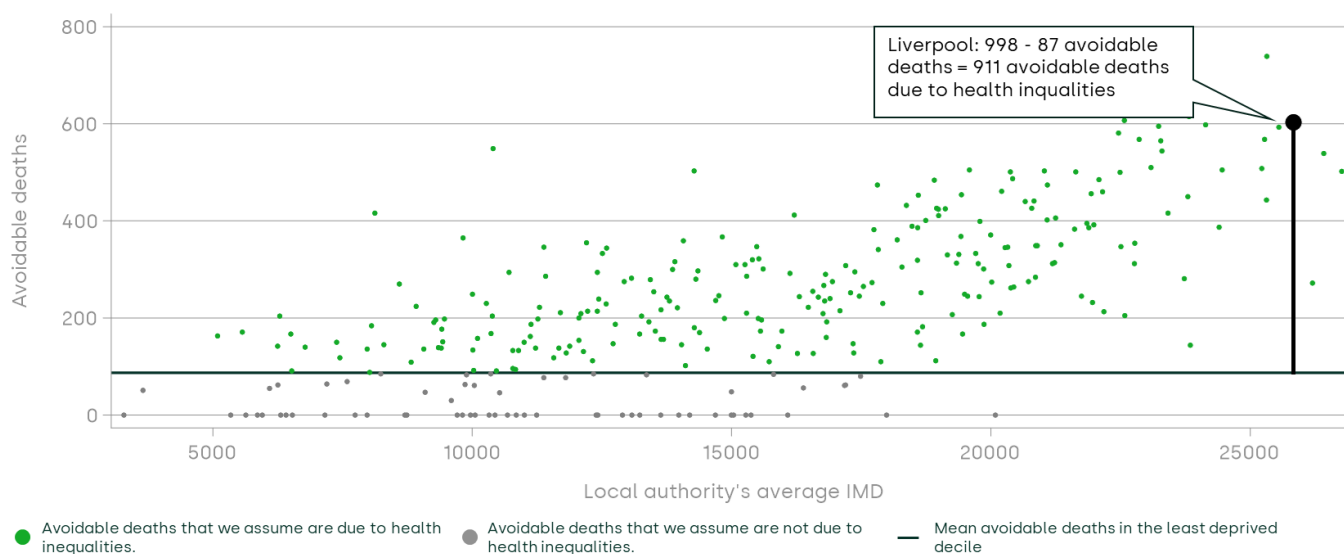
We then compare the avoidable deaths in each local authority with the mean avoidable deaths of the least deprived decile of local authorities. We do this for every local authority with a higher level of avoidable deaths than the mean. This allows us to identify the number of avoidable deaths that could be prevented by reducing deprivation levels up to the level of the highest decile. We do this separately for each age group split by gender.¹⁸

An example for men aged 55 to 59 is shown in Figure 2.3 below—it shows the number of avoidable deaths that could be prevented by reducing deprivation levels to the level of those in the highest decile in green. The number of avoidable deaths below the grey line are the number of

¹⁸ We do this separately for each age group and gender to accurately estimate of the total number of working years lost by each avoidable deaths. The separation by gender is necessary for this estimate as there are differences in the state pension age between men and women.

deaths that will persist and are not due to health inequalities. For example, in Liverpool there were 998 avoidable deaths per 10,000 men aged 55 to 59 in 2021. The mean number of avoidable deaths in the least deprived local authorities is 87 per 10,000 men aged 55 to 59. That means that 911 avoidable deaths could have been prevented if the level of deprivation in Liverpool were reduced to the same level as the least deprived local authorities, thus eliminating health inequalities and the resulting avoidable deaths.

Figure 2.3 Number of avoidable deaths for men aged 55 to 59 by local authority ranked by IMD



Note: The number of avoidable deaths in this chart includes those that occurred as a result of COVID-19 and has been adjusted for differences in the age distribution of the population of each local authority by applying the observed age-specific mortality rates for each population to a standard population.

Source: Nomis (2021), 'Mortality statistics – underlying cause, sex and age', <https://www.nomisweb.co.uk/query/construct/summary.asp?reset=yes&mode=construct&dataset=161&version=0&anal=1&initset=> (last accessed 6 October 2023). Ministry of Housing Communities & Local Government (2019), 'The English Indices of Deprivation 2019', https://assets.publishing.service.gov.uk/media/5d8b364ced915d03709e3cf2/loD2019_Research_Report.pdf (last accessed 6 October 2023).

