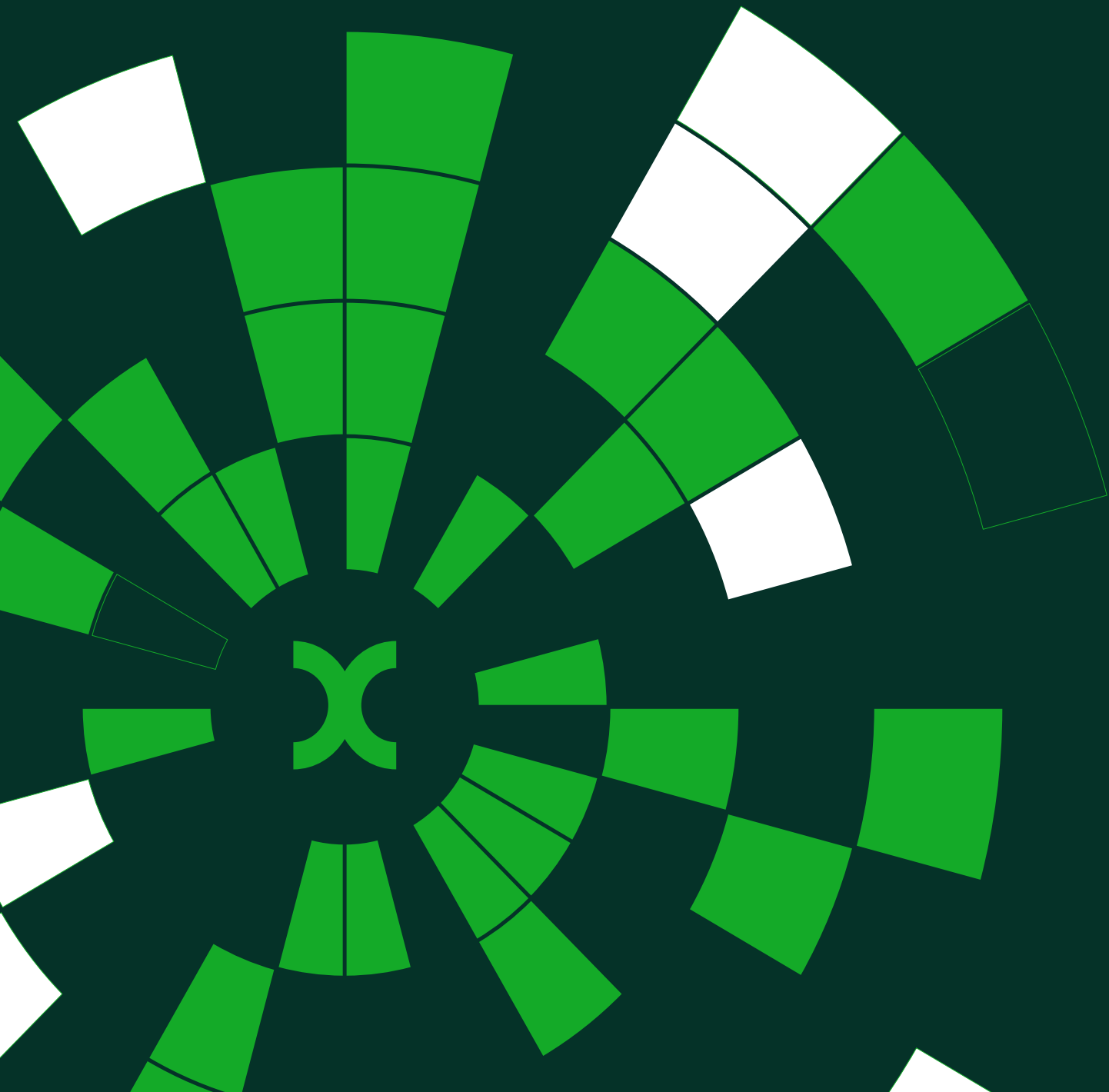


The economic cost of ill health among the working-age population

—

Prepared for The Times

17 January 2023



Ill health among working-age people presents a substantial and rising cost to the UK economy, individuals and taxpayers. Addressing this challenge is not only socially desirable but an economic imperative.

