



# **THE ECONOMIC AND SOCIAL COSTS OF MENTAL ILL HEALTH**

Review of methodology and update of calculations

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## **ABOUT THE REPORT**

This report was commissioned by the NHS Confederation's Mental Health Network as part of the Mental Health Economics Collaborative. The Mental Health Economics Collaborative (MHEC) is an exciting partnership between the NHS Confederation Mental Health Network, Centre for Mental Health and the London School of Economics Personal Social Services Research Unit. MHEC aims to support the identification and spread of innovative approaches delivering high quality, efficient mental health services.

# ACKNOWLEDGEMENTS

We express our heartfelt gratitude to the peer reviewers who generously dedicated their time, expertise, and insights to this study – Andy Bell, David McDaid, Jon Franklin, Maria Ana Matias, Michael Wood, Mihiri Seneviratne, Nick O’Shea, Paul McCrone, and Tessa Crilly. Their rigorous scrutiny and constructive feedback played a pivotal role in refining the methodology, strengthening the analytical approach, and ensuring the robustness and accuracy of the results.

Furthermore, the peer reviewers' insightful comments and suggestions facilitated a more comprehensive understanding of the nuances and complexities inherent in assessing the economic burden of mental ill health. Their expertise helped to identify potential limitations, clarify key findings, and offered valuable perspectives on the implications of the analysis for policy and practice.

Additionally, we would like to acknowledge the valuable contributions of Martin Knapp and Graham Durcan, who provided key insights that enhanced the depth and breadth of our analysis. Similarly, we extend our sincerest appreciation to Sonja Stiebahl for her invaluable support throughout this study, particularly for her meticulous review of the statistical outputs of our work.

Thank you also to our Centre for Mental Health comms colleagues Alethea Joshi, Holly Jones and Chiamaka Okafor for all their brilliant work in getting this publication and its findings out into the world.

Finally, we would like to thank Alex Stewart, Emma Paveley, Sean Duggan and Ilse Bosch for their important role in reviewing and supporting this publication, along with the wider Mental Health Economics Collaborative advisory group.

Any mistakes or omissions in this study are solely the responsibility of the authors.

# CONTENTS

Executive summary	5
Introduction	7
Summary of figures	10
Economic costs	18
Health and care costs	24
Human costs	30
Intangible costs	41
Limitations and areas for future research	45
Conclusion	47
Appendices	48
Notes	52
References	55

# EXECUTIVE SUMMARY

This paper recalculates the economic and social costs of mental ill health in England.

The total cost in 2022 was £300 billion.

This is comprised of three major elements:

- 1. Economic costs (£110bn):** Losses to the economy due to mental ill health. These include the business costs of sickness absence and 'presenteeism' at work, as well as staff turnover and worklessness among people with mental ill health.
- 2. Human costs (£130bn):** The value, expressed in monetary terms, of reduced quality of life among people living with mental health difficulties.
- 3. Health and care costs (£60bn):** The costs of providing health and care services for people with mental health difficulties. This includes support provided by public services, privately-funded health care, and informal care provided by families and friends.

These can be divided into two overarching categories of costs: (i) economic and human costs, relating to productivity and quality-of-life losses associated with mental ill health; and (ii) health and care costs. Importantly, the latter should not be seen as a 'burden' to society imposed by people living with mental ill health. Rather, the relational nature of the presented model likely suggests that changes in one realm may impact the other – for example, increased investment in mental health prevention and treatment, and associated costs, may result in lower aggregate economic and human costs.

A large share of the costs stemming from mental ill health is borne by people living with mental health difficulties and their families: a total of £175bn. Businesses carry a total cost of £101bn, while for government the cost is £25bn annually. Importantly, our report suggests that the majority of costs deriving from mental ill health do not fall on health care systems, and are instead reflected in decreases in wellbeing and productivity losses. Mental ill health has a devastating impact on individuals, support networks, government, businesses and society.

While it is impossible to fully assess the extent of the problem, and a £ sign is admittedly an imperfect proxy for some of the impacts, there is nevertheless value in estimating the economic cost of mental ill health. It helps us to appreciate the significance of mental ill health as an issue deserving of policy attention, investment and reform. Similarly, these estimates analyse different types of costs, which can be interlinked. For example, higher investment in cost-effective health and care interventions – such as community services, early intervention, and prevention – may reduce economic and human costs.

The current study features what could be seen as a relational model: increasing health and care investment costs could potentially decrease economic and human costs elsewhere, and vice-versa. Future research could explore these links. The magnitude of the costs demands urgent action through prevention and treatment, offering economic and social benefits. The recently published ten-year strategy *A Mentally Healthier Nation* (Davie, 2023), as well as other work such as *No Wrong Door* (Pollard and Bell, 2022), provide guidance on how to alleviate the national economic burden of mental ill health.

There are likely to be other costs that this calculation does not currently include: for example, relating to physical and mental health co-morbidity (£10-£16 billion, not included in the total); intangible costs such as decreases in creativity, innovation, social trust, or ill-advised financial decision-making; mental health-connected substance use disorders; or poor academic performance. Some of these costs are likely to be very significant. Throughout this paper, we have sought to limit the calculation to costs that are recognised and can be quantified, but we are confident that these represent an underestimate of the real extent of the actual cost to society.



# INTRODUCTION

Mental ill health presents an enormous burden on individuals, support networks, government, business and society. While it is impossible to fully assess the extent of the problem, and a £ sign is admittedly an imperfect proxy for some of the impacts, there is nevertheless value in estimating the economic cost of mental ill health. It helps us to appreciate the significance of mental ill health as an issue deserving of policy attention, investment and reform.