We repeat these calculations, but use the least deprived quartile rather than decile.¹⁹

¹⁹ We use the least deprived quartile and least deprived decile of local authorities as reasonable assumptions of the potential maximum progress that local authorities with higher deprivation could make in improving deprivation resulting in lower avoidable deaths. Recognising that the quartile estimate is a smaller gap in the IMD it will be used to estimate the bottom of the range of the economic cost with the decile estimate the top of the range.

For each avoidable death that is due to health inequalities, we estimate the number of productive years lost in each local authority, as summarised in Table 2.2 and Table 2.3.

Table 2.2 Years of productive life lost excluding avoidable deaths due to COVID-19

	2019		2021	
	Lower	Upper	Lower	Upper
Number of avoidable lives lost	23,281	25,050	24,128	26,787
Number of years of productive life lost	145,263	151,459	167,022	177,295

Note: We adjust our estimate of the number of avoidable deaths due to health inequalities to account for the fact that some people might still have died in the absence of health inequalities due to, for example, an accident or a medical condition for which there is no treatment.

Source: Oxera analysis.

Table 2.3 Years of productive life lost including avoidable deaths due to COVID-19

	2021	
	Lower	Upper
Number of avoidable lives lost	31,889	34,371
Number of years of productive life lost	221,640	231,534

Note: We adjust our estimate of the number of avoidable deaths due to health inequalities to account for the fact that some people might still have died in the absence of health inequalities due to, for example, an accident or a medical condition for which there is no treatment.

Source: Oxera analysis.

2.2 Deriving the cost estimate of lost output

For society as a whole, health inequalities lead to economic costs. Each individual who would have lived in good health if not for health inequalities could have contributed to the economy. In addition, there are direct costs of medical treatment for people whose health has been affected by health inequalities.

The costs associated with people leaving the labour force earlier than they would have without health inequalities is referred to as lost output and is a permanent reduction in England's productive capacity. Lost output is expressed as gross value added (GVA) per person, which reflects employment costs plus a profit margin.^{20,21}

To calculate the total lost GVA, we take our estimates of avoidable deaths by age and gender and first estimate the number of working years lost due to their premature death. This is estimated for each individual by taking the difference between the age at which they died²² and the state pension age.²³ The state pension age is calculated for each age group in 2019 and 2021 and ranges between 65 and 68 years.²⁴ We also take into account that some people might still have died in the absence of health inequalities. For example, due to an accident or a medical condition for which there is no treatment.

Following this, we calculate the lost output per individual using data on the GVA per filled job by local authority in 2019 and 2021. Without further adjustment, this would assume that all working-age people would contribute to the economy if they had not died a premature death. We therefore adjust the lost output per individual downward to reflect that a number of people will leave the workforce over their lifetime and be economically inactive, for example they will go into early retirement or leave the labour market for education or to look after family members.²⁵

²⁰ The GVA per job for 2021 has been estimated using outturn GVA and employment for 2021. See Office for National Statistics (2022), 'Gross Value Added (Average) at basic prices: CP SA £m', 22 December; and Office for National Statistics (2022), 'Number of People in Employment (aged 16 and over, seasonally adjusted):000s', 13 December.

²¹ The GVA per filled job is extrapolated for each person who would not have died if there had been no health inequalities up to the state pension age. This is done by multiplying the GVA per job filled in 2021 with the forecast real GDP per household index in each year until the person would have reached retirement.

²² Data on age at death is reported in age brackets. For a conservative estimate of each person's age at death, we chose the upper range of the age ranges reported in the dataset on avoidable deaths. For example, for the age range 15–19, we use 19 for our estimate of the age at which a person died prematurely.

²³ See GOV.uk (2013), 'State Pension age timetables', https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/310231/spa-timetable.pdf (last accessed 23 August 2023).

²⁴ The state pension age reflects current legislation on the age of retirement. We note that the state pension age may need to be raised further in the future and therefore our estimate of the state pension age is conservative.

²⁵ We use the percentage of economically inactive people aged 16 to 64 in each local authority in 2021 for this estimate. See GOV.uk (2023), 'Employment in local authorities, England and Wales', <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/employmentinlocalauthoritiesenglandandwales> (last accessed 5 October 2023).

We expect this to be an underestimate, given that official figures on the workforce mask substantial numbers of hidden workers.²⁶ Hidden workers would also have been contributing to the economy, and this is especially common in cities and large towns in the North of England, where deprivation levels are highest.²⁷ As such, our lost output estimate would have been significantly higher if hidden workers were included.