Oxera estimates that the total economic cost of lost output among working-age people due to ill health is around £150bn per annum, equivalent to 7% of GDP, with an additional total cost to the government (in terms of lost tax income, benefits payments and costs to the NHS) of around £70bn or £1,000 per person. To provide a sense of scale, if the government could avoid these costs it would be possible to pay for up to 1.8m additional nurses,¹ equivalent to more than double the current number of registered nurses in the UK.²

It is clear that the costs arising from the ill health of working-age people are substantial, and rising. **Oxera estimates that these costs have risen by around 60% since 2016**—the last time they were estimated by the Department for Work and Pensions and the Department for Health.³ To put this into context, the economy grew by only 1% in this same period.⁴

Without adequate interventions of sufficient scale, **there is a substantial risk of long-term scarring to the UK economy** if more people fall into the downward spiral of declining health and leaving the labour market, which can further exacerbate health problems.⁵

The nature of this challenge has already changed and continues to change with the acute impact of long COVID, an ageing population, and the rising prevalence of mental health and musculoskeletal conditions among the working population. It is therefore vital that policymakers adapt and tailor interventions to these changing needs to unlock the full potential of the working-age population.

Failure to address these trends will create additional pressures for the NHS, which is already facing unprecedented challenges. However, it is also vital that a system-wide approach is adopted with a focus on prevention and complementary interventions that enable employers to support the health of their workforce, along with improvements to the welfare system that incentivise and support sick people into work.

Oxera's analysis demonstrates that the scale and nature of this challenge has changed substantially following the COVID-19 pandemic. It is therefore a **pressing priority for the government to revisit its policy and level of expenditure on health and work**, and ensure that they reflect the scale and nature of the future needs of our economy.

¹ Department of Health and Social Care (2022), 'NHS staff to receive pay rise'.

² Nursery & Midwifery Council (2022), 'Registration data reports'.

³ Department for Work and Pensions and Department for Health (2016), 'Work, Health and Disability Green Paper Data Pack'.

⁴ Office for National Statistics (2022), 'GDP: quarterly national accounts time series'. Calculations based on an increase in GDP from 2016 to 2021.

⁵ See, for example, Waddell, G. and Burton, A.K. (2006), 'Is work good for your health and wellbeing'.

1 Introduction

Oxera was asked by *The Times* to estimate the costs of ill health among the UK working-age population, to support the launch of The Times Health Commission. We provide new estimates based on the most up-to-date data available,⁶ and follow an approach carried out by the Department for Work and Pensions and the Department of Health to support the 2016 Work, Health and Disability Green Paper.⁷

The costs of ill health at working age are the 'costs of conditions which can be prevented or remedied and that keep people out of work'.⁸ In particular, the costs estimated are those that could have been avoided if the health issues affecting working-age people did not happen. They reflect the maximum 'prize' from fully addressing ill-health conditions which prevent work. In practice, the actual 'prize' will depend on the relationship between individuals' health and their potential to work, as well as other improvements to health and work conditions.

It is also important to note that it would not be proportionate to seek to avoid all the costs of ill health, which must be balanced against the costs of the interventions that are required to support the working population to stay in or get back into work.

The costs to the economy are estimated to amount to around £150bn per year, and include costs related to lost production due to worklessness, sickness absence and informal care. The majority of this cost is through lost output due to working-age people with health conditions not being in paid work.

We have also estimated the cost to the government at around £70bn per annum, which includes the cost to the NHS, forgone taxes, and benefits payments as a result of working-age people being out of work due to ill health.

These estimates should be treated as conservative. For the purpose of these estimates, working age is as defined in the various data sources used, and is normally 16–64 years. As people are increasingly working beyond the age of 64, and since retirement age as set by the state pension is set to increase, these approximations are likely to underestimate the total cost of ill health of working-age individuals. For other assumptions we have erred on the side of caution.⁹

Our estimates of the cost components of ill health at working age are summarised in the following tables.

⁶ Where possible, we have used the most up-to-date data to estimate a typical year of costs. In the majority of cases data is available for 2021, and, where data is not available for 2021, we have made appropriate adjustments where possible to ensure that the data is comparable.

⁷ Department for Work and Pensions (2016), 'Work, Health and Disability Green Paper Data Pack'.

⁸ Ibid.

⁹ For example, we use a conservative estimate of the total number of informal carers in the UK from the Department for Work and Pensions Family Resources Survey. See section 2.3 for more information.