The original 2002/03 *Economic and social costs of mental ill health* (The Sainsbury Centre for Mental Health, 2003) was a defining document that was widely accepted as offering an accurate and important calculation of £77 billion a year. The publication catalysed significant increases in government spending. The Centre revised the calculations twice: in 2009 (Centre for Mental Health, 2010) and 2020 (O'Shea and Bell, 2020). The methodology was left unchanged but by adding new data sources, updated numbers or inflation-adjusted figures, we calculated costs of £105bn and £119bn respectively. These were accurate but not a comprehensive re-working of the original methodology. In 2022, the London School of Economics and Mental Health Foundation published their report *The economic case for investing in the prevention of mental health conditions in the UK* which concluded that the costs were a remarkably similar £117.9bn (McDaid and Park, 2022).

Since the original 2002/03 publication, there have been multiple significant changes within the UK, which will have had an influence on the scale, severity, and economic impact of mental ill health. These include a decade of austerity and the associated reduction in state provision through reduced government spending; Covid-19 and the associated measures (with a 2021 Centre forecast predicting this would result in an additional 8.5 million adults experiencing significant mental health problems over the following five years); and the current economic crisis, with inflation, mass poverty, and economic insecurity affecting large parts of the population, and negatively impacting the nation's mental health.

Therefore, the current social and macroeconomic context justifies a reworking of the original economic valuation in order to reflect these changes. In doing so, it profits from developments in the field of economics, within the 20 years between the two studies, as well as improved national data collection and analysis methods.

Importantly, this study presents a holistic approach to calculating the economic impact of mental ill health, measuring its impact on realms such as informal care, unpaid work, and wellbeing that are usually not captured by other, more orthodox measures of economic performance, like GDP. As such, direct comparisons may not be possible. Nevertheless, these costs should not be neglected, and indicate that policymakers ought to adopt a more comprehensive approach to understanding the wide-ranging and profound impacts of mental ill health in society.

The present study focuses on two overarching categories of costs. On one hand, economic and human costs, showing the level of productivity and quality-of-life losses associated with mental ill health in the year in study; on the other hand, the health and care costs associated with providing treatment and care to those struggling with mental ill health. Of course, the latter should not be seen as a 'burden' to society imposed by people living with mental ill health. For example, from a purely economic perspective – and leaving aside considerations around moral or social obligations – current expenditure on health and care may be preventing higher human and economic costs; or future increases in health expenditure may result in cost-effective decreases in economic or human costs.

This report was developed through the Mental Health Economics Collaborative, a partnership between the NHS Confederation's Mental Health Network, Centre for Mental Health, and London School of Economics. The potential uses for this study are manifold. They broadly remain the same as in the original 2002/03 paper:

- 1. Highlighting the scale of the problem:** Assessing the aggregate cost of mental ill health, as well as the costs associated with different impacts, can be helpful in illustrating the magnitude of the problem. Further, expressing it in monetary terms allows for comparisons with other issues. These figures may be used to benchmark the potential economic and social benefits of reducing the prevalence and severity of mental ill health.

Of course, this study does not substitute a more thorough assessment of specific measures in terms of efficiency and effectiveness, but it may illustrate to some extent the scale of the potential economic benefits of reducing rates of mental ill health. Greater awareness among policymakers and the public contributes to a better understanding of the true social and economic cost of mental ill health, while also promoting better-informed public policy debate and decision-making.

- 2. Informing health and care spending decisions:** In providing an updated aggregate cost of mental ill health, this study may inform decision-making around priorities and resources within the NHS and social services. This is particularly relevant as this aggregate cost enables comparisons with similar data from other causes of ill health. Similarly, it may contribute to decision-making around priorities for research and development. Moreover, other government departments may derive valuable insights from this study, supporting more informed decision-making processes within their respective domains.

This report does not offer direct solutions to the costs it quantifies, as this lies beyond its scope. However, Centre for Mental Health has recently published, along with over 60 organisations, a report setting out concrete actions around prevention, equality and support aimed at informing policy decisions, including spending, over the next decade (Davie, 2023).

- 3. Showing the distribution of costs:** The cost breakdown into categories (personal, industry, government) allows for a comparison of how the social impacts and the associated costs are distributed across different sectors. Similarly, the four types of costs (economic, health and care, human, and intangible) illustrate how the impact of mental ill health is reflected in society and the economy. This information may help to steer resource allocation for different economic agents to better tackle the problem, as well as influencing decisions around mental health spending.



4. **Revealing how costs and their distribution have evolved in previous decades:** This study provides an estimate for the aggregate cost of mental ill health in England in 2022. Some impacts – presenteeism, staff turnover, lost tax revenue, and intangible impacts – have been added, yet the general structure of the study is broadly in line with that used in 2002. This enables a comparison between two points in time, 20 years apart, and illustrates how each cost has evolved during the two decades. Similarly, it shows how the distribution of these costs between groups of the population has evolved. This will also inform a follow-up briefing exploring potential mental health trends in future years, and how the costs might change depending on different scenarios of public spending and policy decisions.
5. **Developing the methodology for economic valuations of the costs of mental ill health in other countries:** While the scope of this study covers England alone, economic valuations for the devolved nations and internationally, replicating the methodology of this paper, may help to inform their policies too. Similarly, this economic valuation may be useful in informing studies and policy covering other countries, in an international context, raising awareness of the impacts and costs associated with mental ill health.

## **MONETARY VALUES AND POLICY TRADE-OFFS**

A possible criticism of this study may be around the feasibility and desirability of assessing all mental ill health costs in monetary terms. In general, it is clear that certain public policy matters should be decided on ethical principles alone, without any monetary valuation considerations involved. For instance, considerations around human rights violations, justice and equality, freedom of conscience and religion, or the climate crisis, to name a few examples, should be analysed on ethical terms alone, rather than through cost-benefit analysis.

