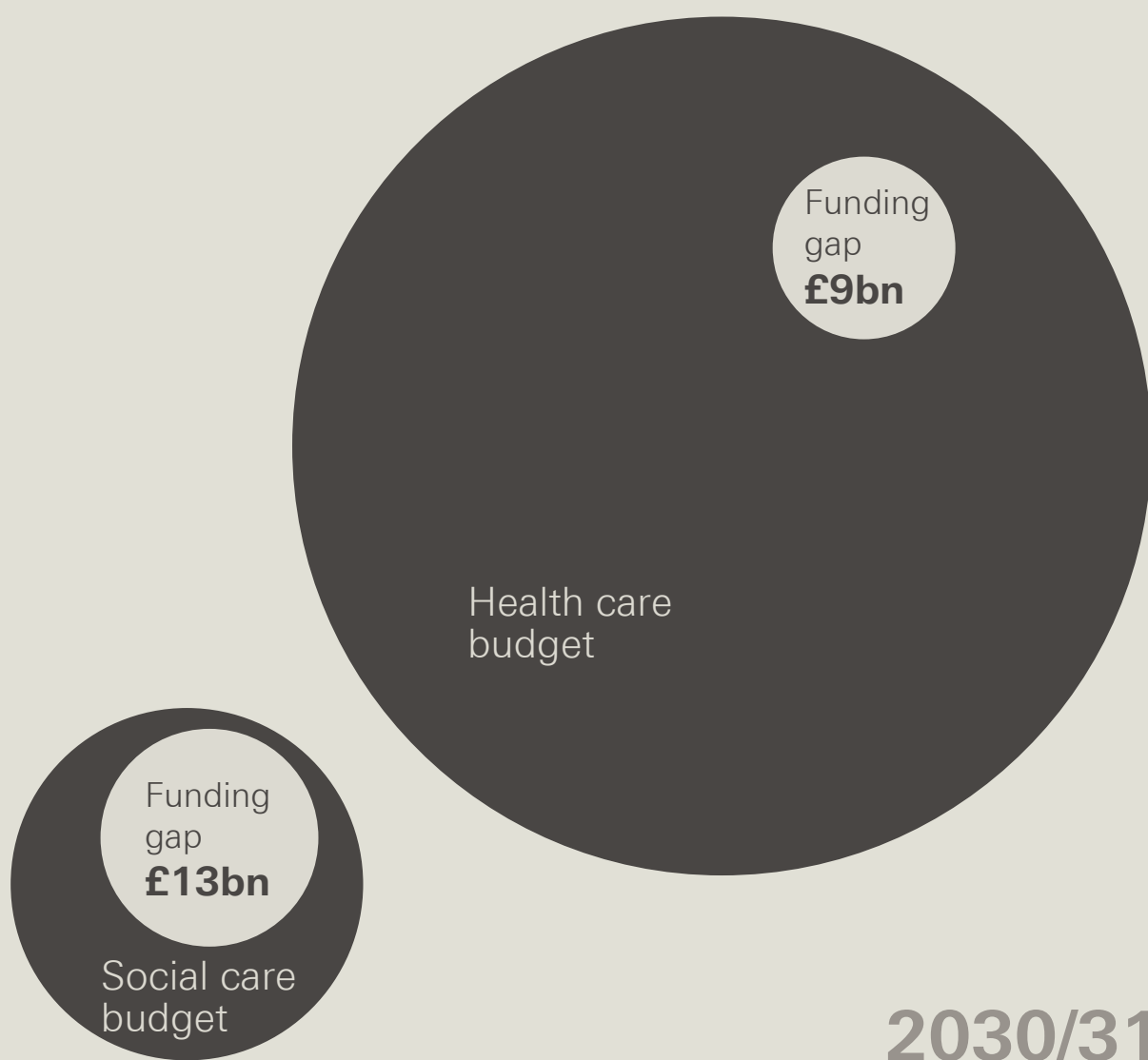


# Filling the gap

## Tax and fiscal options for a sustainable UK health and social care system

Adam Roberts, Spencer Thompson, Anita Charlesworth, Ben Gershlick, Alfie Stirling



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Errors or omissions remain the responsibility of the authors alone.

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# Summary

- The NHS and publicly funded adult social care will account for £157bn of public spending across the UK in 2015/16 – equivalent to 8.4% of gross domestic product (GDP) and accounting for around £1 in every £5 of government spending.
- Economists at the Health Foundation and the Institute for Public Policy Research (IPPR) have worked together to explore the potential funding gap for health and adult social care in the UK between now and 2030/31. We have also looked at options for filling that gap through personal taxation.
- This is a UK-wide report. We have analysed the projected costs for publicly funded health and adult social care in England, and adjusted them to provide an estimate for the UK. Models for health are based on work undertaken by the authors. For adult social care, we have based our estimates on projections for England undertaken by colleagues at the London School of Economics and Political Science (LSE). All figures are in 2015/16 prices.

## The health and adult social care funding gap

- The government has committed to increase funding for the English NHS by £8bn in real terms (above inflation) by 2020/21. There is no equivalent commitment for adult social care, although the pressures facing that system are, if anything, growing at a faster rate than pressures on health care.
- In the longer term, the funding available for the NHS and adult social care will be influenced by the rate of economic growth and decisions about tax, the level of overall public spending, and how public spending is allocated.
- The government has committed to eliminating the deficit in the national budget by 2019/20 and is planning to run a surplus of £10.5bn (0.5% of GDP) by 2020/21.
- In this report, we have projected public funding for health and social care up to 2030/31 based on the official economic and fiscal forecasts from the Office for Budget Responsibility (OBR). Health and social care budgets are projected to increase by 2.5% a year in real terms between 2020/21 and 2030/31. This assumes that tax receipts increase in line with GDP and that the government continues to run a surplus of 0.5% of GDP. This would see the NHS and care budget increase to £210bn by 2030/31 (2015/16 prices).
- Even with the expected additional funding for the UK health system, there is likely to be a gap between the available health budget and the funding required to maintain the quality and range of services. This gap is estimated to be £2bn by 2020/21, rising to £9bn by 2030/31.

- For adult social care, the pressures are rising faster, yet the budget is expected to fall over the next five years before subsequently increasing at a similar rate to GDP.
- Our analysis projects a potential funding gap for adult social care of £6bn by 2020/21 and £13bn by 2030/31 unless there is a change in policy.
- The projected health funding gap of £9bn in 2030/31 is worth 5% of the projected budget that year; for adult social care the funding gap of £13bn is equivalent to 62% of the total expected budget for 2030/31.
- Our central estimate for the projected combined funding gap for health and adult social care is £8bn by 2020/21, rising to £22bn by 2030/31.
- The scale of the health funding gap in the UK depends on the ability of the NHS to deliver sustained efficiency improvements and to minimise pay pressures. Our estimate of a £2bn funding gap by 2020/21 is predicated on the government being able to hold down pay growth in the NHS for a further four years. This is very challenging given that the NHS is already struggling to recruit and retain staff, particularly in nursing, and is increasingly reliant on expensive agency staff.
- We have assumed that the NHS is able to make savings of 1.5% a year through improved efficiency. If it only achieves efficiency savings of around 1.0% a year, which is closer to the long-run trend for UK health service-wide productivity, the potential NHS funding gap would increase to £5bn by 2020/21 and £23bn by 2030/31.
- The estimated funding gap for adult social care does not allow for the additional costs of the new National Minimum Wage or implementation of the cap on lifetime care costs included within the 2014 Care Act.
- The changes to the funding system for adult social care introduced by the 2014 Care Act were initially to have been implemented in April 2016 but have been delayed until 2020. These would have capped an individual's personal lifetime costs for assessed social care needs at £72,000 and lifted the means-testing threshold from assets of £23,250 to £118,000. These changes would add a further £2.2bn to the cost of adult social care by 2030/31.
- The health funding gap is a large headline figure but it is a small share of GDP. Between 2015/16 and 2030/31, pressures on the NHS are projected to increase by £59bn, but over the same period GDP is expected to increase by almost £800bn.
- Our current assumptions would see the budget for the NHS reach 7.1% of GDP in 2030/31, while meeting the projected pressures would require it to rise to 7.4% (returning to the share of GDP spent by the UK in 2015/16). Fully funding the projected pressures on the health system would require 7% of the expected growth in GDP.
- This would mean that in 2030/31, the UK would be spending a smaller share of its GDP on publicly funded health care than countries such as Germany, France, Denmark, Sweden and the Netherlands were spending in 2012.

## Options for filling the health and adult social care funding gap

- We have explored a number of options for funding the health and care systems through taxation. However, we have not made an overall recommendation as to which options are most desirable.
- We have shown how much additional funding could be raised through increasing tax in a number of different ways, including income tax, National Insurance contributions and VAT.
- We also looked at the potential scale of additional funding that might be available if the government adopted a balanced budget between 2020/21 and 2030/31 rather than the planned fiscal surplus of 0.5% of GDP.
- Our central projection of a £9bn NHS funding gap by 2030/31 is equivalent to around an extra one pence in every pound on both the basic and higher rates of income tax, or more than one pence in every pound on both the standard and higher rates of employee National Insurance contributions. Alternatively, it would require increasing the standard rate of VAT from 20% to more than 21%.
- For adult social care, the outlook is much more challenging, with a projected gap of £6bn in 2020/21, rising to £13bn by 2030/31. This is equivalent to an extra two pence on every pound on the basic rate of income tax, or increasing the standard rate of VAT to almost 22%.
- The level of tax increases required to bridge the combined funding gap under our central scenario (£22bn by 2030/31) is equivalent to an increase of almost three pence in every pound in both the basic and higher rates of income tax by 2030/31. Alternatively, if funded from consumption tax (VAT), it would require the main rate to be increased from 20% to around 23%.
- The current planned fiscal surplus of 0.5% of GDP is equivalent to £10.5bn in 2020/21, rising to £13.3bn in 2030/31, based on current GDP forecasts. If this were spent on health and adult social care, it would close the combined funding gap in 2020/21 but would leave an estimated shortfall of £8.4bn in 2030/31.
- The mix of tax and surplus and the choice of specific taxes is not just a matter for health and social care policy but are influenced by wider economic considerations. In particular, policy makers need to pay attention to the impact of different taxes on economic performance alongside their distributional impact and political acceptability.
- A recent review by the Organisation for Economic Co-operation and Development (OECD) of the effect of taxation on economic performance and social welfare highlighted that across all countries, there was an economic case for a shift away from income taxes (particularly corporate tax but also personal tax) towards consumption taxes and recurrent taxes on residential property. We do not look at new residential property taxes, as we confined our analysis to existing taxes that could be modelled in our available data set.

- We examined the potential distributional impact of the key tax options by demographic groups. Changes in income tax would have a bigger effect on higher-income households while VAT and ‘sin taxes’ (taxes on goods and services perceived to have harmful effects on individuals) would have a greater proportionate impact on lower-income households.
- We also examined the distributional impact by broad age profile (comparing households with people of working age and households with people aged 65 and over). Most of the tax options affect households with people of working age more than older households. Funding additional health and adult social care through changes to the rate of National Insurance contributions would place the entire burden of additional funding on those currently of working age unless National Insurance was extended above the state pension age. Increasing the standard rate of VAT would have an equal impact on households with people of working age and older households.
- In some countries, the receipts from so-called ‘sin taxes’ – most notably duties on alcohol and tobacco – are earmarked for the financing of health care. However, sin taxes alone are unlikely to ever raise enough to cover the increasing cost of health care. Among OECD member countries, specific consumption taxes account for a shrinking share of overall tax revenues.
- The argument for extending sin taxes to support health system financing is that consumption of these goods produces negative externalities (impacts beyond the person consuming the product), and the costs of these externalities tend to fall on the health care system.
- The other argument for sin taxes is that they will reduce pressure on services by influencing demand. Research suggests that £1 in every £5 of health care costs is associated with population behavioural risk factors including poor diet, smoking, alcohol, obesity and physical inactivity.
- While tobacco and alcohol are subject to higher taxation than other goods, there is increasing interest in the role of taxes in influencing dietary behaviour. The taxation of sugary products has attracted significant political and public debate. A recent high-profile review by Public Health England recommended the ‘introduction of a price increase of a minimum of 10–20% on high sugar products through the use of a tax or levy such as on full sugar soft drinks, based on the emerging evidence of the impact of such measures in other countries’.
- Sales data from Norway, Finland, Hungary, France and Mexico broadly suggest decreases in purchases of soft drinks/sugar-sweetened drinks of up to 12% following the implementation of taxes. Sugar taxes also exist in most US states (although they are set very low, at 5% on average), in Australia (10%) and Denmark (eg, £0.50/kg for chocolate and sweets).