Table 1.1 Economic cost of lost output among working-age people due to ill health

Cost element	Description	Estimated cost
Sickness absence	Lost output due to sickness absence	£32bn to £41bn
Economic inactivity	Lost output due to working-age ill health which prevents work	£115bn to £148bn
Informal caregiving	Lost output due to working-age carers caring for sick people of working age	<£1bn
Total		£148bn to £190bn

Source: Oxera.

Table 1.2 Costs to government due to ill health among the working-age population

Cost element	Description	Estimated cost
NHS costs	Extra treatment costs for conditions affecting ability to work	£10bn
Exchequer flowbacks	Tax and National Insurance forgone due to health-related worklessness	£40bn to £51bn
Benefits payments	Cost of social security benefits related to health conditions that prevent people from working	£16bn
Total		£66bn to £77bn

Source: Oxera.

It is clear that the size of the potential prize for addressing ill health in those who are of working age is substantial, and rising. As a result, addressing ill health among working-age people is not only socially desirable, but also an economic imperative as the country emerges from the COVID-19 pandemic. There is a substantial risk of long-term scarring to the UK economy if too many people fall into a downward spiral of declining health and long-term unemployment, which can further exacerbate health problems.¹⁰

Failure to address these trends will create additional pressures for the NHS, which is already facing unprecedented challenges. Recent 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-19.¹¹

In the short run, the NHS is grappling with the impacts of widespread industrial action and real-term cuts in funding, with the additional funding allocated to the NHS in the 2022 Autumn Statement offsetting only around half of the impact from high inflation.¹²

In the longer term, an ageing population will add further pressure to the NHS that it will need to accommodate. It remains important to focus on the health of children, treating conditions early before they develop into long-term health conditions affecting quality of life and future productivity. Therefore, although the evidence outlined here demonstrates the increasing importance of designing interventions at

¹⁰ See, for example, Waddell, G. and Burton, A.K. (2006), 'Is work good for your health and wellbeing.'

¹¹ Institute for Fiscal Studies (2022), 'NHS funding, resources and treatment volumes'.

¹² Ibid.

a sufficient scale and effectiveness to rise to the challenge of supporting the working-age population to stay in and get into work, it will be critical for health policy to balance all of these competing demands.

The NHS on its own is not the panacea for addressing the challenge of the costs of ill health among the working-age population. The government in recent years has rightly recognised that to support sick and disabled people into and stay in work requires a holistic system-wide approach.¹³ This includes policy interventions that focus on the critical role employers play in supporting their employees with health conditions to stay in work, as well as improving the welfare system to incentivise and support sick and disabled people get in to work. At the core of this approach is prevention and early intervention, before the health needs of working people become more complex and expensive to treat.

Oxera's analysis demonstrates that the scale and nature of this challenge has changed substantially following the COVID-19 pandemic. It is therefore a pressing priority for the government to revisit its policy and level of expenditure on health and work, and ensure it reflects the scale and the nature of the future needs of our economy.

¹³ See Department for Work and Pensions and Department for Health (2016), 'Improving lives: the future of work, health and disability'.

2 Further analysis and assumptions

The remainder of this report outlines our assumptions in deriving the cost estimates, and provides further analysis.

2.1 Lost output due to economic inactivity, £115bn to £148bn

This cost captures lost output of individuals who are economically inactive for health-related reasons. The number of economically inactive people due to ill health in the UK has been rising in recent years—a trend that started before the COVID-19 pandemic. Several factors have contributed to this, including an ageing population, long COVID, a rise in the number of people reporting health problems or disabilities connected with the back and neck, and mental illness and nervous disorders. Increases in NHS waiting times—which almost doubled from a median of seven weeks in April 2019 to almost 14 weeks in August 2022—must be further investigated to understand their influence on long-term sickness.¹⁴

The lost output per individual as a result of ill health at working age is estimated using the Gross Value Added (GVA) per filled job in the UK, which reflects employment costs plus a profit margin.¹⁵ As data on sickness absence shows that absence is more common among employees in occupations with lower than average earnings,¹⁶ the GVA per job is adjusted¹⁷ to give a central estimate of £115bn per annum of lost output due to worklessness. The higher estimate of £148bn per annum is calculated using the unadjusted GVA per filled job.