Nonetheless, many policy decisions, including those related to public expenditure on mental health, cannot be made in such an absolute manner. Frequently, proposals for expenditure must be balanced against other societal priorities, and often with competing priorities in other sectors. A common denominator must be found to enable comparisons between health care, transport, education, crime prevention and environmental protection, among other areas. Trade-offs will naturally occur between the costs of increased spending and the yield in social benefits. Therefore, where possible, attributing monetary values to these costs and benefits can enhance transparency and efficiency in decision-making, leading to improved policy priorities and actions.

The values presented in this study are not founded on ethical perspectives or professional judgements of experts. Some values are directly drawn from the market prices of resources used, while others are derived indirectly from proxies of market values or estimates of general preferences. Evaluating monetarily non-marketed impacts is nonetheless often very difficult, and problematic areas are noted where relevant throughout the paper.

One aim of this paper is to generate discussions around the often hidden impacts of mental ill health, particularly around human costs, intangible costs, and costs incurred by individuals at their own expense, such as informal care. In this context, comments to improve the derivation and usefulness of the estimates are particularly welcome, especially given the experimental nature of the economic methodology of some of the costs quantified. The following sections of this paper set out the cost estimates in detail, following the classification of cost components described in the executive summary and introduction.

# SUMMARY OF FIGURES

## TOTAL COSTS

The total cost of mental ill health in England in 2022 was £300.4 billion (£300,350,633,424). Costs of mental ill health were split into four categories: economic, health and care, human, and intangible.

Human costs, defined as the monetary value of reduced quality of life among people living with mental ill health, represented the largest share of costs at £130.5 billion (£130,476,853,572). These costs included, in descending order of cost:

- ⦿ The cost of mental ill health in the working-age population (adults aged 20-65 years) which amounted to £90.2 billion (£90,173,620,727)
- ⦿ The cost of mental ill health for children and young people (aged 20 years or younger) in England which amounted to £18.8 billion (£18,798,732,000)
- ⦿ The cost of mental ill health in the retired population (aged 65 years and above) which cost £14.4 billion (£14,401,500,845)
- ⦿ The human quality-of-life costs linked to self-harm and suicide which cost £7.1 billion (£7,103,000,000).

The cost of mental ill health within the prison population in England, which amounted to £2.1 billion (£2,083,442,520), was not included in the final total cost.

Additional costs that would fall under human costs, but were not included in this valuation, include the cost of reduced quality of life among unhoused people and people with substance use disorders.

Economic costs, defined as losses to the economy due to mental ill health, represented the second largest share of the costs at £109.7 billion (£109,696,017,844). The greatest economic cost was staff turnover due to mental ill health which amounted to £43.1 billion (£43,060,657,333), and presenteeism which amounted to £41.8 billion (£41,802,782,590). Economic costs under £10.0 billion, in descending order of cost, included:

- ⦿ Economic inactivity which amounted to £9.2 billion (£9,233,838,682)
- ⦿ Sickness absence which amounted to £6.5 billion (£6,541,033,511)
- ⦿ Lost tax revenue due to unemployment and economic inactivity which amounted to £5.7 billion (£5,693,311,069)
- ⦿ Unpaid work which amounted to £3.4 billion (£3,364,394,659).

Additional costs that would fall under economic costs, but were not included in this valuation, include the costs associated with the impact of mental ill health on other employees, unemployment, premature mortality, and additional educational support (or poor academic performance) for children.

**TABLE 1: ECONOMY-WIDE TOTAL COSTS**

Economic costs	Value (£)
<b>Productivity losses (working-age population)</b>	
Sickness absence	£6,541,033,511
Presenteeism	£41,802,782,590
Economic inactivity	£9,233,838,682
Unpaid work	£3,364,394,659
Premature mortality	not quantified
Staff turnover	£43,060,657,333
Lost tax revenue (unemployment + economic inactivity)	£5,693,311,069
Impact on other employees	not quantified
Unemployment	not quantified
Pensions	not quantified
<b>Children</b>	
Additional educational support	not quantified
<b>Total economic costs</b>	<b>£109,696,017,844</b>
<b>Health and care costs</b>	
<b>Public expenditure</b>	
GP expenditure	£1,932,000,000
Medication prescriptions	£586,704,371
Local authority social services	£1,580,000,000
NHS community and hospital health services	£13,620,000,000
<b>Other public sector costs</b>	
Social security - administrative costs	£306,223,092
Accommodation for unhoused people with mental health problems	£1,312,000,000
<b>Costs to individuals and families</b>	
Private spending on mental health services:	
(1) counselling, therapy, other private similar services	£1,125,480,204
(2) privately financed spending of mental health charities and VCSE	not quantified
Informal care to people with mental health difficulties	£39,715,354,341
Co-morbidity - physical and mental health ( <i>not included in total</i> )	£13,305,000,000
<b>Total health and care costs</b>	<b>£60,177,762,008</b>
<b>Human costs</b>	
Working-age adult population (20-65)	£90,173,620,727
Children and young people (<20) and retired population (65+)	£33,200,232,845
Suicide and self-harm	£7,103,000,000
People in prison ( <i>not included in total</i> )	£2,083,442,520
Unhoused population	not quantified
Substance use disorders	not quantified
<b>Total human costs</b>	<b>£130,476,853,572</b>
<b>Intangible costs</b>	
Creativity and innovation	not quantified
Short-termism and ill-advised financial decisions	not quantified
Social cohesion and social trust	not quantified
Emigration and brain drain	not quantified
<b>Total intangible costs</b>	<b>£-</b>
<b>TOTAL COST</b>	<b>£300,350,633,424</b>
Total costs - range	[£285 bn - £307 bn]

Co-morbidity - physical and mental health range: [£10,140,000,000 - 16,470,000,000];  
 Working-age adult population (20-65) (WELLBYs) range: [£81,681,962,175 - £97,086,272,180]

Lastly, health and care costs, defined as the cost of providing health and care services to people living with mental ill health, represented the lowest category of costs at £60.2 billion (£60,177,762,008). These costs were further broken down into three categories: public expenditure, other public sector costs, and the cost of mental ill health to individuals and families. Public expenditure costs due to mental ill health included, in descending order of cost:

- ⊙ NHS community and hospital health services which cost £13.6 billion (£13,620,000,000)
- ⊙ GP expenditure which cost £1.9 billion (£1,932,000,000)
- ⊙ Local authority social services which cost £1.6 billion (£1,580,000,000)
- ⊙ Mental health drug prescriptions which cost £0.6 billion (£586,704,371).