- We have analysed spending on those sugary products subject to the standard rate of VAT, worth around £20bn a year.
- In our analysis we have looked at additional taxation on sugary products via a higher rate of VAT for these goods. In order to increase prices on standard-rated VAT sugary items by 10–20% as recommended by Public Health England, VAT would need to rise by between 12 and 24 percentage points (to between 32% and 44%).
- The 10–20% range is ‘necessary to have a significant impact on purchases, consumption, and ultimately population health’. The evidence base suggests that any increase in price results in a decrease in purchases of roughly the same magnitude, so a 10% increase in price would reduce consumption by 10%.
- Assuming this behavioural effect is constant across different increases and that the full price increase is passed on to consumers, this results in estimates of the revenue raised by a sugar tax in 2030/31 being £2.6bn for a 32% VAT rate, and £4.7bn for a 44% tax rate. Even with a behavioural effect, the additional revenue raised is significant.
- We have not been able to assess the distributional impact of a tax increase specifically targeted at sugary products. There are socioeconomic patterns to dietary choices, with lower-income groups consuming diets with a higher sugar content than average. If this is the case, a tax on sugary products will be borne more heavily by lower-income groups. Some of this may be offset by different levels of reduced consumption across income groups, but this is unclear. More evidence on the distributional impact of a sugar tax is required in order to know the extent to which the impact on lower-income groups may be mitigated by changes in behaviour.

Our analysis suggests that there are challenging times ahead for health care across the UK. The NHS needs to embed and sustain rates of productivity improvement for the foreseeable future in a way that has, up until now, proved difficult. Our analysis of the extra funding required would be sufficient to maintain the current service. It would not address known weaknesses in our health care system such as the lack of parity for mental health care. It is hard to see how the current quality and range of services can be maintained without additional funding. There are choices about how to raise additional funding. One option is to bridge some of the gap through a lower public finance surplus than currently planned; another is to increase taxes. In considering new taxes, the government should focus on options that support wider social and economic goals.

While our analysis suggests that the NHS faces considerable pressures, it does not appear unsustainable. However, there must now be real doubts about the sustainability of the current financing system for adult social care. These services are part of a wider package of support provided by the welfare state to enable older people to live meaningful lives with dignity. The other key components are the state pension, other age-related benefits (such as winter fuel payments) and age-related disability benefits. Dame Kate Barker recently examined some of the options for the future of social care. We have not sought to analyse her recommendations; but it is clear there is now an urgent need for a fundamental re-examination of the future of adult social care funding.



# Introduction

Publicly funded health and adult social care in the UK will account for 8.4% of gross domestic product (GDP) in 2015/16 (0.9% on adult social care and 7.4% on health\*). Spending on health and adult social care now accounts for £1 in every £5 of government spending in the UK.

Despite occasional short periods during which NHS spending fell in real terms (adjusted for inflation), over the medium and long term, NHS spending has continued to rise ever since its creation in 1948. There has never been a 10-year period when spending on the NHS did not rise faster than inflation or economic growth. The UK is not alone in facing rising pressures to spend on health and social care. Looking at publicly funded spending on health care alone, countries belonging to the Organisation for Economic Co-operation and Development (OECD) doubled their share of GDP devoted to publicly funded health care between 1970 and 2013.<sup>1</sup>

Since the 2008 global financial crisis, the government has protected health spending in England from the full impact of austerity, although public spending on adult social care has fallen in real terms.<sup>2</sup> The protection afforded to the NHS has come as a result of steeper reductions for other public services.<sup>3</sup> Public spending on health care remains popular, with 89% of the public supporting a tax-funded NHS.<sup>4</sup> Because of this, all the main political parties proposed to increase spending on the NHS in the run-up to the May 2015 general election, including the current government which committed to £8bn of funding over and above inflation for the NHS in England by 2020/21.

But the outlook for social care is uncertain. Public spending on adult social care in England fell by 7% in real terms between 2009/10 and 2013/14 (2% a year in real terms).<sup>5</sup> The reforms to social care funding recommended by Sir Andrew Dilnot in his 2011 report<sup>6</sup> and enacted in the 2014 Care Act<sup>7</sup> have been postponed until 2020 and the government has made no commitment to protect care services from further austerity.<sup>8</sup> The Care Act reforms would have introduced a cap of £72,000 (from April 2016) on the amount people have to pay towards the costs of social care they need, alongside an increase in the financial threshold where a person is in a care home and the value of their property is taken into account; they would have been eligible for local authority financial support if they had assets up to £118,000 (the current threshold is £23,250).<sup>9</sup>

The Office for Budget Responsibility (OBR) produces an annual analysis of the sustainability of the UK's public finances, which assesses the long-term outlook for both public spending and public revenues (tax receipts).<sup>10</sup> It recognises that the UK's public finances are likely to come under even greater pressure over the long term. It attributes this pressure to the impact of an ageing population, which simultaneously lowers revenues and adds to spending. Health and social care are two of the key drivers of age-related expenditure, alongside pensions.<sup>11</sup>

\* Figures do not sum due to rounding.

In this report we look over the medium to long term (2015/16 to 2030/31) to examine:

- how spending pressures on health and social care might increase
- the scope for public funding to match these pressures within current fiscal policy to quantify whether there is a potential funding gap for health and social care
- the potential revenue that might be raised by different taxes to fill a health and social care funding gap
- the distributional impact of the different tax options and how they compare to the profile of the 'beneficiaries' of additional health and social care spending.

Tax is just one option for funding the NHS and social care system. Other options include user charges and insurance. This analysis is confined to understanding the implications of bridging any funding gap for health and social care through additional personal taxation. The aim of this work is to inform debate on these issues rather than to identify the optimal funding system for health and social care.

# Methodology

In this analysis we project the funding pressures for health and social care and compare these with the level of public funding that might be available within current government public finance policy and long-term economic forecasts.

There are many different modelling approaches for each of these components. We have not attempted to fully explain all of these or our preferred approach here; instead, further details of our methods are provided in an accompanying technical appendix.<sup>\*</sup> However, the results rely on some key assumptions, which we have summarised below. Changes to these assumptions will alter the results. We show some examples of this in the appendix, and explore some examples in the discussion section of this report.

The time period we have chosen to cover – 2015/16 to 2030/31 – can be split into two periods. The first is the period for the current government, 2015/16 to 2020/21, for which more definitive assumptions can be made for the level of public spending. The second period, 2020/21 to 2030/31, requires looser assumptions, as it depends on the policies of future unknown governments. To do this, we combine the broad approach taken by the OBR in its long-term fiscal sustainability report,<sup>†</sup> accompanied by long-term underlying economic trends (for example, the rate of GDP growth). We have then added our assumptions on the medium- and long-term path of fiscal policy based on manifesto commitments and other announcements, crucially the government's commitment to an additional £8bn for the English NHS by 2020/21<sup>12</sup> and the charter for budget responsibility.<sup>13</sup>

## Health and adult social care budgets

Between 2015/16 and 2020/21, the government has committed to increase the budget for the Department of Health in England by £8bn above inflation.<sup>12</sup> We have applied the Barnett formula to this increase to estimate total UK spending. The Barnett formula distributes increases in funding within England on devolved areas of spending (such as health) to Scotland, Wales and Northern Ireland according to the proportion of that area of spending that is devolved (99% in the case of health) and in line with the ratio of Scotland, Wales and Northern Ireland's population to England's. It is not possible to accurately estimate the health budget in Scotland, Wales and Northern Ireland until the completion of the respective planning rounds following the November 2015 Comprehensive Spending Review, so actual spending in each country may vary slightly from our estimates.

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<sup>\*</sup> The technical appendix will be available on the Health Foundation website: [www.health.org.uk/publication/filling-gap](http://www.health.org.uk/publication/filling-gap)

<sup>†</sup> This seeks to identify assumptions that might be considered 'unchanged' government policy (for example, in the share of the economy devoted to government spending). All values presented in this paper are in real terms, in 2015/16 and deflated in line with OBR's forecast GDP deflator.

Publicly funded adult social care is the responsibility of local authorities. So the funding available between 2015/16 and 2019/20 will be affected by the total funding available to local authorities. To estimate the available funding, we have assumed the following:

- Grants from central government to local authorities fall in line with the overall reduction in the resource departmental expenditure limit (RDEL) – an average of 7% a year between 2015/16 and 2019/20.<sup>14</sup>
- Local authority revenues from council tax and business rates rise, as projected by the OBR (0.5% a year in real terms).
- Spending on adult social care changes in line with the sum of grants to local authorities and their revenues from council tax and business rates. We note that this may be an underestimate if local governments choose to protect their adult social care budget.

Again, we have used the Barnett formula to estimate the result for the UK as a whole. We accept that there are key differences in the health and social care systems in the UK. For example, in Scotland personal social care for people aged 65 and over is free, while in Wales the NHS budget fell in real terms fell between 2010/11 and 2013/14 as part of a joint approach to health and social services, allowing the funding of social services to be relatively protected compared to other parts of the UK. It is highly possible that the governments of Scotland, Wales and Northern Ireland will take decisions over the level of devolved spending and taxation which will alter our projection. However, we feel we have produced a reasonable set of working assumptions.

To estimate the budgets for health and adult social care between 2020/21 and 2030/31, we have to estimate what will happen to tax receipts, total government spending (defined as total managed expenditure (TME)) and how TME is allocated. Government spending (TME) is divided into two broad categories:

- Annually managed expenditure (AME) – this covers spending that is ‘demand-driven’ and over which government has less control, such as debt interest payments and welfare spending.
- Departmental expenditure limits (DEL) – this includes direct spending by government departments on public services and investment, and includes central government funding of health and social care.

Between 2015/16 and 2020/21, we have used the OBR’s projections of average growth for TME (0.6%), AME (1.0%), DEL (0.2%) and tax receipts (0.6%).<sup>15</sup>

Between 2020/21 and 2030/31, we have assumed that tax receipts will rise in line with the projection for GDP growth of 2.4% a year in real terms. This is similar to the approach used by the OBR. We have then assumed that TME rises in line with tax receipts, reflecting the 2015 Fiscal Charter for a surplus on public sector net borrowing each year subsequent to a headline surplus having been achieved.<sup>13</sup> The government plans to achieve a fiscal surplus in 2019/20 of 0.5% of GDP, and we have projected forward this surplus.<sup>12</sup>

AME is predominantly demand led, and we have assumed that this will rise by 2.3% a year in real terms, based on the following assumptions:

- Welfare spending within AME rises in line with the yearly average of the Department for Work and Pensions (DWP) long-term projection (covering the years 2017/18 to 2032/33).<sup>16</sup>
- Government maintains a budget surplus of 0.5% of GDP, and this is used to pay down central government debt.
- Interest rates on maturing government debt increase steadily during the 2020s so that they would be equal to the growth rate of nominal GDP in the 2030s; this is consistent with the economic theory that government debt interest moves to equal nominal GDP growth over the long term.<sup>15</sup>
- Other areas of AME outside welfare and interest payments grow in line with nominal GDP.

DEL is estimated by subtracting the estimate for AME from the estimate for TME, and so is estimated to rise by 2.5% a year in real terms between 2020/21 and 2030/31. Because central government funding for health and adult social care form part of DEL, we have assumed that the budgets for these areas also rise by 2.5% a year in real terms.

## Spending pressures for health and adult social care

To estimate the future spending pressures on health care across the UK, we have used a model for the English NHS originally designed by the Nuffield Trust,<sup>17</sup> and further developed by the Health Foundation.<sup>18</sup> This model produces projections for the increase in NHS spending required to meet pressures due to a growing and ageing population, the increasing prevalence of long-term conditions, higher expectations of care and rises in the relative prices of health care inputs (principally of staffing).

We have then assumed that the average real-terms spend per head on health care in Scotland, Wales and Northern Ireland rises at the same rate as projected for England, in order to get an estimate for total UK health spending pressures.

By adjusting assumptions on the unit costs of activity,<sup>\*</sup> we are able to project the effect of different levels of efficiency growth and of NHS staff pay increases. In our central scenario for this analysis, we have assumed the following:

- NHS pay is capped at 1% a year in cash terms (not adjusted for inflation) between 2015/16 and 2019/20, in line with current national policy.<sup>†</sup> Between 2019/20 and 2030/31, pay rises at the historic average of 2% a year in real terms. This is also in line with the OBR projection for whole economy average earnings growth.
- NHS efficiency grows at 1.5% a year in real terms.<sup>‡</sup>

<sup>\*</sup> Activity includes inpatient days, outpatient appointments, accident and emergency (A&E) attendances, GP appointments, community pharmacy prescriptions, mental health contacts and community care contacts.