Finally, aggregating the impacts across local authorities for 2019 and separately for 2021 provides an estimate of the future lost output from deaths that could have been avoided in those years due to health inequalities. Since this provides only a snapshot of the long-term impact of the avoidable deaths in an individual year (2019 and 2021), we also convert these annual estimates into an estimate over a longer time period to understand the impact on the economy if health inequalities with the associated avoidable deaths were sustained over a decade.

2.3 Accounting for the impact of COVID-19

We have considered the impact of COVID-19 on the number of avoidable deaths in 2021. Of all avoidable deaths recorded in England that year, 25% were identified as being caused by COVID-19. Including avoidable deaths in our estimate caused by COVID-19 therefore risks accounting for the impact of the pandemic on avoidable deaths rather than the impact of health inequalities. This would lead to an overestimate of the costs of health inequalities for a typical year.

However, it is clear that COVID-19 did not evenly affect people from different socio-economic groups. People under 65 from deprived backgrounds more often suffered from underlying clinical risk factors and were four times as likely to die of the virus than the rest of the population in England and Wales.²⁸ The high number of COVID-19 deaths was therefore partially driven by health inequalities and so we separately present an annual estimate that includes COVID-19 avoidable deaths. Note that since COVID-19 was a one-off event, we do not use this estimate as part of the longer-term estimate of the impact of health inequalities over a decade.

²⁶ Centre for Cities (2023), 'The UK's army of hidden unemployed people', <https://www.centreforcities.org/reader/cities-outlook-2023/the-uks-army-of-hidden-unemployed-people/> (last accessed 13 October 2023).

²⁷ Ministry of Housing Communities & Local Government (2019), 'The English Indices of Deprivation 2019', https://assets.publishing.service.gov.uk/media/5d8b364ced915d03709e3cf2/loD2019_Research_Report.pdf (last accessed 6 October 2023).

²⁸ Suleman, M., Sonthalia, S., Webb, C., Tinson, A., Kane, M., Bunbury, S., Finch, D. and Bibby, J. (2021), 'Unequal pandemic, fairer recovery', <https://www.health.org.uk/publications/reports/unequal-pandemic-fairer-recovery> (last accessed 6 October 2023).

3 Findings

Our analysis provides an estimate of the cost to England's economy from lost output due to health inequalities. While these costs form only a part of the total costs of health inequalities, they are substantial. When including other costs, such as the cost of health care, we would expect the total costs to be substantially higher than this estimate.²⁹

Our estimates of the costs in terms of lost output due to health inequalities are summarised in Table 3.1. We estimate these costs to be between £7.2bn and £7.7bn in 2021, excluding deaths caused by COVID-19 that could have been avoided if there had been no avoidable deaths due to health inequalities. When including avoidable deaths from COVID-19 this estimate increases to between £9.7bn and £10.1bn.

Table 3.1 Lost output from premature deaths due to health inequalities (£bn)

	Annual estimate for 2019		Annual estimate for 2021		Ten-year estimate	
	Lower	Upper	Lower	Upper	Lower	Upper
Without COVID-19 avoidable deaths	6.1	6.3	7.2	7.7	60	80
Including COVID-19 avoidable deaths			9.7	10.1		

Source: Oxera analysis.

The large difference in the cost estimates including and excluding COVID-19 deaths in 2021 is reflective of the significant impact of health inequality on mortality rates. People from deprived backgrounds have higher rates of almost all underlying clinical risk factors that make individuals susceptible to the effects of COVID-19 and were much more likely to die as a result of the virus than the rest of the population.

²⁹ Marmot (2010), op. cit. estimated that the cost of lost taxes and higher healthcare spendings due to health inequalities as measured by loss of disability free life expectancy to be equivalent to between around 65% and 105% of the costs from productivity losses that he estimates for England in 2010.

The cost estimate excluding COVID-19 deaths in 2021 also demonstrates that health inequalities increased throughout the pandemic—even after accounting for the deaths that occurred as a direct result of COVID-19. Before the pandemic in 2019, the estimate of lost output from premature deaths due to health inequalities was between £6.1bn and £6.3bn (see Table 3.1). After the pandemic, the costs had risen to between £7.2bn and £7.7bn, suggesting that even after deducting COVID-19 deaths, more people were dying due to health inequalities.³⁰ This could be due to longer NHS referral waiting times and a higher amount of incidences of long COVID, mental health problems, and rising obesity for people from deprived backgrounds during the pandemic.³¹

We use the annual estimates excluding COVID-19 deaths to derive an illustrative estimate of a decade-long impact of avoidable deaths from health inequalities. This represents the impact to the economy if the rate of avoidable deaths due to health inequalities remains at the same level for the next ten years. The lower end of the range of £60bn may be more likely if local authorities return quickly to a pre-COVID (2019) rate of avoidable deaths, whereas the upper range of £80bn may be more likely if the 2021 rate continues.