Other public sector costs due to mental ill health included, in descending order of cost: the cost of accommodation for unhoused people experiencing mental ill health which cost £1.3 billion (£1,312,000,000) and social security administrative costs for people living with mental ill health which cost £0.3 billion (£306,223,092). The cost of mental ill health to individuals and families included the cost of informal care for people living with mental health difficulties which amounted to £39.7 billion (£39,715,354,341) and the cost of counselling, therapy, and other private services which amounted to £1.1 billion (£1,125,480,204).

Additional costs that would fall under health and care costs, but were not included in this valuation, include the costs associated to privately financed spending of mental health charities and voluntary organisations; and the increased health care costs of poor mental health among people living with long-term physical injuries.

# MENTAL ILL HEALTH COSTS THE UK

**£300 BILLION A YEAR**

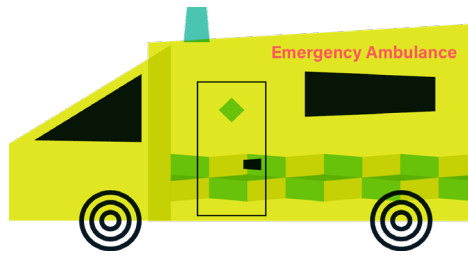
That's more than the cost of...



Consumer spending on food, drink & catering in 2022

**£254 BILLION**

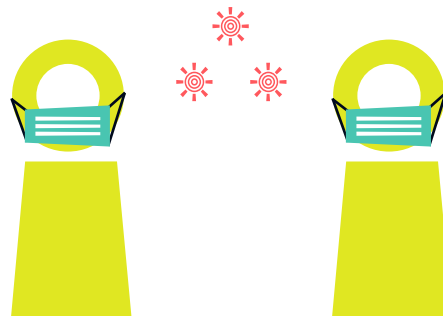
(GOV.UK, 2024)



The NHS budget in 2022

**£153 BILLION**

(NHS England, 2022)



The estimated impact of Covid on the UK economy in 2020

**£260 BILLION**

(Bloomberg Economics, 2021)

*These figures may not be directly comparable insofar as some of the costs associated with mental ill health are not factored in in traditional economic measurements (such as GDP), and serve only as a reference point for the magnitude of the costs associated with mental ill health.*

## EVOLUTION OF COSTS BETWEEN 2002 AND 2022

This study broadly replicates the methodology used in the original 2002 paper. This enables direct comparisons between two points in time, 20 years apart, regarding rates of poor mental health and their associated costs.

A combination of factors helps explain these changes. Of course, demonstrating a causal relation between each of these factors and the ensuing costs falls beyond the scope of this study – an area that would benefit from further research. Nevertheless, several factors are likely to have had an impact on mental health and its linked cost estimates.

Inflation explains a portion of these changes. For example, when adjusted for inflation, costs associated with sickness absence, social security administrative costs, and human costs for people in prison have remained broadly constant.

Similarly, the inclusion of several new economic costs, with the intent to better reflect a more holistic and comprehensive understanding of the true economic impact of mental ill health, helps explain the increase in the final cost estimates. Further, methodological changes in the calculations, resulting from developments in the understanding of the impacts as well as within the field of economics, better reflect the magnitude of the impact. These include presenteeism, staff turnover, lost tax revenue, wellbeing levels (human costs), and informal care.

The evolving prevalence of mental health problems, as well as changes in demand and supply of mental health support, are likely to have played a role too. The past two decades brought forth several important macroeconomic trends, including austerity and the associated reduction in state provision, resulting in increased levels of poverty and insecurity (see for example Jenkins *et al.*, 2021). Recent years have seen high inflation levels and the associated cost-of-living crisis disproportionately impact those more at risk of experiencing mental health problems, exacerbating wealth, racial and gender inequalities (Runnymede Trust, 2022; Barnard, 2022; Royal Society of Edinburgh, 2024). This translates into uneven impacts and lower resilience within society in the face of shocks.

Similarly, Covid-19 and the associated measures that were put in place have resulted in a significant rise in mental health problems. A 2021 Centre for Mental Health forecast predicted that 8.5 million adults and 1.5 million children and young people would require mental health support as a direct impact of the pandemic in the following three to five years (O'Shea, 2021). It is plausible that a portion of this increase in demand, combined with changes in the supply of mental health services, would be reflected in the changes in costs – with further impact likely in the next few years.

Other large-scale trends are likely to have had an impact too. These include technological developments; a rise in international conflict and war; and the climate crisis, with growing levels of climate-related catastrophes as well as increasing levels of eco-anxiety, among other effects (Haidt and Allen, 2020; McElroy *et al.*, 2023; Rao and Powell, 2021).

Overall, the data presented in this economic assessment points to the burgeoning impact of mental ill health across all parts of society. The magnitude of the costs is hard to ignore. It underscores the critical importance of both prevention and treatment efforts. Moreover, further research is needed to understand the specific contributions of each factor outlined above to mental health outcomes and their subsequent effects on both productivity and overall wellbeing within society.