<sup>†</sup> There will be some additional increases due to band progression, promotions and change in skill mix, plus the effect of the additional employee contribution to pensions in 2016.

<sup>‡</sup> This is higher than the long-run historic average of 1.0% a year, to reflect the current strong push to improve the rate that efficiency grows in the NHS. If this is achieved through sustainable and replicable approaches, then it is reasonable to assume that the NHS in the future might achieve efficiency growth at a higher rate than the long-run average. This is the estimate for NHS-wide, quality adjusted productivity between 2004/5 and 2011/12, University of York, 2015.<sup>19</sup>

For publicly funded adult social care, we used the projected spending pressures for England drawn from Personal Social Services Research Unit (PSSRU) aggregate projection models at the London School of Economics and Political Science (LSE).<sup>19</sup> To avoid double-counting funding transfers from the Department of Health we have adjusted the spending figure for 2015/16 to the net current expenditure by local authorities, £14.1bn.<sup>21</sup>

There is no strict budget set for public spending on social care and each council sets its budget based on the resources available, and relative need. Public spending on social care by country for the UK is only available in Public Expenditure Statistical Analyses (PESA) up to 2013/14.<sup>3</sup> In that year, public spending on social care in England – excluding family and children spending – accounted for 79% of the UK total. Scotland, Wales and Northern Ireland accounted for 11%, 6% and 3% respectively.\* We have assumed the spending ratio for the four countries of the UK is the same in 2015/16 to produce an estimate for total net UK spending on publicly funded adult social care, excluding NHS funding, of £17.7bn.

We have then assumed that publicly funded adult social care spend per head of adult population rises at the same rate for Scotland, Wales and Northern Ireland as it does for England. We recognise that this is not a perfect option, especially given national differences such as free personal social care for people aged 65 and over in Scotland. But it does provide a useful working estimate for the UK.

Table 1 summarises the key assumptions we have used.

**Table 1: Summary of key assumptions**

	2015/16 to 2020/21	2020/21 to 2030/31
<b>Total managed expenditure (TME)</b>	Rises in line with OBR projections, an average increase of 0.6% a year in real terms.	Rises in line with tax receipts, an average increase of 2.4% a year in real terms.
<b>Tax receipts</b>	Rise in line with OBR projections, an average increase of 2.9% a year.	Rise at the same rate as projected GDP growth, an average increase of 2.4% a year.
<b>Annually managed expenditure (AME)</b>	Rises in line with OBR projections, an average increase of 1.0% a year.	Split into three: <ul style="list-style-type: none"> <li>Welfare rises in line with DWP projections</li> <li>Debt payments fall as the fiscal surplus is used to pay off the national debt</li> <li>Remainder rises with GDP</li> </ul> This is an average increase of 2.3% a year.
<b>Departmental expenditure limit (DEL)</b>	= TME – AME An average increase of 0.2% a year.	= TME – AME An average increase of 2.5% a year.

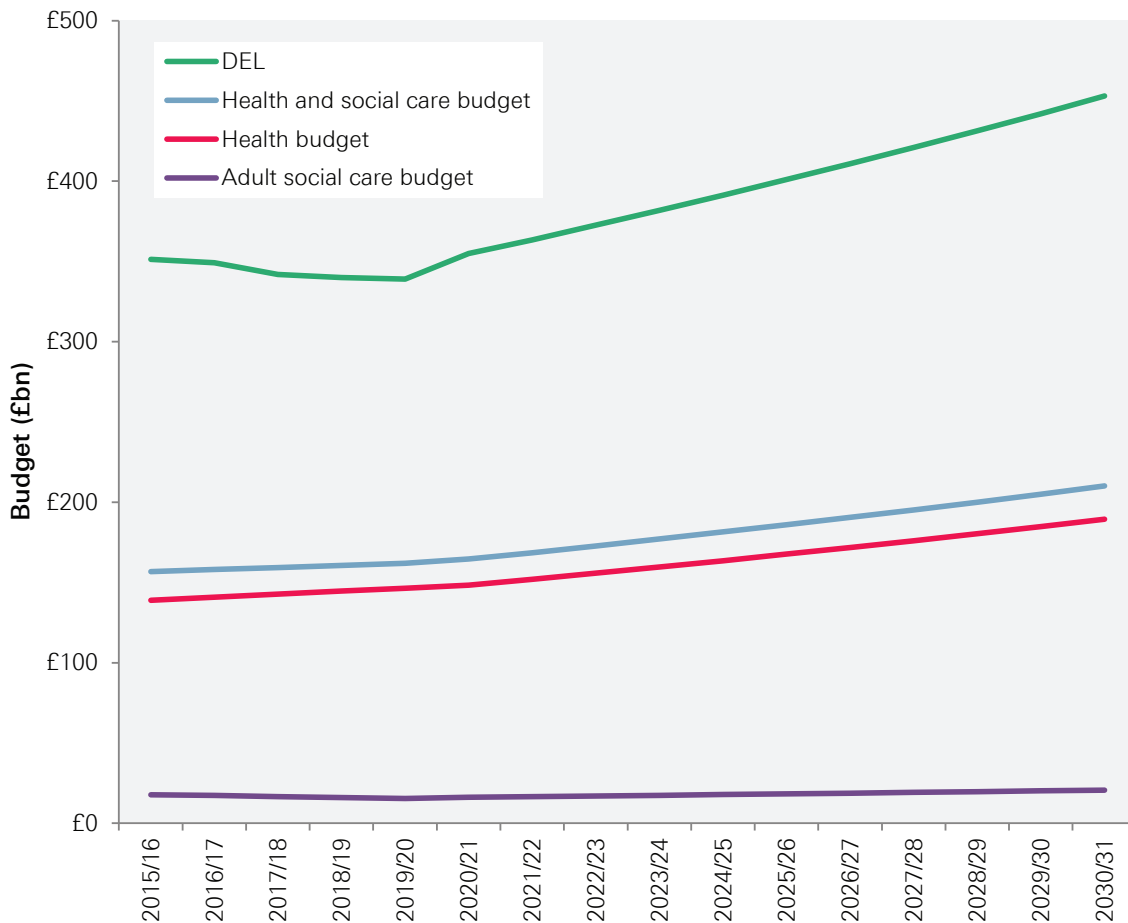
\* Figures do not sum to 100% due to rounding.

	2015/16 to 2020/21	2020/21 to 2030/31
<b>Budget for NHS</b>	<p>English NHS receives £8bn, the devolved countries spend in line with the additional allocation from the application of the Barnett formula in the spending review.</p> <p>An average increase of 1.3% a year.</p>	<p>Rises with DEL, an average increase of 2.5% a year.</p>
<b>Budget for adult social care</b>	<p>The central government current grant to local authorities falls in line with the overall reduction in RDEL (excluding protected departments), a cumulative reduction of 26.5% or an average fall of 7% per year.</p> <p>Council tax and business rate revenue rises by 0.5% as in the OBR's forecast.</p> <p>The share of fire and police funding in business rates and council tax revenue stays the same throughout the forecast period.</p> <p>Overall, this results in a reduction of 9%, an average of 1.8% per year – mainly as reduction in grants are made up for by rising council tax and business rate receipts.</p>	<p>Rises with DEL, an average increase of 2.5% a year.</p>
<b>Health pressures</b>	<p>We use the Health Foundation's model for England, assuming pressures rise due to growing and ageing population, the increasing prevalence of long-term conditions, higher expectations of care and rises in the relative prices of health care inputs. We also assume that:</p> <ul style="list-style-type: none"> <li>the NHS achieves efficiency growth of 1.5% a year</li> <li>pay rises as per 1% national cash terms pay offer.</li> </ul> <p>UK figure estimated assuming spending pressures per head for devolved countries rises in line with England.</p> <p>This gives an average increase of 1.6% a year in real terms.</p>	<p>We apply the same assumptions as for 2015/16 to 2020/21, except that we assume pay rises at long-term average of 2% a year in real terms.</p> <p>This gives an average increase of 2.8% a year in real terms.</p>
<b>Social care pressures</b>	<p>As per PSSRU model for England, with pressures growing and an ageing population, the increasing prevalence of long-term conditions, higher expectations of care and rises in the relative prices of health care inputs. In this case there are no assumed savings due to productivity growth, and wages rise in line with whole economy earnings. UK figure estimated assuming that spend per head for devolved countries rises in line with England. This gives an average increase of 4.3% a year in real terms.</p>	

# Results

Government departmental expenditure spending (DEL) is expected to fall in real terms, from £351bn in 2015/16 to £339bn in 2019/20, before rising again to £355bn in 2020/21. The annual average change in DEL in real terms over the current parliament is therefore expected to be 0.2% a year. It is then projected to continue to rise by an average of 2.5% a year, reaching £453bn in 2030/31 (Figure 1). Over the same period, real GDP is expected to increase by 2.4% a year. As a result of the slower increase between 2015/16 and 2020/21, DEL will fall as a share of GDP, from 19% in 2015/16 to 17% in 2030/31.

**Figure 1: Estimated change in UK DEL, and budgets for health and social care**



If the government fulfils its commitment to provide £8bn of additional funding for the English NHS, and the devolved governments opt to spend the resulting consequential on health care, the health budget for the UK would rise by around 1.3% a year, from £139bn to £148bn in 2020/21. We then assume that it will rise at a faster rate of 2.5% a year in line with economic growth and DEL, reaching £189bn in 2030/31.



The budget for public provision of adult social care is projected to fall by 1.8% a year in real terms between 2015/16 and 2020/21, from £17.7bn to £16.2bn. As with health, we assume that this budget then rises by 2.5% a year after 2020/21, reaching £20.7bn by 2030/31.

The combined UK budget for health and adult social care would therefore rise from £157bn in 2015/16 to £165bn in 2020/21 (1.0% a year), and to £210bn in 2030/31 (2.5% a year, or 2.0% a year for the whole period) (see Figure 1). This means that the combined budget for publicly funded health and adult social care would fall as a share of GDP from 8.4% in 2015/16 to 7.9% in 2030/31.

The spending pressures on health and adult social care are both projected to rise at a faster rate than the increase in the national budget. For health, taking expected efficiency growth and pay restraint into account, pressures are expected to rise by an average of 1.6% a year between 2015/16 and 2020/21, then rising by 2.8% a year with sustained efficiency improvement between 2020/21 and 2030/31.

Pressures are higher for adult social care, rising by 4.4% between 2015/16 and 2020/21, and by 4.3% a year between 2020/21 and 2030/31. These figures are similar to the central projection for adult social care produced by the National Institute for Health Research (NIHR).<sup>22</sup>

There are a number of reasons for the higher projected growth, including the following.<sup>23</sup>

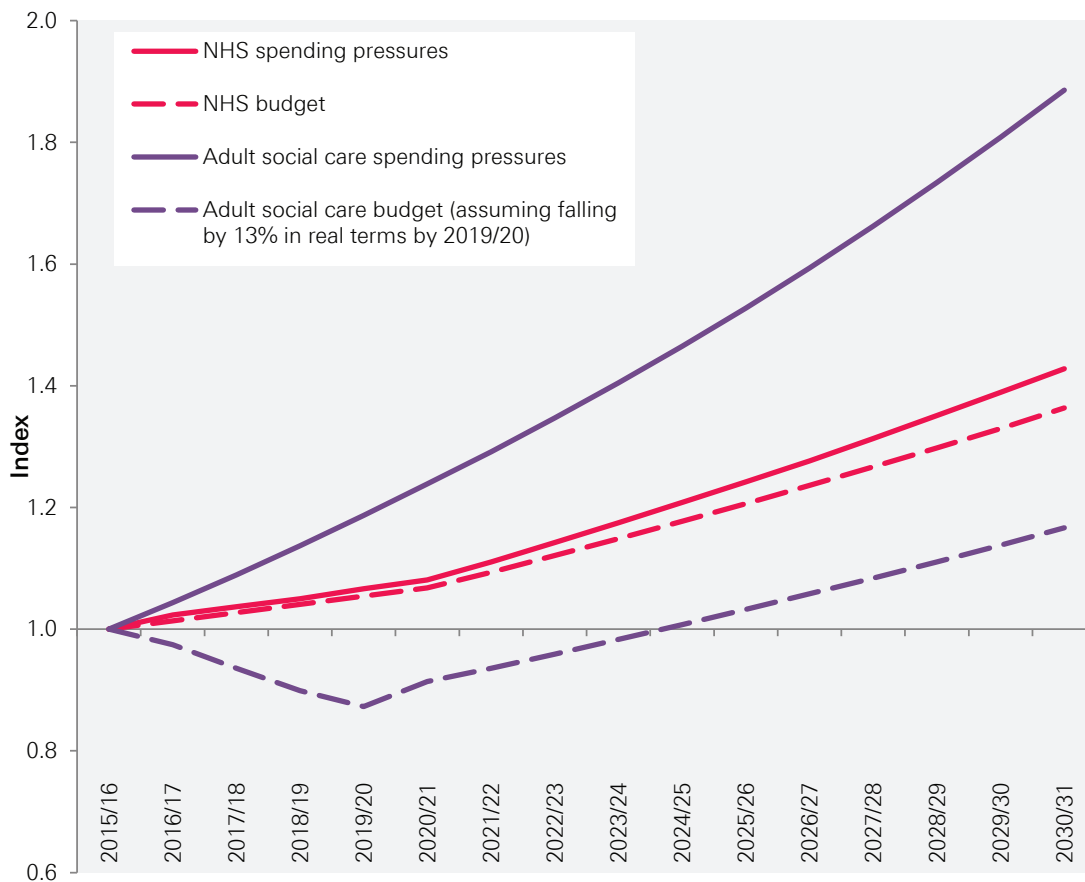
- Social care for older people is heavily concentrated on the most elderly, whose numbers are rising especially rapidly.
- The number of people with learning disabilities is expected to rise faster than the overall population aged under 65.<sup>24</sup>
- The scope for efficiency gains in adult social care is lower than for the NHS, and in particular there is no parallel to falling hospital length of stay, which has been a major source of efficiency gains for the NHS.
- Since most people working in social care are employed by the independent sector, public sector pay restraint does not apply.