To put this in context, the lost output of £60bn to £80bn is equivalent to the cost of building around 250 to 350 new hospitals in the UK.³² This comparison is illustrative in nature, to provide a sense of scale of the impact of health inequalities.

It is important to note that this could be a significant underestimate of the economic costs of health inequalities. First, work that is not officially recorded and unpaid work such as care for the elderly and children are not included. Second, our estimates include only a part of the cost of

³⁰ We note that the estimate of lost output from premature deaths due to health inequalities is likely to be understated for 2021. This is because a number of individuals who were susceptible to avoidable deaths generally due to pre-existing conditions died of COVID-19.

³¹ Holmes, J. and Jefferies, D. (2021), 'Tackling the elective backlog – exploring the relationship between deprivation and waiting times', [https://www.kingsfund.org.uk/blog/2021/09/elective-backlog-deprivation-waiting-times#:~:text=Analysis%20of%20the%20number%20of,quintile%20\(1.8%20times%20higher\)](https://www.kingsfund.org.uk/blog/2021/09/elective-backlog-deprivation-waiting-times#:~:text=Analysis%20of%20the%20number%20of,quintile%20(1.8%20times%20higher)) (last accessed on 6 October 2023). Finch, D. and Tinson, A. (2022), 'The continuing impact of COVID-19 on health and inequalities', <https://www.health.org.uk/publications/long-reads/the-continuing-impact-of-covid-19-on-health-and-inequalities> (last accessed on 6 October 2023).

³² Oxera analysis based on the National Audit Office's (NAO) assessment of the costs of new hospitals in the New Hospital Programme – see National Audit Office (2023), 'Progress with the New Hospital Programme'. It is important to note in deriving these illustrative estimates we replicate the definition of a new hospital from this programme as whole new hospitals; major new clinical buildings or wings at an existing hospital and major refurbishments of existing hospitals. In addition, the cost of a new hospital can vary significantly due to a number of factors including whether the hospital is situated on greenfield or brownfield land and the shape and size of the hospital. As a result, we assume the average of the NAO's assessments of the costs of new hospitals, which is equivalent to £233m per hospital.