## COST COMPARISON

In the original 2002/03 *Economic and social costs of mental illness* report (The Sainsbury Centre for Mental Health, 2003), the estimated cost of mental ill health in England in 2002 was £76.3 billion. This total cost, and breakdown of costs, have been inflation-adjusted for 2022 resulting in an estimated value for the total cost of mental illness in England of £124.2 billion. This inflation-adjusted figure is around £176.1 billion lower than the total cost calculated in this valuation of £300.4 billion.

The current valuation proposes that the economic costs of mental ill health are lower than the inflation-adjusted costs for economic inactivity (inflation-adjusted = £15.3 billion, current valuation = £9.2 billion) and, notably, for unpaid work (inflation-adjusted = £13.0 billion, current valuation = £3.4 billion). Furthermore, the current valuation proposes that the economic costs of mental ill health are greater than the inflation-adjusted costs for sickness absence (inflation-adjusted = £6.4 billion, current valuation = £6.5 billion). Economic costs of presenteeism, staff turnover, and lost tax revenue due to unemployment and economic inactivity were not estimated in the original 2002/03 report and, therefore, cannot be compared to the current valuation estimates. Premature mortality was not quantified in the current valuation and could not be compared to the cost estimated in the 2002/03 report.

The current valuation proposes that the health and care costs of mental illness are lower than the inflation-adjusted costs for mental health drug prescriptions (inflation-adjusted = £1.2 billion, current valuation = £0.6 billion), local authority social services (inflation-adjusted = £2.3 billion, current valuation = £1.6 billion), and social security administrative costs (inflation-adjusted = £0.4 billion, current valuation = £0.3 billion). Conversely, the current valuation proposes that the health and care costs of mental ill health are greater than the inflation-adjusted figures for GP expenditure (inflation-adjusted = £1.5 billion, current valuation = £1.9 billion), accommodation for unhoused people living with mental ill health (inflation-adjusted = £0.5 billion, current valuation = £1.3 billion), self-funded counselling, therapy and other services (inflation-adjusted = £0.3 billion, current valuation = £1.1 billion). Notably, we also propose that the costs are greater than the inflation-adjusted figures for NHS hospital and community health services (inflation-adjusted = £8.0 billion, current valuation = £13.6 billion) and informal care, which was more than six times greater than the inflation-adjusted estimates (inflation-adjusted = £6.4 billion, current valuation = £39.7 billion).

Lastly, the current valuation proposes that the human costs of mental ill health are lower than the inflation-adjusted figures for the prison population (inflation-adjusted = £5.7 billion, current valuation = £2.1 billion). Additionally, the current valuation proposes that the human costs of mental ill health are greater than the inflation-adjusted figures for the working-age population (inflation-adjusted = £52.7 billion, current valuation = £90.2 billion), and children and young people, which was more than double the inflation-adjusted costs (inflation-adjusted = £7.4 billion, current valuation = £18.8 billion).



## **COSTS BY SECTOR**

The Government bore the smallest proportion of the costs of mental ill health, at £25.0 billion. The greatest cost to the Government was health and care public expenditure in NHS community health and hospital services (£13.6 billion) followed by other health and care public sector costs of lost tax revenue (£5.7 billion), and GP expenditure (£1.9 billion).

The industry sector bore the second largest cost of mental ill health at £100.6 billion. The greatest costs to industry and businesses were economic costs of staff turnover (£43.1 billion), followed by presenteeism (£41.8 billion), and economic inactivity (£9.2 billion).

Lastly, the largest costs associated with mental ill health in England in 2022 were the personal costs to people living with mental health difficulties and their families, costing £174.7 billion. The greatest personal cost was the human cost of mental ill health in the working-age population in England (£90.2 billion), followed by health and care costs of informal care to people living with mental ill health (£39.7 billion), and the human cost of mental ill health among children and young people in England (£18.8 billion).



**TABLE 2: AGGREGATE COSTS OF MENTAL ILL HEALTH ACROSS GOVERNMENT, INDUSTRY AND PERSONAL SPHERES**

<b>Government costs</b>	<b>Value</b>
NHS community and hospital health services	£13,620,000,000
Lost tax revenue	£5,693,311,069
GP expenditure	£1,932,000,000
Local authority social services	£1,580,000,000
Accommodation for unhoused people with mental health problems	£1,312,000,000
Mental health medication	£586,704,371
Social security - administrative costs	£306,223,092
<b>Total</b>	<b>£25,030,238,532</b>
<b>Industry costs</b>	<b>Value</b>
<b>Economic costs</b>	
Staff turnover	£43,060,657,333
Presenteeism	£41,802,782,590
Economic inactivity	£9,233,838,682
Sickness absence	£6,541,033,511
<b>Total</b>	<b>£100,638,312,116</b>
<b>Personal costs</b>	<b>Value</b>
<b>Economic costs</b>	
Unpaid work	£3,364,394,659
<b>Human costs</b>	
Working-age population	£90,173,620,727
Children and young people (<20)	£18,798,732,000
Retired population (>65)	£14,401,500,845
Suicide and self-harm	£7,103,000,000
People in prison (wellbeing and avoidable sentences) - <i>not included in total</i>	£2,229,287,261
<b>Health and care costs</b>	
Informal care to people with mental health difficulties	£39,715,354,341
Private spending on mental health services - counselling, therapy, other private similar services	£1,125,480,204
<b>Total</b>	<b>£174,682,082,776</b>
<b>TOTAL COST</b>	<b>£300,350,633,424</b>

The costs of mental ill health in England in 2022 were separated by sector: government costs, industry costs, and personal costs.