Figure 2 overleaf shows how the budgets and spending pressures for UK health and adult social care will change relative to 2015/16. Projected pressures for the NHS are growing faster than the budget, reaching 1.43 times current spend by 2030/31, while the projected budget rises by 1.36 times. But the gap is far wider for adult social care, with pressures expected to almost double by 2030/31 (1.9 times current spend), with a budget expected to grow by 1.2 times current spend.

This means that meeting the pressures would require total government spending on health and adult social care to rise from £157bn in 2015/16 to £172bn in 2020/21 and to £232bn by 2030/31. This is higher than the expected budget available of £165bn in 2020/21 and £210bn in 2030/31, creating an expected funding gap of £8bn and £22bn respectively.\*

\* Figures do not sum due to rounding.

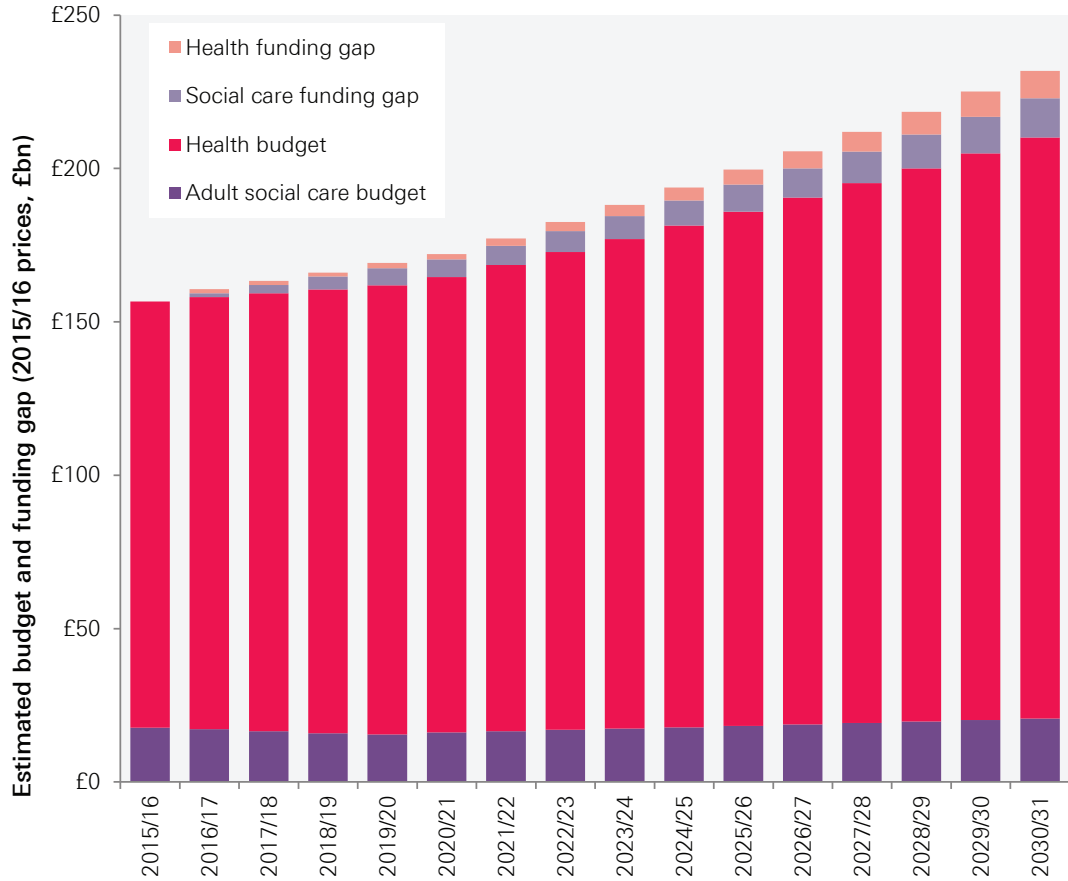
**Figure 2: Relative growth in projected spending pressures and budget for UK publicly funded health and adult social care**



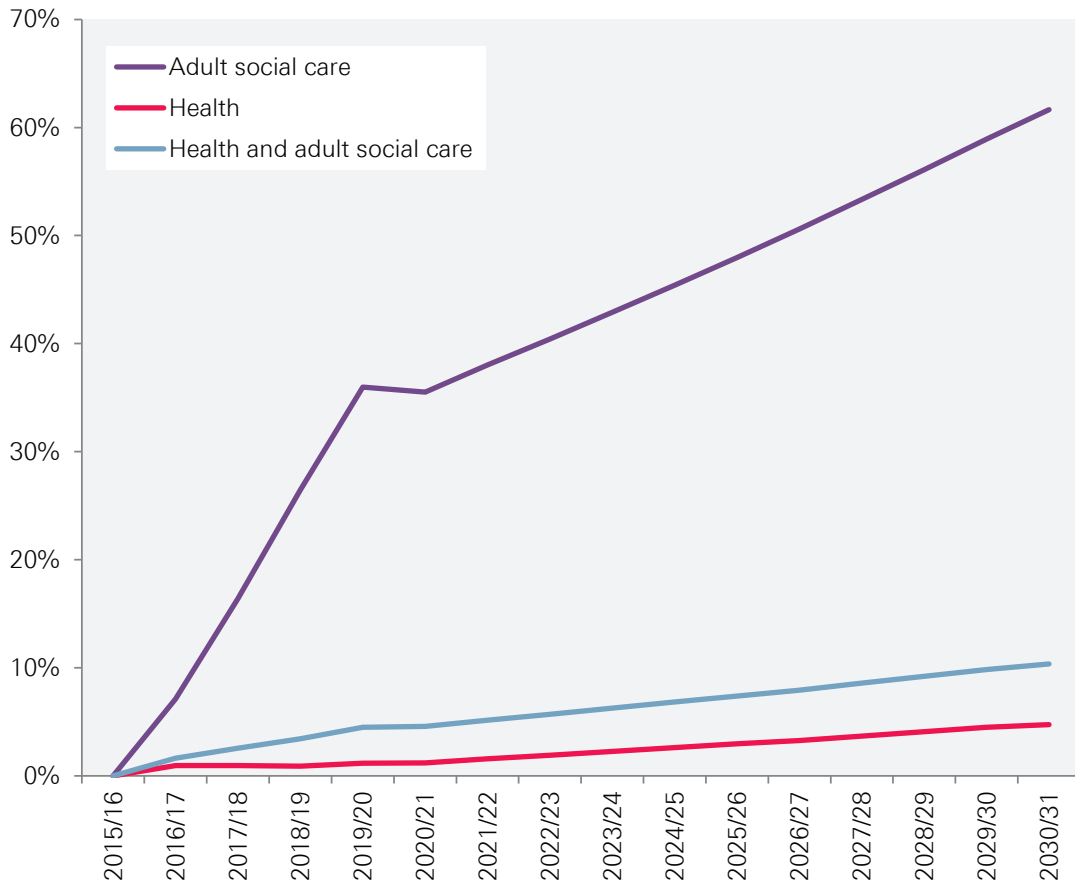
More of the projected funding gap is for adult social care, at £13bn by 2030/31 compared to £9bn for health. This is due to pressures rising at a faster rate, and the budget projected to fall in the first five years, whereas for the health system, the funding path is much more consistent (Figure 3). However, this projection is dependent on the NHS achieving efficiency growth of 1.5% a year. If NHS productivity grows at a slower rate, achieving a UK-wide rate of 1.0% a year, the funding gap in 2030/31 would rise to £23bn for the NHS, and £35bn for health and adult social care combined.

The growing funding gap for social care compared to health becomes even more stark when compared to the total budget. The projected health funding gap of £9bn in 2030/31 is worth 5% of the projected budget that year (£189bn). But as the projected budget for social care is lower, at £21bn, the funding gap of £13bn is equivalent to 62% of the total expected adult social care budget for the UK (Figure 4).

**Figure 3: Budget and funding gap for health and social care**



**Figure 4: Funding gap for health and adult social care as proportion of expected budget**



**Table 2: Summary of key results for UK health and adult social care, under central assumptions**

		2015/16	2020/21	2030/31
<b>Budget</b>	DEL	£351bn	£355bn	£453bn
	NHS	£139bn	£148bn	£189bn
	Adult social care	£18bn	£16bn	£21bn
	NHS and adult social care	£157bn	£165bn	£210bn
<b>% of GDP</b>	DEL	18.8%	16.8%	17.0%
	NHS	7.4%	7.0%	7.1%
	Adult social care	0.9%	0.8%	0.8%
	NHS and adult social care	8.4%	7.8%	7.9%
<b>Spending pressures</b>	NHS	£139bn	£150bn	£198bn
	Adult social care	£18bn	£22bn	£33bn
	NHS and adult social care	£157bn	£172bn	£232bn
<b>Funding gap</b>	NHS	£0bn	£2bn	£9bn
	Adult social care	£0bn	£6bn	£13bn
	NHS and adult social care	£0bn	£8bn	£22bn
<b>Funding gap as share of expected budget</b>	NHS	0%	1%	5%
	Adult social care	0%	36%	62%
	NHS and adult social care	0%	5%	10%