2.2 Lost output due to sickness absence, £32bn to £41bn

This cost estimates the lost output of workers during the time that they were absent due to sickness in 2021. A total of 149.3m days of sickness absence were reported in 2021 by the ONS—one in four of which was caused by COVID-19.¹⁸ This is a 26% increase in total sickness absence days relative to 2020.¹⁹ Assuming 230 working days per year,²⁰ this is equivalent to 649,130 full-time equivalent jobs lost in 2021 due to sickness absence.

Multiplying the number of full-time equivalent jobs by the adjusted and unadjusted GVA per job outlined above gives a range of lost

¹⁴ Office for National Statistics (2022), 'Half a million more people are out of the labour force because of long-term sickness'.

¹⁵ The GVA per job for 2021 has been estimated using outturn GVA and employment for 2021. Office for National Statistics (2022), 'Gross Value Added (Average) at basic prices: CP SA £m', 22 December; Office for National Statistics (2022), 'Number of People in Employment (aged 16 and over, seasonally adjusted):000s', 13 December.

¹⁶ Office for National Statistics (2022), 'Sickness absence in the UK labour market: 2021'.

¹⁷ The GVA is adjusted by the ratio of median to mean hourly earnings in the UK excluding overtime. Office for National Statistics (2021), 'Earnings and Hours Worked, Work and Residence-Based Travel to Work Area: ASHE Tables 11 and 12', 1 November.

¹⁸ Office for National Statistics (2022), 'Sickness absence in the UK labour market: 2021'.

¹⁹ Office for National Statistics (2022), 'Sickness absence in the UK labour market: 2020'.

²⁰ Based on a total of six weeks for statutory holidays and annual leave entitlement.

output due to sickness absence of between £32bn and £41bn per annum.²¹

2.3 Lost output due to informal caring, <£1bn

This cost estimates the lost output of carers of working age who are providing care for people of working age, and whose caring responsibilities prevent them from working.²² The population of carers who satisfy these conditions is estimated to be 168,630 in 2020.²³ This is based on data from the Family Resources Survey²⁴ and the NHS Survey of Informal Carers.²⁵

The next step in calculating the estimate takes account of the fact that the health conditions of those cared for may not be prevented or treated and, even with treatment, may still require care from the carer or someone else. As a result, it is assumed, conservatively, that only 5% of those cared for would return to work.²⁶ This suggests that the costs of informal care that could be mitigated are relatively small and amount to less than £1bn per annum.

2.4 NHS costs, £10bn

These costs relate to hospital services, primary care and mental health services for conditions which affect employment for individuals of working age. This is described in more detail below.

Hospital services relate to the costs of admitted patients to the NHS²⁷ who are of working age and have a condition that causes difficulties at work.²⁸

In 2021, 41% of hospital inpatients were of working age,²⁹ and it is assumed that 13% of them had a condition that caused difficulties at work.³⁰ However, given that i) not all people with a condition that can affect work will be prevented from working; and ii) individuals who are still able to work are likely to be less severely ill in comparison to the overall treated population, it is expected that the treatment costs for conditions affecting people who may work are less expensive than the

²¹ Realistically, only a proportion of sickness absence could be eradicated efficiently, so this should be treated as a maximum of the output lost due to sickness absence noting that other assumptions are conservative.

²² Department for Work and Pensions (2016), 'Work, Health and Disability Green Paper Data Pack'.

²³ Department for Work and Pensions (2021), 'Family Resources Survey: financial year 2019 to 2020'.

²⁴ The estimated number of informal carers by the Family Resources Survey (4.2m in 2020) is conservative relative to other estimates. For example, Carers Week estimates that there were a total of 10.58m informal carers in the UK in 2021.

²⁵ National Health Service Digital (2022), 'Personal Social Services Survey of Adult Carers in England, 2021-22'.

²⁶ This is the same assumption made in the Work, Health and Disability Green Paper (2016). Department for Work and Pensions (2016), 'Work, Health and Disability Green Paper Data Pack'.

²⁷ National Health Service Digital (2022), 'Patient Level Activity and Costing, 2020-21'.

²⁸ Care Quality Commission (2022), 'Adult Inpatient Survey 2021'.

²⁹ Ibid.