# ECONOMIC COSTS

The adverse effects of mental ill health on economic activity and productivity are well documented. For example, lost productivity associated with anxiety and depression, two of the most common mental health problems, is estimated to cost the global economy US\$1 trillion each year (World Health Organisation, 2022). The percentage of people with mental health problems in the labour force is lower than in the average population; a large percentage of those who are economically inactive (i.e. people not in employment who have not sought work within the last four weeks and/or are unable to start work within the next two weeks – Office for National Statistics, 2020) report mental ill health as their primary reason (Hampson *et al.*, 2022). Furthermore, a large share of productive time lost to absenteeism and presenteeism is due to mental health reasons.

This section aims to quantify a large share of these economic costs. This includes a re-evaluation of the four costs identified in the original policy paper – sickness absence, economic inactivity, effects on unpaid work, and output losses resulting from premature mortality (The Sainsbury Centre for Mental Health, 2003). Further, the collective understanding (and political relevance) of the costs of presenteeism and staff turnover has increased, along with data availability, and as such these costs are quantified in this review. The cost of lost tax revenue is also factored in. The existence of other costs, such as the impact of an individual's mental ill health on other employees, unemployment, children's additional educational needs and underperformance at school haven't been costed in the current study, despite being recognised as having a detrimental economic impact, and could be included in future research.

## **SICKNESS ABSENCE**

The total economic cost of sickness absence from paid employment due to mental ill health in England in 2022 was £6.5 billion.

The Office for National Statistics (ONS, 2023b) estimated that in 2022 sickness absence in the UK labour market amounted to 185,600,000 days. In line with this, it is assumed that the proportion of sickness absence in the four nations is constant, so the number of sick days is adjusted in line with the England:UK population ratio in 2021, and this ratio is assumed constant in 2022 (Office for National Statistics, 2022c), resulting in 159,882,011 sick leave days in England in 2022. On average, this amounts to 5.7 days per employee.

The economic cost of a lost productive day we have chosen to use is that of a worker on the median wage in England in 2022 (net daily wage) – £72.50<sup>1</sup>. The percentage of sickness days connected to mental ill health – namely, 'stress, depression and anxiety' – is estimated to be 51% (WorkNest, 2022). Given that 13% of the UK workforce is self-employed, and assuming this proportion to be similar for England, the final figure is adjusted to reflect this. Factoring all of this in, the number of days lost in England is multiplied by the economic cost of a sick day, the percentage of sickness days due to mental ill health, and the combination of employed and self-employed workers, to reach a final figure of £6.5 billion (£6,541,033,511.49).



## PRESENTEEISM

The second category of economic costs is presenteeism. Presenteeism is characterised by lower levels of productivity, more mistakes or a lower standard of work than usual, a lack of care about results and output, starting late or finishing early, or putting in more hours but less output (Bruce-Lockhart, 2019). People experiencing mental health difficulties often attend work but are less productive due to impaired cognitive function and emotional distress, leading to decreased efficiency and effectiveness. Several studies have demonstrated the substantial impact of mental ill health on presenteeism (see for example Schultz and Edington, 2007; and Bielecky *et al.*, 2015). The total cost of presenteeism associated with mental ill health in England in 2022 is estimated to be £41.8 billion.

The 2023 edition of Britain's Healthiest Workplace, the UK's largest employee wellbeing survey, shows that businesses in the UK are losing thousands of hours of productive work, in line with a steady drop in productivity since 2014. According to the survey, in 2023 employees lost 20% of working hours, which represents a loss of 49.7 productive days per employee per year.<sup>2</sup>

Thus, to calculate the economic cost of this, 49.7 days are assumed lost to presenteeism in England in 2022 – particularly in the context of the pandemic, remote working, and the cost-of-living crisis. 46% of this is presumed to be related to mental ill health, in line with a recent Deloitte study (Hampson *et al.*, 2022). The workforce in England is composed of 25,220,457 people<sup>3</sup>. In line with the approach taken for sickness leave, the economic cost of a productive day lost is estimated to be £72.50 – the net daily wage of a worker on the median UK salary. Multiplying the number of productive days lost per year per employee to presenteeism by the percentage associated with mental ill health, the size of England's labour force in 2022, and the economic cost of a productive day lost, gives a final value of £42 billion (£41,802,782,590)<sup>4</sup>.

## STAFF TURNOVER

The total economic cost of mental health-related staff turnover for England in 2022 was £43 billion. While this cost has traditionally been excluded from economic valuations of the cost of mental ill health, it has recently received more attention and certainly represents a substantial burden for firms, government and the economy.

In 2022, total turnover rates were highest across the private sector (29%), charities and not-for-profit organisations (24.7%), and firms with over 1,000 staff (22%), according to Cendex data (Cendex, 2023). Further, Deloitte's 2022 survey found that 28% of UK employees either intentionally left their job in the past year or were considering doing it in the next year (Hampson *et al.*, 2022).

While the total labour turnover rate for the UK in 2022 was 22.5%, for the purpose of this calculation the voluntary resignation rate is used – 16.4% (CIPD, 2023; Cendex, 2023). While this may lead to an underestimate of the true cost, given that it may fail to capture some instances of mental ill health-related non-voluntary turnover, this approach contributes to the robustness of the estimate. The percentages for the UK are assumed to hold constant for England in 2022.

The same Deloitte report (Hampson *et al.*, 2022) suggests that mental health problems seem to be a strong driver of this turnover rate, with 61% of the respondents who intentionally left or were planning to leave their job indicating poor mental health as a reason – citing factors such as long hours, increased stress, and job insecurity. In line with this, it is assumed that 61% of voluntary resignations in England in 2022 were linked to mental health concerns. This data is combined with the number of people in employment in England in 2022 (25,220,457, as previously mentioned), and the median annual salary in the UK in 2022 (£33,000 – Office for National Statistics, 2023f).