## Options for filling the health and adult social care funding gap

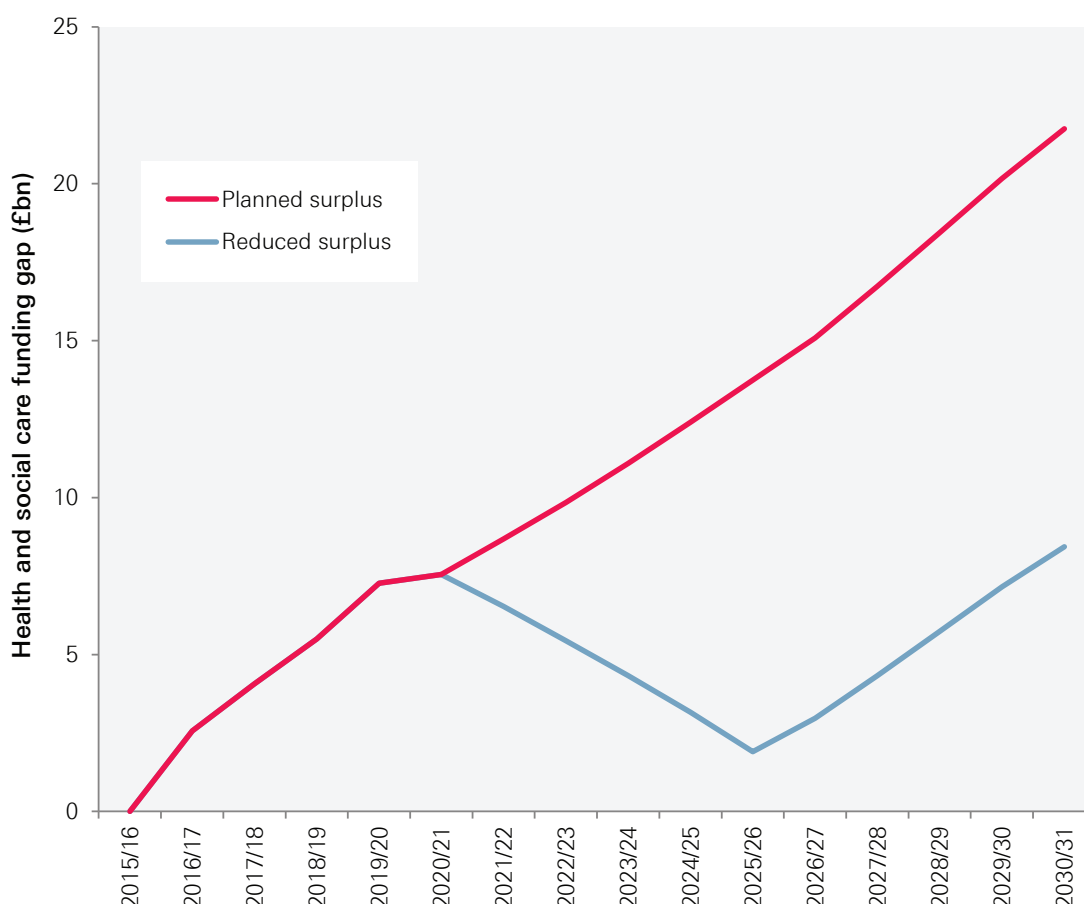
The projected funding gap for health and adult social care could be bridged by a series of fiscal options. These include reducing the planned fiscal surplus, raising additional revenue through tax, re-directing resources from other areas of government spending, or by offsetting the pressures directly by changing the way services are provided.\* We have not looked at different priorities for DEL; although health spending has grown as a share of public spending over a number of years, the scope for further significant changes in the composition of public spending would seem limited.<sup>25</sup> We therefore confine our analysis to understanding how decisions about tax policy and the fiscal surplus might impact the health and social care funding gap.

On current Office for Budgetary Responsibility (OBR) projections, published at the time of the July 2015 budget, the government will run a surplus of £10.5bn in 2020/21 (2015/16 prices), or 0.5% of GDP. The central scenario set out above sees this surplus held constant as a share of GDP, with the surplus in each year used to pay down total government debt. However, the government could instead use some or all of the projected surplus to provide additional funding for health and adult social care.

\* The funding gap could also be met by restricting entitlements to health and/or adult social care, or introducing user charges. We do not explore these options in this report.

Figure 5 shows the implications for the combined funding gap of reducing the projected fiscal surplus from the planned 0.5% of GDP to a balanced budget in five equal stages between 2020/21 and 2025/26, with the resources unlocked in this way used to increase funding for health and adult social care. After 2025/26, the government runs a balanced budget, with funding for health and adult social care increasing in line with wider departmental spending. This scenario is shown relative to our central projection of health and adult social care funding, where the surplus remains at 0.5% of GDP.

**Figure 5: UK health and adult social care funding gap under government surplus scenarios**



Using the projected surplus to fund UK health and adult social care would provide additional funding of £13.3bn by 2030/31. This would reduce but not eliminate the total funding gap. Relative to our central projection, the funding gap in 2030/31 would more than halve from £22bn to £8bn.\*

Alternatively, or in addition to a reduction in the surplus, the government could look to raise extra revenue for the NHS and adult social care through taxation. Table 3 shows indicative estimates for extra revenue the government could expect to raise from an increase of one percentage point in several rates of tax: the basic and higher rates of income tax; employees' and employers' National Insurance contributions (NICs); and value added tax (VAT); as well as extending employees' NICs to people above the state pension age and increasing the rate of VAT on particular goods associated with poor health outcomes

\* Figures do not sum due to rounding.

(alcohol and tobacco, and confectionery and soft drinks). The estimated revenue raised is shown for 2020/21 and 2030/31. It takes account of factors such as forecast changes in private pension income, earnings and expected demographic shifts (particularly the expected rise in the number of pensioner households by 2030/31). These numbers are broadly consistent with those published by HM Revenue and Customs.<sup>26</sup>

We have confined our analysis to existing taxes on income and household expenditure – partly because it is much harder to accurately model the potential revenue-raising power of new taxes, but also because new taxes raise the possibility of additional administrative costs incurred through collection. Additional revenue could also be raised in other ways, such as the introduction of new taxes, or changes to taxes on businesses or property, but these are beyond the scope of this report.

**Table 3: Estimates of revenue raised from a one percentage point increase in key tax rates**

		2020/21	2030/31
<b>Income tax</b>	Basic rate	£5.4bn	£6.7bn
	Higher rate	£1.7bn	£2.0bn
<b>National Insurance</b>	Extending above state pension age	£0.9bn	£0.9bn
	Employees' main rate between secondary threshold and upper earnings limit	£4.3bn	£6.0bn
	Employees' higher rate above upper earnings limit	£1.3bn	£1.9bn
	Employers' main rate of National Insurance	£5.6bn	£7.8bn
<b>VAT</b>	Main rate	£5.9bn	£7.4bn
	Alcohol and tobacco	£0.5bn	£0.7bn
	Sugar*	£0.2bn	£0.2bn

*\* Sugary products include the following: confectionery, soft drinks and fruit juice.  
All figures 2015/16 prices*

These estimates show, for example, that a one percentage point increase in the basic rate of income tax would raise £5.4bn, and £6.7bn in 2030/31. The same increase in the main rate of NICs would raise £4.3bn a year by 2020/21 and £6.0bn by 2030/31.

There is often interest in the role that so-called 'sin-taxes' could play in funding health care. We therefore examined the options for a higher rate of VAT on some of the key areas of consumption that are associated with population health risks and greater use of health care services. Targeting a one percentage point increase in VAT on alcohol and tobacco would raise £0.5bn in 2020/21 and £0.7bn in 2030/31. For sugary products, the additional potential revenue is £0.2bn in 2020/21 and in 2030/31. Box 2 on page 33 discusses some of the evidence around the impact of 'sin taxes' and particularly the recent evidence and debate on a sugar tax.

Meeting the £8bn health and adult social care funding gap in 2020/21 would therefore require an increased of more than one pence in every pound on both the basic and higher rates of income tax or the standard and higher rates of employees' NICs. Alternatively some mixture of other tax rises could be used, such as increasing the higher rate of income tax or the rate of VAT on particular products associated with health outcomes.

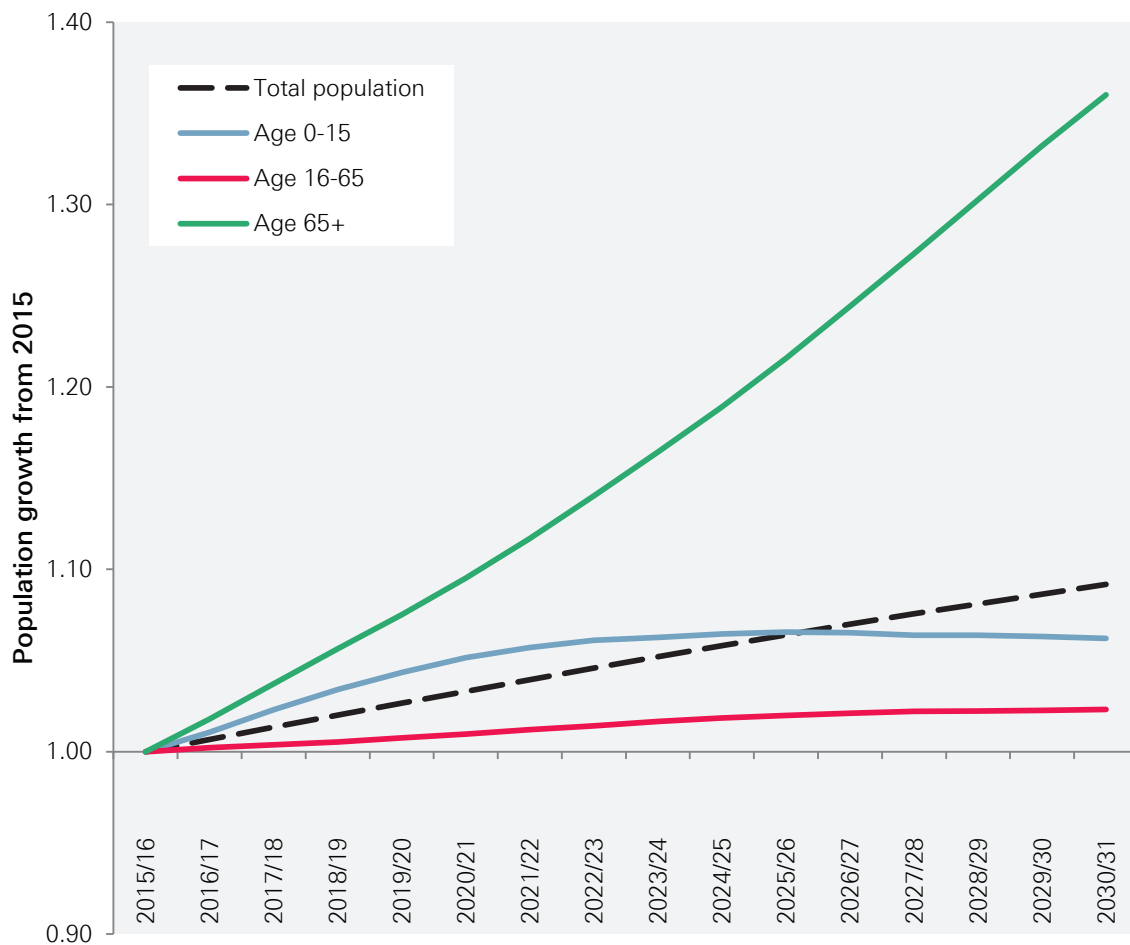
The amount that would need to be raised from tax in 2030/31 would rise to £22bn under our central estimate of the health and adult social care funding trajectory, or £8.4bn if the projected fiscal surplus is used to increase health and adult social care funding. Raising £22bn from tax measures would require either a significant increase in the main rates of income tax or National Insurance (in the order of three to four pence in every pound) or the main rate of VAT (three percentage points), or smaller increases in several different rates of tax.

# Discussion

## Health

Our analysis suggests that, despite the government’s commitment to increase NHS funding over this parliament, the UK’s health service faces a potential funding gap in both the medium and long term. The size of this gap is largely dependent on the government’s ability to maintain pay restraint for health care workers and the rate of efficiency improvement the NHS is able to sustain over the medium term. As Figure 6 shows, the UK population is growing and ageing. Over the next 15 years, the population is expected to increase by 6m from 65.4m in 2015/16 to 71.4m in 2030/31. Most of this population growth is accounted for by increases in the 65-and-over and under-16 age groups. But while this does increase pressures on the health care budget, pressures also rise due to factors such as rising prevalence of long-term conditions, rising public expectations, new technologies and rising costs of treatments.

**Figure 6: Principal population projections for the UK<sup>27</sup>**





If the government can hold health service pay increases in line with their planned policy for public sector workers, and the NHS can improve efficiency by 1.5% a year,<sup>\*</sup> we project a gap of around £2bn by the end of this decade (2020/21). If NHS pay grows in line with historic trends through the next decade but efficiency growth continues at 1.5% a year, the gap would widen to £9bn by 2030/31.

These assumptions are challenging. While it has been possible to hold down pay awards for those working in the NHS over recent years, and their real earnings have fallen,<sup>2</sup> the pay cost per full-time equivalent (FTE) member of staff has been increasing as the NHS has struggled to recruit and retain permanent staff and has become increasingly reliant on more expensive agency staff.<sup>28</sup> Moreover, over the next five years, economic forecasts expect whole economy earnings to rise in real terms.<sup>13</sup> This will mean that NHS pay will fall relative to other occupations.

The most critical factor determining the impact of further austerity on the NHS is the rate of productivity and efficiency improvement it is able to sustain. Table 4 shows various estimates of NHS productivity and efficiency from different analyses over recent years. The figures vary due to the timeframe covered in each study, the activity included and the extent to which changes in quality are accounted for. For example, the 2015 Health Foundation estimate only covers acute care, and includes the period of rising staff costs following the public inquiry into Mid-Staffordshire NHS Foundation Trust.<sup>29</sup> The University of York estimate covers a wider range of NHS services and goes further in accounting for improvements in the quality of services provided.