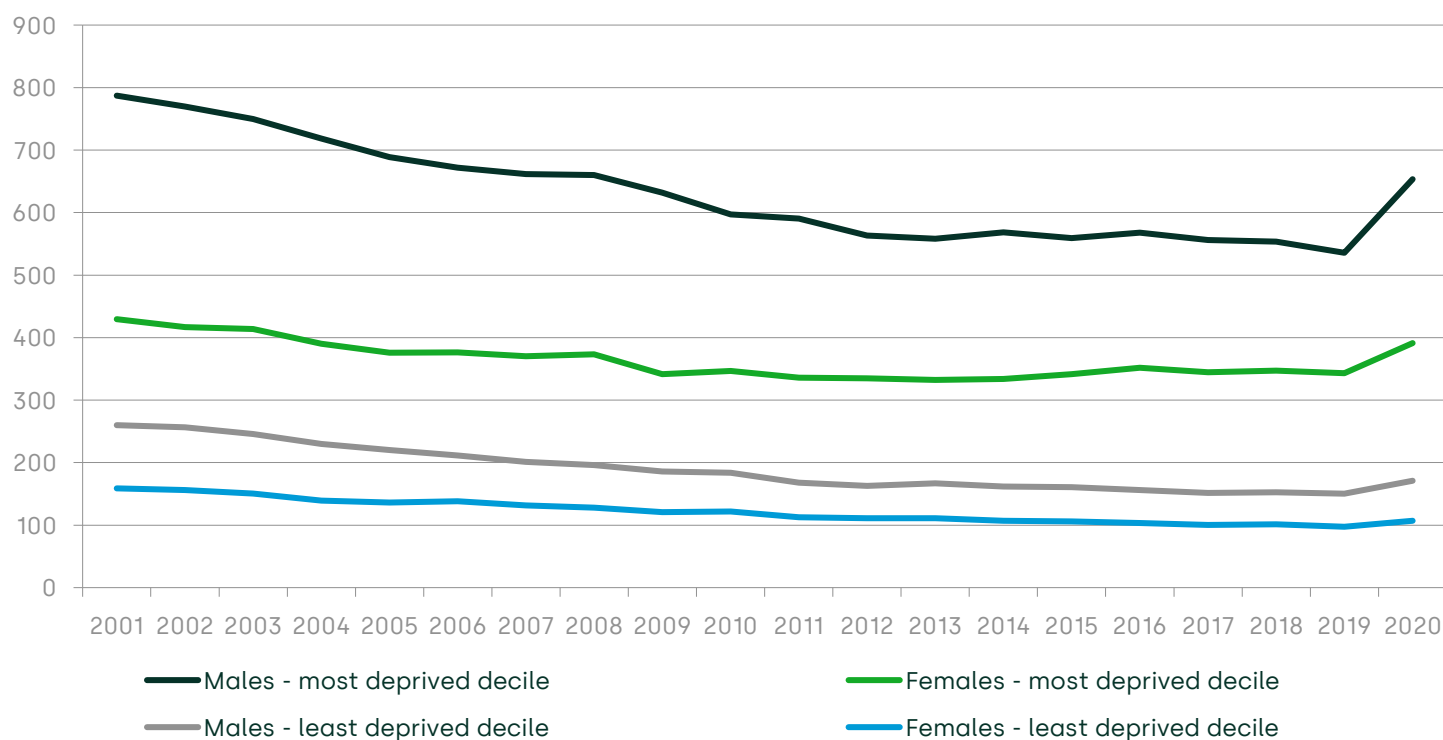
health inequalities. Costs due to long-term health conditions and disabilities are not included in this estimate and are likely to be substantial. Oxera's analysis from earlier this year demonstrated how this cost is rising with the economic cost of lost output among working-age people due to ill health at around **£150bn per annum, equivalent to 7% of GDP**.³³ Owing to health inequalities, these costs will disproportionately fall on those in deprived areas with the poorest socio-economic outcomes.

In addition, there is a substantial risk that health inequalities are worsening and as a result the economic costs increasing.

Indeed, as can be seen in Figure 3.1, between 2001 and 2012, on average, the number of avoidable deaths in the most deprived areas were decreasing at a faster rate than those in the least deprived. It stayed at a similar level from 2013 until the start of the pandemic, when avoidable deaths in the most deprived areas spiked, while those in the least deprived areas changed much less, further increasing the deprivation gap.

³³ Oxera (2023), 'The economic cost of ill health among the working-age population', January, <https://www.oxera.com/insights/reports/the-economic-cost-of-ill-health-among-the-working-age-population/> (last accessed 18 August 2023).

Figure 3.1 Avoidable mortality rate by deprivation deciles



Note: The number of avoidable deaths in 2020 includes deaths from COVID-19.

Source: Office for National Statistics (2022), 'Socioeconomic inequalities in avoidable mortality: England analysis',

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/causesofdeath/datasets/measuringsocioeconomicinequalitiesinavoidablemortalityenglandanalysis> (last accessed 13 September 2023).

Recent trends suggest a widening in health inequalities and there are several factors that suggest that the outlook is unlikely to improve in the short term. The cost-of-living crisis is putting pressure on those with the lowest incomes, which is likely to lead to worse health outcomes for the most deprived. In research conducted by Oxera called *The Great Squeeze*, we found that 35% of the UK population on low incomes are spending mostly on essentials such as energy and food, with 30% of this group planning further cuts to their already tight spending.³⁴ In addition, the NHS is under significant pressure and is less well placed to support those with health conditions. Analysis from the Institute for Fiscal Studies shows that, despite higher funding levels and more staff than it had pre-pandemic, the NHS is treating fewer patients than it was before COVID-19.³⁵ Finally, there has been a substantial rise in school absences

³⁴ Oxera (2023), 'The Great Squeeze', Agenda, <https://www.oxera.com/insights/agenda/topics/the-great-squeeze/> (last accessed 9 October 2023)

³⁵ Institute for Fiscal Studies (2022), 'NHS funding, resources and treatment volumes'.

that have disproportionately fallen on disadvantaged children. 37.2% of pupils eligible for free school meals were persistently absent in 2021/22, rising from 22.8% in 2018/19. This compared to 17.5% of ineligible pupils in 2021/22, rising from 8.3% in 2018/19.³⁶

³⁶ House of Commons Education Committee (2023), 'Persistent absence and support for disadvantaged pupils'.