The total economic cost of staff turnover in the UK is disputed in the literature and varies based on multiple factors. Several estimates have been put forward, from 35% of employee gross annual salary (Croner), 38% (SME), and 40% (Centre for Mental Health), to 60% and 80-100% (see e.g. Oxford Economics, 2014; Hampson *et al.*, 2022). Of these, the Oxford Economics figures would likely be the most reliable estimate, given the robustness of the methodology and usage of primary data. Nevertheless, we decided to opt for a lower value for the economic cost of staff turnover per employee, closer to a middle value of the estimates range. The Society for Human Resource Management (SHRM) estimates that on average it costs a company six to nine months of an employee's salary to replace them. This study provides separate estimates for high-turnover, low-paying jobs; mid-range positions; and executive positions. While these estimates are for the US, their analysis should be generally applicable to a UK context. Assuming the average point of 7.5 months would suggest a value of 62.5% of annual employee salary.<sup>5</sup>

Given the complex interactions between mental health, physical health, deprivation, and poorer educational outcomes, among other factors, it is likely that mental health problems have a negative impact on wages, thus making people with mental health problems disproportionately likely to earn less than median wage. Analysis of the 2022 Labour Force Survey data from 80,000 respondents (detailed in note number 7) reveals that those who did report mental health problems had on average a 17.15% lower mean annual salary than those who did not. Therefore, in order to calculate the impact of mental health-related staff turnover, we adjust the median UK salary in 2022 for this (while recognising this may lead to an underestimate of the true cost), using a final salary value of £27,225.

Putting all this together, the final cost of staff turnover linked to mental ill health is obtained by multiplying the voluntary resignation rate for England in 2022 by the number of employed people in England in 2022, the percentage of mental health-related staff turnover, average individual staff turnover cost as a percentage of annual salary, and the adjusted median salary for England in 2022, providing a final figure of £43 billion (£42,931,350,785).

This is undoubtedly a large figure, and a more detailed breakdown would improve the analysis. For instance, not all age or population groups are impacted in the same way, despite a flat rate being assumed in the present study, thus failing to capture different impacts and experiences (IPPR, 2022). This falls beyond the scope of this study, but future research would likely help improve the estimate and provide a more detailed breakdown of this impact. For this to be possible, more robust and granular data would be needed, and consequently more research, in order to understand the true extent of this cost and its links to mental ill health.

While previous estimates may be lower, they also reflect an increasing trend of staff turnover costs associated with mental ill health, and this study's findings seem to be in line with this – for instance, Deloitte (2022) estimates that the cost of labour turnover for mental health reasons went up by over 150% between 2019 and 2021.

## **ECONOMIC INACTIVITY**

The total cost of economic inactivity due to mental ill health in England in 2022 is estimated to be £9 billion. To be considered economically inactive, a person of working age must not be in employment, must not have sought work within the previous four weeks, and/or must be unable to start work within the following two weeks, as defined by the Office for National Statistics (ONS, 2020). The calculation thus reflects the share of the cost of economic inactivity for which mental ill health is the primary reason.

The initial step of this calculation was to include the number of people who are economically inactive because of long-term sickness, as reported in two categories by the ONS: "Depression, bad nerves, anxiety" (351,267), and "Mental illness" (884,715) (Office for National Statistics, 2023c)<sup>6</sup>.

These figures were adjusted to reflect only the instances where individuals reported being inactive due to long-term illness and mental health being their primary health condition (1,042,542 individuals in England in total).

The working days lost to economic inactivity in 2022 were estimated using a weighted average, with a third of the instances assumed to amount to six weeks, a third being away the whole year (250 working days), and a third the middle value (155 working days). This value was multiplied by the cost of a productive day lost to economic inactivity (£61.70)<sup>7</sup> – providing a final cost of £9 billion (£9,233,838,682).

## **UNPAID WORK**

This category relates to the adverse effects of having a mental health problem on someone's ability to carry out unpaid work such as housework. This output is not included in national income calculations as conventionally measured, yet it nevertheless represents an economic benefit, and its loss is an economic cost. The total cost associated with this was £3.4 billion.

Housework, for the purposes of this study, is divided into six categories: childcare, cooking, laundry, transport, adult care, and volunteering. ONS data from 2016 provides the average number of hours spent by men and women doing each task, and these figures are assumed to remain similar in 2022. In addition, the ONS provides an economic value for an hour spent doing each of these tasks: £8.58 for childcare, £15.28 for cooking, £7.63 for laundry, £7.82 for transport, £9.75 for adult care, and £14.43 for volunteering, in 2016 prices (ONS, 2016).

Using these figures, combined with the average number of hours spent performing these tasks per week, a total economic benefit is calculated<sup>8</sup>. The number of days lost to sickness absence in England (156,552,407, as discussed above) is assumed to be equal to the number of days of housework lost (i.e. individuals not completing housework at the same rate as not completing paid work due to illness). The share of these connected to mental ill health is assumed to be the same as with sickness absence: 51%. Combining this information, adjusting the figures to 2022 prices, and taking off adult care costs to prevent double counting on the section around informal care, the final cost of unpaid work is £3.4 billion (£3,364,394,659).

## **LOST TAX REVENUE**

Lost tax revenue due to mental health-related unemployment and economic inactivity cost £5.7 billion in England in 2022. According to the ONS, unemployment refers to two groups of people: those who do not have a job, have been actively searching for a job in the last four weeks, and are able to begin work in the next two weeks; and those who do not have a job, but have found a job and are waiting to start work in the next two weeks. Conversely, economic inactivity refers to people aged 16 and older who do not have a job, have not sought a job in the last four weeks, and are not able to start work in the next two weeks (ONS, 2020).