**Table 4: A comparison of estimates of NHS efficiency and productivity improvement**

	Scope	Annual average change
<b>University of York, 2014</b> <sup>19</sup>	England, NHS-wide Total Factor Productivity (TFP) with quality adjusted output, 2004/05–2011/12	1.5%
<b>ONS, 2015</b> <sup>30</sup>	UK NHS-wide TFP with quality adjusted output, 1995–2012	0.8%
<b>Deloitte, 2014</b> <sup>31</sup>	English NHS acute hospitals efficiency frontier shift, 2008/09–2012/13	1.2%
<b>The Health Foundation, 2015</b> <sup>28</sup>	Acute care in English NHS hospitals, 2009/10–2013/14	0.4%

In our analysis we have assumed the UK NHS can sustain a 1.5% annual improvement in efficiency. As Table 4 shows, this is at the upper end of estimates based on previous performance. It is, however, below estimates of the long-run trend rate of productivity growth for the economy as a whole, which the OBR estimates at 2.2% a year.<sup>11</sup> This is consistent with Baumol’s cost disease hypothesis, which argues that the cost of health care will rise relative to other sectors of the economy.<sup>32</sup>

<sup>\*</sup> This is higher than the long-run historic average of 1.0% a year, to reflect the current strong push to improve the rate that efficiency grows in the NHS. If this is achieved through sustainable and replicable approaches, then it is reasonable to assume that the NHS in the future might achieve efficiency growth at a higher rate than the long-run average.

We have explored the impact of a lower – and arguably more realistic – estimate of 1.0% a year NHS efficiency growth on the size of the potential funding gap. These results are shown in Table 5. The funding gap for the NHS rises from £9bn in 2030/31 if efficiency improves by 1.5% a year, to £23bn if it increases by 1.0% a year.

**Table 5: Results if NHS only achieves 1.0% annual efficiency growth**

		2015/16	2020/21	2030/31
<b>Budget</b>	DEL	£351bn	£355bn	£453bn
	NHS budget	£139bn	£148bn	£189bn
<b>% of GDP</b>	DEL	18.8%	16.8%	17.0%
	NHS budget	7.4%	7.0%	7.1%
<b>Spending pressures</b>	NHS budget	£139bn	£154bn	£212bn
<b>Funding gap</b>	NHS budget	£0bn	£5bn	£23bn
<b>Funding gap as share of expected budget</b>	NHS budget	0%	3%	12%

*Note: See table 2 for figures for efficiency growth of 1.5% a year.*

Our analysis of the potential funding pressures on the NHS may be an underestimate, as we have imposed challenging assumptions regarding efficiency, and we do not allow for significant improvements in the quality of care provided or major technological advances that could mean many more people benefiting from certain types of care (for example, if an effective treatment for dementia were identified). However, we do assume that current trends in chronic disease patterns – a major driver of health spending – continue. This is not inevitable; changes in public health could make a difference, as chronic diseases such as cardiovascular disease and cancer are linked to population risk factors and socioeconomic status<sup>33</sup> and so offer at least the longer-term prospect of lower spending pressures for health care.

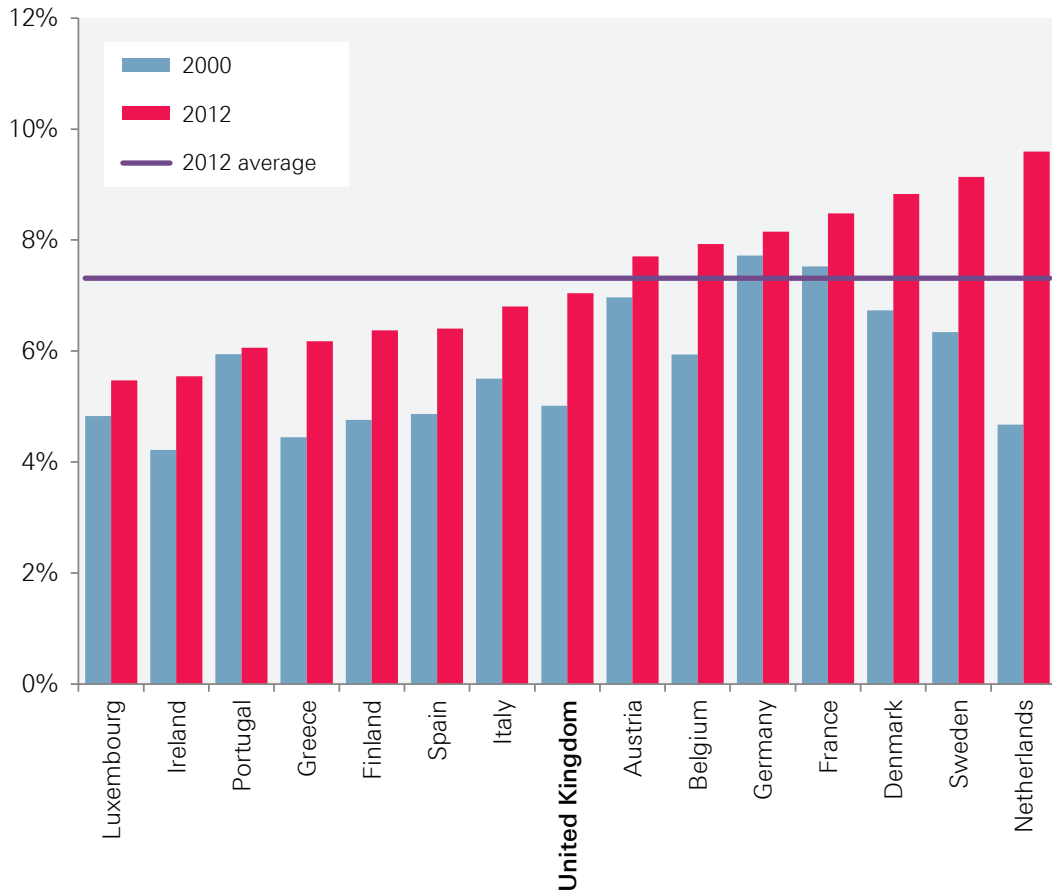
The health funding gap is a large headline figure but is a small share of GDP. Between 2015/16 and 2030/31, pressures on the NHS budget are projected to increase by almost £60bn. But over the same period, GDP is projected to increase by £799bn. Our current assumptions would see the budget for the NHS reach 7.1% of GDP in 2030/31. However, meeting the anticipated pressures would require the budget to rise to 7.4%. Fully funding the projected pressures on the health system would require 7% of the expected growth in GDP.\*

If all the NHS spending pressures were funded, the UK’s share of GDP devoted to health care would be 7.4% by 2030/31 – the same as in 2015/16. This would mean that in 2030/31, the UK would be spending a smaller share of its GDP on publicly funded health care than countries such as Germany, France, Denmark, Sweden and the Netherlands were in 2012 (Figure 7).†

\* The combined health and social care budget would be 7.9% of GDP while meeting pressures would require 8.7%.

† Figure 7 shows the share of GDP devoted to publicly funded health care from OECD data; this shows health as a share of GDP at 7% for the UK in 2012. UK government data show UK health spending in 2015/16 at 7.4% – largely due to data differences between the OECD and later UK-specific data sources.

**Figure 7: Publicly funded health care spending as a share of GDP\***



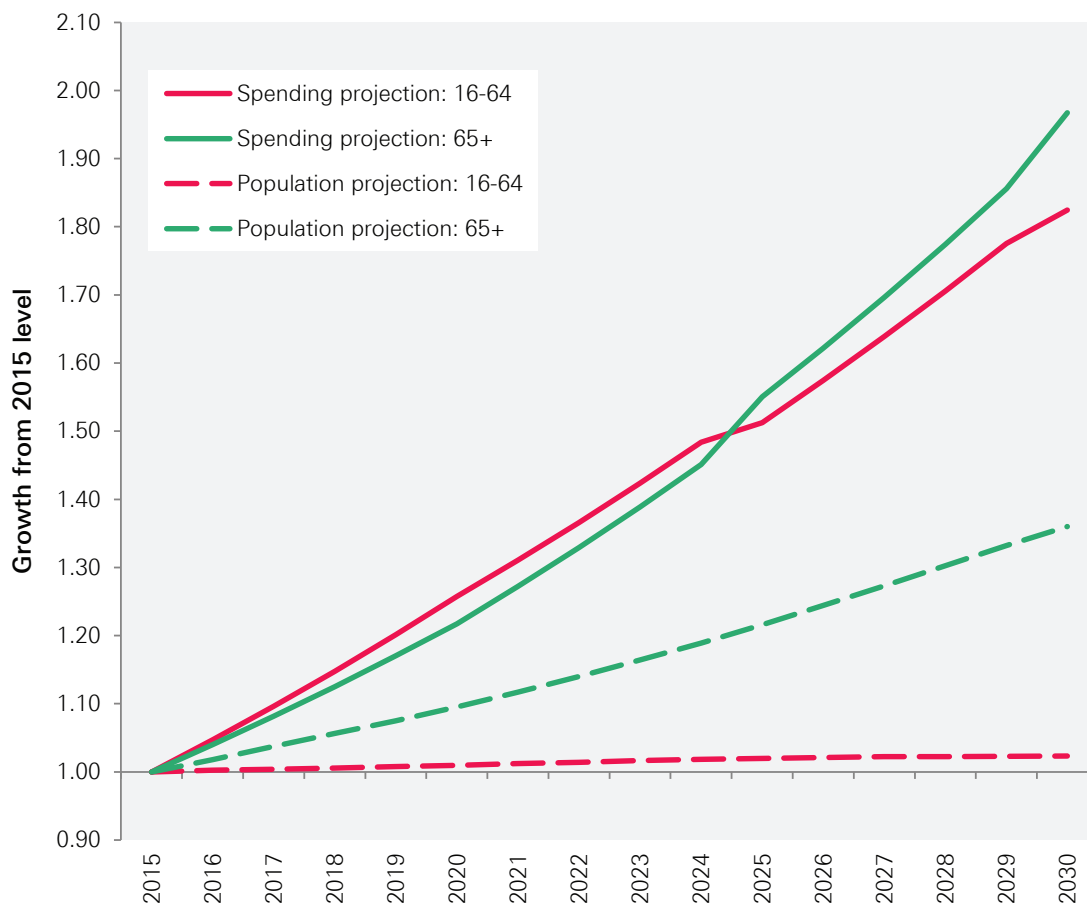
## Social care

For adult social care, the outlook is even more challenging than for health. Our analysis shows spending pressures for publicly funded adult social care rising from a planned spend of £18bn in 2015/16 to a projected required spend of £33bn in 2030/31. This is the result of a combination of factors. First, an ageing population; as Figure 8 shows, population growth among the over-65s is projected to be particularly high over the next decade. The number of children with disabilities surviving into adulthood is also increasing. Social care support for people with learning disabilities accounts for almost a third of adult social care spending in England. Department of Education data suggests that the number of children with a learning disability is rising much faster than pupil numbers. Many of these children will require ongoing intensive support in adulthood and learning disabled services are typically more expensive than other elements of social care support.<sup>34</sup>

Moreover, evidence would suggest that adult social care has less potential in the long run to increase its rate of productivity growth. Since 1997 social care productivity is estimated to have fallen while health care productivity increased.<sup>35</sup> Over recent years, adult social care funding fell by an average of just over 2% a year in real terms between 2009/10 and 2013/14.<sup>5</sup> Throughout this period, measures to bridge this gap have included reduced access to services, reductions in the prices paid to care providers, pooled budgets with health care, and increased focus on preventative measures that reduce the need for more expensive care.<sup>36</sup>

\* Excluding capital investment.