³⁰ This is the same percentage assumed in the Work, Health and Disability Green Paper (2016), for lack of more recent data. Department for Work and Pensions (2016), 'Work, Health and Disability Green Paper Data Pack'.

average treatment cost. We therefore assume that the unit cost of treating this group is a quarter of the average cost.³¹ Bringing all of these assumptions together, the costs to treat hospital patients who are of working age and have a condition that affects work are assumed to account for 9% of total admitted patient care costs for the working-age population. This was equivalent to £1bn in the financial year 2021/22.

Primary care costs are the proportion of GP costs that relate to the working-age population with health conditions that affect capacity at work. In 2021, 77% of GP patients were of working age and 56% were in work.³² Assuming that individuals under the care of GPs are twice as likely to be employees on sickness absence than the overall population,³³ the proportion of primary care costs related to health conditions affecting work is estimated to be 6%.³⁴

Another 4% of working-age patients presenting at GPs in 2021 were permanently sick or disabled.³⁵ Assuming that half of their GP usage is related to conditions that affect capacity at work, an additional 3% of primary care costs also relate to health conditions affecting work.

The proportion of primary care costs³⁶ that are assumed to relate to conditions affecting capacity at work are estimated at £2bn per annum.

Mental health services costs relate to the costs of mental health for the working-age population with conditions that prevent them from working. Mental health services costs for the working-age population³⁷ that are related to conditions affecting capacity at work³⁸ were equivalent to £7bn in 2021.

2.5 Lost flowback to the Exchequer, £40bn to £51bn

Lost flowback to the Exchequer is the forgone tax revenues as a result of lost output due to ill health among the working-age population. The tax revenues in scope include income tax, employer and employee National Insurance, value added tax and corporation tax.³⁹ The flowback rate is estimated to be 27% in 2021.⁴⁰ This is applied to lost

³¹ This is the same assumption made in the Work, Health and Disability Green Paper. Department for Work and Pensions (2016), 'Work, Health and Disability Green Paper Data Pack'.

³² National Health Service (2022), 'GP Patient Survey'.

³³ The sickness absence rate in 2021 is estimated at 2% by the ONS.

³⁴ This takes the ratio of assumed sickness absence of individuals under the care of GPs (4%) to total GP patients of working age (77%).

³⁵ National Health Service (2022), 'GP Patient Survey'.

³⁶ Office for National Statistics (2002), 'UK Health Accounts'.

³⁷ Mental health services costs for the working-age population are based on costs estimated in McDaid, D. and Park, A. L. (2022), 'The economic case for investing in the prevention of mental health conditions in the UK', Care Policy and Evaluation Centre, Department of Health Policy, London School of Economics and Political Science.

³⁸ The proportion of costs that are related to conditions affecting capacity to work is assumed to be 60%. This is the same percentage assumed in the Work, Health and Disability Green Paper (2016).

³⁹ As defined in the Department for Work and Pensions (2016), 'Work, Health and Disability Green Paper Data Pack'.

⁴⁰ The flowback rate is estimated by taking the percentage of in-scope taxes as per the Budget 2021 Red Book to total Gross Domestic Product (GDP).

production due to worklessness, sickness absence and informal care to give a range for forgone government tax revenues as a result of ill health of working-age individuals of £40bn to £51bn per annum.

2.6 Additional benefits payments, £16bn

Additional benefits payments relate to the costs of social security benefits received by people due to ill health, which prevents them from working. This does not map precisely onto different types of benefits, so we have followed the same approach as the Department for Work and Pensions (DWP) and Department of Health, using the latest DWP benefits expenditure statistics.⁴¹ It is assumed that benefits payments in scope include the following: i) incapacity benefits including Employment and Support Allowance; ii) industrial injuries benefits; iii) housing benefits (incapacity premium);⁴² iv) carers allowance.⁴³

In total, it is estimated that there are an additional £16bn per annum in benefits payments associated with ill health among working-age individuals.

⁴¹ Department for Work and Pensions (2022), 'Benefit expenditure and caseload tables 2022'.

⁴² Housing benefits cover individuals receiving benefits due to health conditions or disability. Given that the relevant group here is mainly individuals receiving sickness benefits, it is assumed that only half of the housing benefits are in scope.

⁴³ Given that there is limited scope to mitigate carers' costs, only a small proportion (20%) of carers allowance is in scope.

Contact

Robert Catherall
Principal
+44 (0) 20 7776 6647
robert.catherall@oxera.com

oxera.com



oxera