4 Conclusion and recommendations

Oxera's estimates of the economic costs shows that the potential gains of addressing health inequalities are substantial, and rising since 2019 even after taking into account the deaths that resulted directly from COVID-19. Oxera's analysis suggests that reducing health inequalities is therefore not only socially desirable but also important from an economic perspective, particularly in light of the negative impact of the COVID-19 pandemic and the ongoing cost-of-living crisis on inequality in the country.³⁷ These two consecutive crises have affected low-income households disproportionately; and will strain the economy in the long term unless renewed action is taken.

It is important to note that it would not be proportionate to seek absolute health equity, which must be balanced against the costs of the interventions that are required to raise the standards of living sufficiently to achieve this outcome. This is an important area of further research to focus on, building on existing studies such as the Marmot Review. However, Oxera's estimate helps to understand the potential size of the potential benefit to the economy.

Our analysis indicates that not addressing the trends in health inequalities will create additional pressure for the NHS, which is already facing unprecedented challenges. In the short run, the NHS is grappling with the impacts of widespread industrial action and real-term cuts in funding, with the recent junior doctor strikes alone having cost around £1bn so far this year.³⁸ In the longer term, an ageing population will add further pressure to the NHS that it will need to accommodate.

In addressing health inequalities, it is important for the NHS to continue to have an increased focus on high deprivation areas for its preventative care and long-term condition management.³⁹ However, there is broad consensus that a holistic policy approach focused on welfare, education, housing and health is required.⁴⁰ A shift to focus on the root causes of health inequalities focused on prevention rather than

³⁷ Blundell, R., Costa Dias, M., Cribb, J., Joyce R., Waters, T., Wernham, T. and Xu, X. (2022), 'Inequality and the COVID-19 Crisis in the United Kingdom', *Annual Review of Economics*, **14**:607-36, p. 608.

³⁸ Ibid.

³⁹ Office for Health Improvement & Disparities (2022), 'Health disparities and health inequalities: aligning All our Health', <https://www.gov.uk/government/publications/health-disparities-and-health-inequalities-applying-all-our-health/health-disparities-and-health-inequalities-applying-all-our-health#:~:text=In%20England%2C%20there%20is%20a,minority%20and%20inclusion%20health%20gro> ups (last accessed on 1 September 2023).

⁴⁰ Marmot (2010), op. cit.

addressing the outcomes of health inequalities is important. Given the complex set of factors influencing health inequalities it will be important that policy solutions are tailored and targeted to local circumstances.

The Marmot Review provides a clear framework for local government to address health inequalities in the UK (see below). Some of these objectives represent long-term aims that will gradually have an impact on the UK economy. Others can be effectively targeted in the short term and will not only help to create more health equity, but also alleviate pressure on low-income households.

Policy objectives from the Marmot Review



- Give every child the best start in life
- Enable all children, young people and adults to maximise their capabilities and have control of their lives
- Create fair employment and good work for all
- Ensure a healthy standard of living for all
- Create and develop healthy and sustainable places and communities

Source: Marmot M., Allen J., Boyce, T., Goldblatt, P. and Morrison, J. (2020), 'Health equity in England: The Marmot Review 10 years on', London: Institute of Health Equity.

There are already a number of so-called 'Marmot cities' that have adopted the policy objectives above. While the long-term effects on health inequalities are not yet clear, recent data from the city of Coventry shows that deprivation has decreased significantly since it became a Marmot city (from 18.5% to 14.4%).⁴¹ These preliminary results show how a holistic tailored approach can reduce health inequality.

If trends in health inequalities can be reversed and the progress seen in Coventry replicated across the country, the cost of lives lost prematurely could be avoided on a significant scale. Not only would this mean families not losing loved ones prematurely, Oxera's analysis demonstrates the substantial economic boost this could have for the country.

⁴¹ Munro, A. (2020), 'Coventry – A Marmot City', <https://www.instituteoftheequity.org/resources-reports/coventry-marmot-city-evaluation-2020/coventry-marmot-city-evaluation-2020.pdf> (last accessed 30 August 2023).



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A large, stylized "oxera" logo is mounted on a glass wall. The letters are white with a glowing effect, and the background behind the glass shows lush green foliage. The logo is partially obscured by three modern, white, teardrop-shaped pendant lights hanging from the ceiling.