**Figure 8: Index of spending pressures for adult social care and population growth**



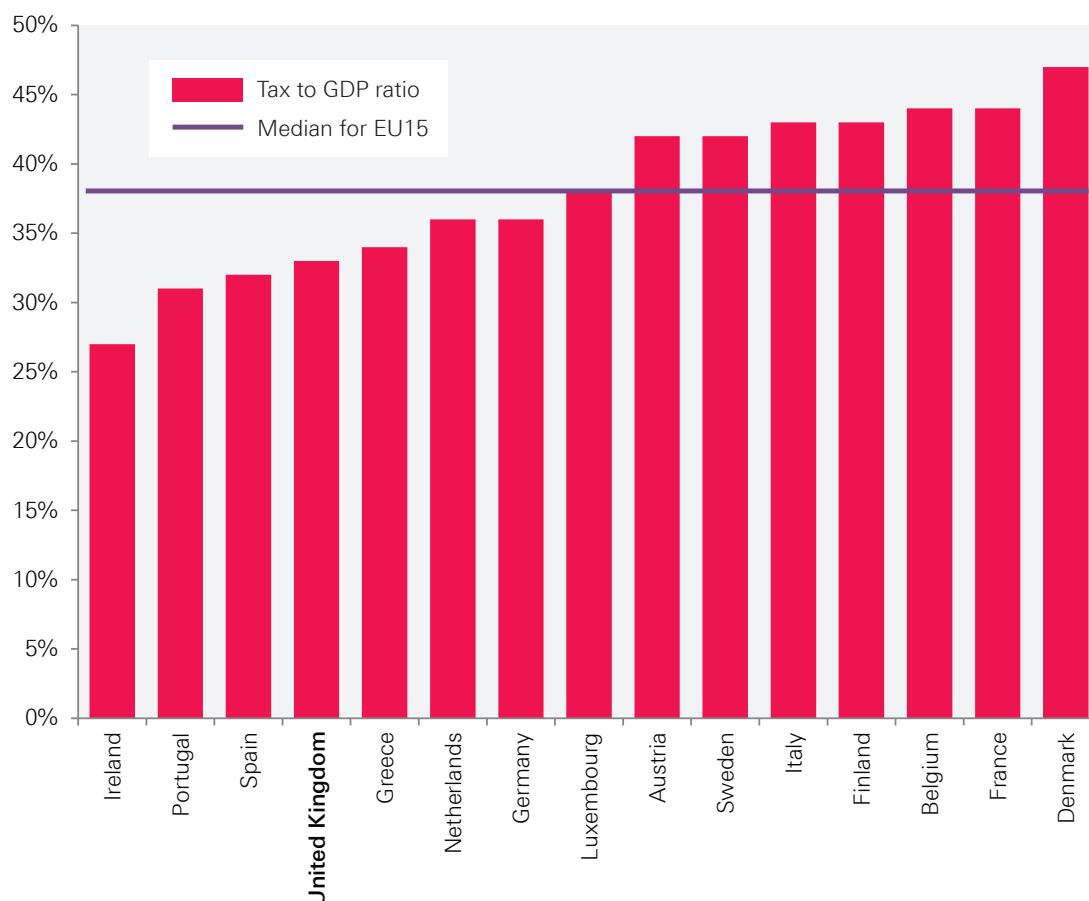
Given the scale of future funding pressures, it is difficult to see how this gap can be bridged through further reductions to eligibility or the prices paid to care home or domiciliary care home providers. The social care sector spends a greater share of turnover on wages than almost any other and wages are low and have been falling.<sup>35</sup> Assuming that social care is not protected from planned reductions in government spending, the gap between pressures and likely resources available over the next five years is projected to be £6bn. This is before the impact of the new 'National Living Wage' has been factored into local authority-funded care costs. Best estimates are that the 'National Living Wage' will add £1.4bn (in 2015/16 prices) to the cost of publicly-funded adult social care by 2020/21.<sup>35</sup>

Beyond 2020/21, the government has delayed implementation of phase II of the 2014 Care Act, which would have seen care costs capped for eligible individuals. These elements of the Act have been delayed until 2020. Implementing these proposals is estimated to add further costs to social care, rising to £2.2bn in 2030/31.<sup>37</sup>

## Filling the funding gap through additional taxation

Fully funding the health and social spending pressures may require an increase in the level of taxation. Figure 9 shows that the UK raises a comparatively low amount through taxation, compared to other countries in Europe. Funding the projected health care pressures through additional taxation would result in an increase in the tax to GDP ratio of around one percentage point by 2030/31. Such an increase would still leave the UK as a comparatively low tax economy by European standards.

**Figure 9: Total tax revenue as a percentage of GDP in 2012<sup>38</sup>**



Our analysis shows that to meet the pressures on health and adult social care, the government could use a combination of higher taxes and/or devote the planned fiscal surplus of 0.5% of GDP to providing additional funding. The level of tax increases required to bridge the combined funding gap under our central scenario is equivalent to an increase of almost three pence in every pound in both the basic and higher rates of income tax by 2030/31. Alternatively, if funded from consumption tax (VAT), it would require the main rate to be increased from 20% to around 23%.

The mix of tax and surplus, and choice of specific taxes, is not a matter for health policy but rather wider economic considerations. There have been two recent reviews to examine the effect of taxation on economic performance and social welfare.<sup>39,40</sup> As these studies make clear, governments need to take a range of factors into account to choose the taxes that finance health care. In particular, they should pay close attention to the potential distortionary impact of different taxes. The choice of tax option should not be determined purely by its distributional impact or political acceptability.

Box 1 sets out the headline analysis of the different tax options analysed in this report based on the Mirrlees Review.<sup>40</sup>

### Box 1: Tax options

Several considerations need to be taken into account when discussing tax options for financing public spending.

- **Distributional implications:** The burden of a tax or an increase in tax will fall disproportionately across the population, either in cash terms or as a proportion of individual or household income. It is important to consider the shape of the burden of tax changes in this way. This is because the UK tax and benefit system has, by design, a goal of redistributing income from those higher up the distribution to those towards the bottom, achieved through rising tax rates and means-tested benefits. Changes to tax rates alter the distributional character of the tax–benefit system, and this change should be analysed. When considering using tax rises to fund a particular area of government spending, it is also useful to question who is paying more in tax and who is benefiting from increased spending. In the case of health and social care, a key distinction is how much extra tax is paid by those of working age versus those above the state pension age, although this matters less when considering a lifecycle perspective.
- **Economic efficiency:** Aside from questions of distribution, it is important to consider the economic impact of tax changes. In the context of taxes on earnings, there are particular distortionary risks to take into account. A tax increase can affect an individual's incentives to work more, or to work at all. This is particularly the case for those on lower incomes, who face high effective tax rates on income due to the withdrawal of in-work benefits, and have been shown to be particularly responsive to incentives to move into work. Another important consideration is that a tax increase on one type of income, such as wage earnings, can increase incentives for individuals to be remunerated through other forms of income that are taxed less or not taxed at all. This is particularly the case for some types of workers, such as the self-employed (who can more readily shift income from earnings to other, lower-tax forms of income) and high earners, who have greater access to financial planning services to reduce their taxable income.

Among the taxes analysed in this report, the following have particularly important distributional and efficiency implications.

- **Basic rate of income tax/main rate of employees' National Insurance:** The vast majority (87%) of taxpayers only pay tax at the basic rate, and as all taxpayers pay the basic rate, the revenue that can be raised from increasing that rate is far higher than from an increase in either the higher or additional rate. A similar pattern holds for the main rate of employees' National Insurance. That said, those taxpayers on lower incomes often face very high effective marginal tax rates, as a result of both the basic rate of income tax (20%) and the main rate of employees' National Insurance (12%) and how these interact with the withdrawal of in-work benefits. The Mirrlees Review found, for example, that 15% of workers face effective tax rates above 75%. It has been argued that raising National Insurance does the most damage to work incentives, since it is only levied on earnings (unlike income tax, which includes income from assets already owned). A rise in either the main rate of income tax or employees' National Insurance would weaken work incentives.

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### Box 1: Tax options

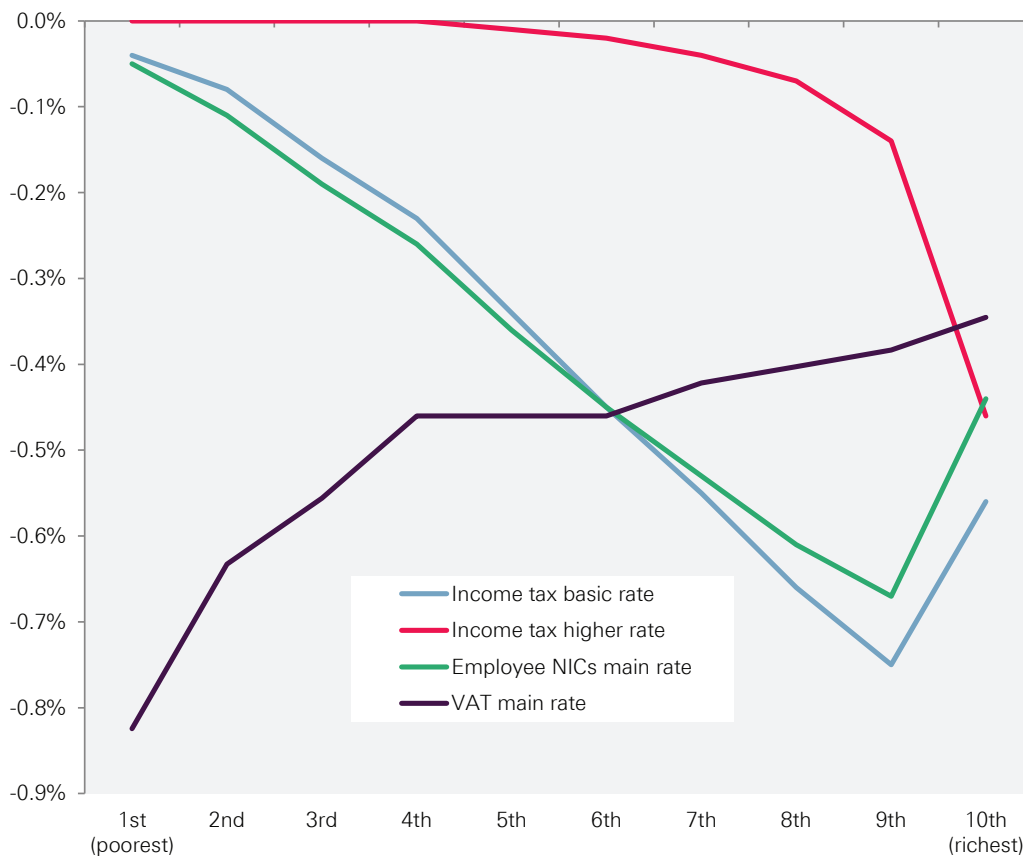
- **Higher rate of income tax/employees' National Insurance above the upper earnings limit:** As noted above, those on higher incomes are, in some ways, better able to reduce their taxable income in response to increases in tax rates. This is particularly true for National Insurance but is partially true for income tax as well, for which individuals can make use of conventional tax-favoured forms of savings and income such as Individual Savings Accounts (ISAs), pensions and owner-occupied housing. For those on the highest incomes, tax planning, avoidance and evasion is also a response that needs to be considered when evaluating the impact of raising tax rates.
- **Extending National Insurance to pensioners:** The employment of those aged over 65 has increased substantially in recent years. Where pensioners remain in work, they are currently exempt from paying employees' National Insurance. This favourable treatment comes at a cost in terms of lost revenue. However, removing this exemption will decrease the incentive to remain in work post-retirement, and it has been shown that older workers are more responsive to work incentives.
- **Employers' National Insurance:** An increase in the rate of employers' National Insurance is likely to affect employers' behaviour in relation to setting rates of pay for employees. Employers may choose to pass on the entirety of the extra burden of a rise in National Insurance over time through slower pay growth for employees. Not only would this result in reduced employee earnings and household incomes, with important distributional consequences, it would also reduce the extra revenue raised, as slower earnings growth implies lower tax and National Insurance receipts and reduced in-work benefit withdrawal. Even if not passed on in this way, a rise in employers' National Insurance may reduce employers' profits and therefore corporate tax revenues.
- **The main rate of VAT:** While VAT is not a tax on earnings, it can have an impact on work incentives. A rise in the main rate of VAT decreases spending power and therefore weakens the value of income at the margin, and may reduce incentives to work more or increase earnings in general.
- **'Sin taxes':** Taxes on goods perceived to have harmful effects on individuals have been a feature of the UK tax system for many decades, with alcohol and tobacco the main focus (although others, such as betting and gaming duties, exist). These range from 31% of the price of a pint of beer to an average of 78% of the price of a pack of 20 cigarettes. More recently, taxes on other products shown to be unhealthy, such as sugary goods, have been introduced in several countries and cities. These are distinct from most other indirect taxes in that they are deliberately designed to change people's behaviour. As such, the high rate of tax reflects both the harm users of these products do to themselves, but also wider societal costs such as increased demand on health services as a result of using these products.

In this report we did not consider all possible tax options – for example, we have not explored taxes on residential property, although the OECD highlighted that across all its member states (not specific to the UK) there was a case for a shift away from income taxes (particularly corporate but also personal) towards consumption taxes and recurrent taxes on residential property. We also note that the options available to the government between 2015/16 and 2020/21 are restricted by the 'tax-lock' – the government's commitment

to legislate to ensure that for the duration of this parliament, rates of income tax, National Insurance contributions and VAT will not be increased. Furthermore, the tax-lock commits the government to keeping the current list of items with reduced and zero rates of VAT.<sup>41</sup>

Notwithstanding the point that distributional impact is only one factor that should influence tax choice, we have analysed the potential distributional impact of the different taxes included in our analysis. Figure 10 shows the impact on household income by equivalised household income decile for a one percentage point increase in the main taxes analysed in our report.\* This figure shows the impact of these taxes increases before any behavioural change, such as reduced consumption following a rise in VAT, or changes in working patterns due to increased income tax.

**Figure 10: Average distributional impact of increasing selected tax rates by one percentage point (% of household disposable income) by equivalised household income decile, 2020/21**



We have also examined the distributional impact by broad age profile, comparing households with people of working age with households above 65 (Table 6). This shows that most of the tax options affect households with people of working age more than older households. There are two exceptions: VAT changes affect older and younger households proportionately, while extending employees’ National Insurance to those above the state pension age affects older households but not households with people of working age.<sup>†</sup>

\* Equivalised household income adjusts a household’s raw income to take into account the size of a household, in terms of the number of adults and children. This is done in order to reflect that a household with dependent children will need a higher income than those households with no dependent children in order to attain a similar standard of living.

† This becomes less of an issue when considering taxation over a lifecycle, as people of working age clearly benefit from the reduced taxation later in life.



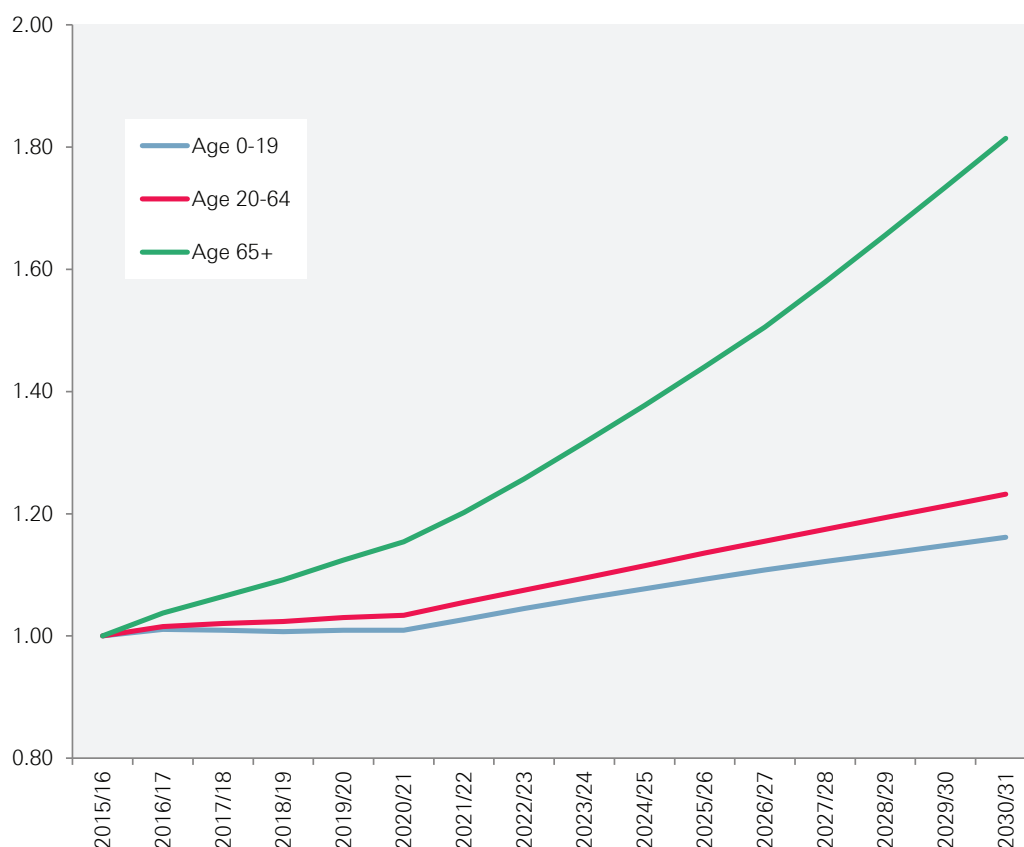
**Table 6: Average distributional impact of increasing selected tax rates by one percentage point (% of household disposable income) by working age and pensioners**

		Working age	People aged 65 and over
<b>Income tax</b>	Basic rate	-1.0%	-0.4%
	Higher rate	-0.4%	-0.1%
<b>National insurance</b>	Employee NICs additional rate	-1.0%	-
	Employee NICs main rate	-0.3%	-
	Extending employees NICs above state pension age	-	-0.8%
<b>VAT</b>	Main rate	-0.4%	-0.4%

We do not have the data to compare additional health spending by household income decile in this analysis, but we are able to compare projected hospital spending by age (Figure 11). This shows that under our central scenario, pressures for people aged 0–19 and 20–64 are expected to grow by 16% and 23% respectively between 2015/16 and 2030/31, but the pressures for people aged 65+ are projected to rise by 81%.

As this analysis shows, income tax and National Insurance affect households of working age more than older households. Funding additional health care spending through an increase in National Insurance only would place the full additional burden of the cost of health care on people of working age. VAT spreads the burden between ages but has a greater proportionate impact on households on low incomes.

**Figure 11: Increase in projected hospital spending pressures by age, assuming pay restraint and efficiency growth of 1.5% a year**



In some countries, receipts from ‘sin taxes’ – most notably duties on alcohol and tobacco – are earmarked to contribute towards the financing of health care. However, sin taxes alone are unlikely ever to raise enough funding to cover the full cost of health care, and the general trend across OECD countries has been for specific consumption taxes to account for a shrinking share of overall tax revenues. For example, in 1965, specific consumption taxes accounted for 24% of tax receipts and general consumption taxes accounted for 12%; by 2010, specific consumption taxes accounted for just 11% of average tax receipts while general consumption taxes accounted for 20%.<sup>42</sup>

The argument for extending ‘sin taxes’ to support health system financing is that consumption of these goods produces negative externalities (impacts beyond the person consuming the product) and that much of the externality takes the form of a negative health impact, which results in an additional burden on the health system. Of course, one of the main arguments for a sin tax is that increasing price will reduce consumption, thereby reducing the level of harm in society. This is beneficial from a health and societal perspective, but as consumption falls, so too will tax revenues, making sin taxes an unstable and potentially unsustainable source of revenue. Moreover, many people are concerned that the burden of consumption taxes falls disproportionately on low-income groups because they consume more of some of these ‘sin products’ (such as tobacco).<sup>43</sup>

We have specifically explored a new potential sin tax focused on sugary products.

## Sugar tax

Research from 2006/07 shows that around 20% of NHS costs are associated with population behavioural risk factors such as poor diet, physical inactivity, smoking, alcohol and obesity. For example, NHS costs associated with poor diet and overweight/obesity accounted for almost £1.1bn of health spending in 2006/07 compared to £3.3bn each for smoking and alcohol.<sup>44</sup>

Table 7 shows some scenarios for the potential receipts from additional taxes on sugary products levied via a higher rate of VAT for these products. We have modelled VAT for simplicity and take no account of the benefit of any health effect.

**Table 7: Scenarios for larger increases in sugar tax**

	Additional VAT raised		
	2015/16	2020/21	2030/31
<b>One percentage point increase</b>	£0.2bn	£0.2bn	£0.2bn
<b>10% price increase</b>	£1.9bn	£2.1bn	£2.6bn
<b>20% price increase</b>	£3.4bn	£3.7bn	£4.7bn

We have assumed unit elasticity (-1) constant across all price increases, and that the full price increase as a result of VAT rise is passed onto consumers. This results in estimates of the revenue raised by a sugar tax in 2030/31 being £2.6bn for a 32% VAT rate, and £4.7bn for a 44% tax rate. Even with a behavioural effect, the additional revenue raised is significant.

However, it is not obvious that the NHS or social care would be the correct area of spending for any revenue raised. It might be that investment in public health programmes focussed on diet, particularly for those hit hardest by the tax, would be a more appropriate use of the money.

Box 2 summarises some of the latest debate and evidence on sugar taxes as an example of a 'sin tax' that focuses on people's eating and drinking behaviours rather than tobacco and alcohol.

### **Box 2: Sugar tax: context and implications**

Current evidence suggests that the 'unhealthy' items considered in our analysis, such as sugar, alcohol and tobacco, are relatively price inelastic. Products which are price elastic are those where consumption changes as price changes, whereas those that are price inelastic are less sensitive to price. A recent meta-analysis of alcohol price and income elasticities concludes that raising the price of alcohol by 10% reduces consumption by 5%.<sup>45</sup> This is similar to the elasticity of cigarettes, whereby a 10% increase in price reduces consumption by between 4.1% and 4.8% in one study, but was more elastic at a change of 11.9% in another.<sup>46,47</sup>

#### **Public Health England review**

The taxation of sugar has attracted significant political and public debate. A high-profile review by Public Health England recommended the 'introduction of a price increase of a minimum of 10-20% on high sugar products through the use of a tax or levy such as on full sugar soft drinks, based on the emerging evidence of the impact of such measures in other countries'.<sup>48</sup> This comes at the same time as both the Prime Minister and Secretary of State for Health have ruled out such a tax, while a public campaign<sup>49</sup> has been launched to introduce this tax.

The Public Health England review concluded that when triangulated, evidence from the literature and stakeholder interviews provided convergent and complementary themes:

- Increasing the price of unhealthy food and drink results in a decrease in purchasing and sales.
- Sales data from five countries indicate that existing taxes reduce purchases, although there were no official published evaluations.
- Taxation may be regressive, having a greater impact on lower-income groups, but this is believed to be progressive if this strategy reduces sugar consumption.

A number of countries and states have already introduced taxes on sugary products. Sales data from Norway, Finland, Hungary, France and Mexico broadly suggest decreases in purchases of soft drinks/sugar-sweetened drinks (SSDs) of up to 12% following the implementation of a sugar tax. There are indications of a decrease in purchases of soft drinks/SSDs of between 4% and 10% in European countries that have implemented a sugar tax.<sup>48</sup>

#### **Relationship between VAT and price increase**

Public Health England's evidence is broadly in line with modelling studies,<sup>50,51,52,53</sup> which suggest that a price increase of 10%–20% would be necessary to have a significant impact on purchases, consumption and ultimately population health. In order to produce an increase in label price of this magnitude through VAT, it would have to be roughly doubled.

**continued...**

## **Box 2: Sugar tax: context and implications**

### **Distributional effect**

As suggested by the Public Health England review, there is strong evidence<sup>52</sup> that sin taxes are financially regressive (ie, they impact the poorest more than the richest), although VAT is not necessarily regressive.<sup>54,55</sup> We have not been able to assess the distributional impact of a tax increase specifically targeted at sugary products. There are socioeconomic patterns to dietary choices, with lower-income groups consuming diets with above-average sugar content.<sup>56</sup> If this is the case, the financial impact of a tax on sugary products will be borne more heavily by lower-income groups; some of this may be offset by reduced consumption, but not all.

Public Health England reported limited evidence from one study demonstrating a potential widening of nutritional inequalities between medium-income and low-income groups as a result of a tax on unhealthy foods and a subsidy on healthy foods. It might be that the tax could be progressive with respect to health if it reduces sugar consumption among lower-income groups (who typically have the highest sugar consumption),<sup>43</sup> partly through compensatory behaviours (such as exercising to 'make up for' eating unhealthily) and substitution effects (choosing to eat a healthy food instead). The literature is insufficient to strongly inform policy on this topic in the long-term, and the position people take is more likely to be ideological than proven by evidence.

# Conclusions

Our analysis suggests that there are challenging times ahead for health care across the UK. The NHS needs to embed and sustain rates of productivity improvement for the foreseeable future in a way that has hitherto proved difficult. Our analysis of the extra funding required would be sufficient to maintain the current service. It would not address known weaknesses in our health care system such as the lack of parity for mental health care. As a society it is likely that we will need to provide some additional funding to avoid a deterioration in the range and quality of services provided. But by international standards the funding increases would be modest and the NHS would remain a comparatively 'cheap' health care system. There are choices about where any additional funding comes from. One option is to bridge some of the gap through a lower public finance surplus than currently planned; another is to increase taxes. In considering tax increases (or new taxes), the government should focus on options that support wider social and economic goals. In this context it might look to consumption taxes rather than taxes that have an impact on employment, such as National Insurance.

While our analysis suggests that the UK health care system faces considerable pressures, it does not appear unsustainable. There must be real doubts, however, about the sustainability of the current financing system for adult social care. Dame Kate Barker recently examined some of the options for the future of social care.<sup>57</sup> We have not sought to analyse her recommendations here. But it is clear that there must be a fundamental examination of the future of adult social care funding as a matter of urgency.

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