According to the Stevenson and Farmer review (2017) and the BBC (2017), 300,000 people were unemployed in England due to mental ill health in 2017. Figures for the number of people unemployed due to mental ill health in England in 2022 were not readily available. To estimate this figure, the number of unemployed people in the UK in 2022 was first calculated from multiplying the UK workforce in 2022 of 29,900,000 people (ONS, 2022a) by the UK unemployment rate in 2022 of 3.57% (Francis-Devine and Powell, 2023) to reach a figure of 1,067,430 people. Next, a ratio between the number of unemployed people in the UK in 2017, amounting to 1,440,000 people (ONS, 2017), and the number of unemployed people in the UK in 2022, amounting to 1,067,430 people, was calculated at 0.74. It is assumed that this ratio holds constant in 2022, resulting in an estimate of 222,381 people unemployed due to mental ill health in England in 2022.


An alternative method would be to use quarterly data from the 2022 Labour Force Survey to estimate the difference in unemployment rates for those citing a long-term health condition related to mental health compared to otherwise similar people. Within the dataset, the unemployment rate of those reporting a mental health problem as their main health problem would be 3.6%, whereas the rate for the general population (excluding those with mental health problems) would be of 1.5%. While the difference may seem small, it follows that, within this cohort, people with mental health problems are 133% more likely to be unemployed. Multiplying this figure (2.33) by the UK unemployment rate in 2022 (3.56%), we reach the figure of 8.29% – an approximate value for the unemployment rate among people with mental health problems.

Given that one in six adults met the criteria for a common mental health problem (Adult Psychiatric Morbidity Survey, 2014), and given that the working population in England in 2022 was composed of 29,900,000 individuals, it would follow that around 4,983,134 working-age individuals would experience mental health problems in any given year. Importantly, it should be noted that the vast majority of working-age adults with a common mental health problem are in work.

Multiplying this by the actual unemployment rate (3.56%) would result in 177,400 individuals, and multiplying it by the unemployment rate among people with mental health problems results in around 413,101 individuals. Subtracting the two figures thus results in a total of 235,701 individuals, which represents a close estimate of the figure mentioned above (222,381). In the interests of being conservative in our calculations, we opted for the lowest estimate and use it henceforth.

Further to this, the median salary in the UK in 2022 was £33,000 (Office for National Statistics, 2023f), assumed to be the same in England – likely an underestimate as median salary is probably higher in England. However, our estimates based on data from the Labour Force Survey suggest that people with mental health problems report lower salaries than those without. Taking this into account, we conservatively calculate the following lost tax revenue for an average person with a gross annual salary of £27,2257.

Personal allowance (£12,570) was taken away from this figure, to give a median taxed salary of £14,655, which was used to calculate national insurance, income tax, and employer national insurance contributions, resulting in a final figure of £7,083 total tax lost per unemployed person. The estimated number of people unemployed due to mental ill health in England in 2022 (222,381) multiplied by the calculated total tax lost per unemployed person (£7,083) provides a final figure of £1.6 billion (£1,575,126,394) tax lost from unemployment related to mental ill health in England in 2022.



The total number of people who were economically inactive due to mental ill health in England in 2022 was 1,042,542 people (as previously calculated in the “economic inactivity” section of this report). It is assumed that a third of economically inactive people, amounting to 347,514 people, are economically inactive for six weeks due to mental ill health, a third of people are economically inactive for 29 weeks due to mental ill health, and a third of people are economically inactive for a year (52 weeks) due to mental ill health. As previously stated, the estimated total tax loss per unemployed person is £7,083 per year. Therefore, £817 in tax revenue is lost for a person who is economically inactive for 6 weeks, £3,950 in tax revenue is lost for a person who is economically inactive for 29 weeks, and £7,083 in tax revenue is lost for a person who is economically inactive for 52 weeks. The number of people in England who were economically inactive for six weeks, 29 weeks, and 52 weeks were multiplied by the tax revenue lost per person for each of these groups. This provides a figure of £284,012,736 of total lost tax revenue from people who are economically inactive for six weeks, £1.3 billion (£1,372,728,225) of total lost tax revenue from people who are economically inactive for 29 weeks, and £2.5 billion (£2,461,443,714) of total lost tax revenue from people who are economically inactive for 52 weeks. These figures were combined to reach a total figure of £4.1 billion (£4,118,184,676) due to economic inactivity.

The total tax lost from unemployment due to mental ill health in England in 2022, £2 billion (£1,575,126,394), was combined with the total tax revenue lost due to economic inactivity, £4 billion (£4,118,184,676), to reach a final total of £5.7 billion (£5,693,311,069) of lost tax revenue due to mental ill health in England in 2022.

## **PENSIONS**

The costs associated with missing pension contributions due to mental ill health were not costed in this valuation, although it is recognised that this may translate into costs and thus have economic consequences in the medium to long term for the economy. These also represent substantial costs for individuals who may have worse pensions as a result. This may disproportionately affect those on lower incomes, thus increasing the risk of pensioner poverty. Future research could explore this link and the associated costs.

# HEALTH AND CARE COSTS

The costs of health and social care for mental ill health can be broadly divided into three categories: (i) public expenditure on health care, (ii) other public sector costs, and (iii) costs to people and families. Public expenditure on health care includes the costs incurred by the NHS, local authorities, and other public sector agencies in providing services and support for people with mental health problems. This is comprised of mental health-related drug prescriptions, GP consultations, local authority social services, and NHS hospital and community health services. Other public sector costs include the provision of types of support beyond health care – such as the administrative costs of mental health-related social security benefits, and the costs of temporary accommodation for unhoused people struggling with mental health difficulties. Private funding – the costs to individuals and families – covers the health and care costs associated with mental ill health that are supported by individuals/families alone. These include (and extend beyond) the costs of private therapy, and the value of informal care.

## PUBLIC EXPENDITURE

### GP CONSULTATIONS

The total cost of GP consultations related to mental ill health in England in 2022 was conservatively estimated at £2 billion (£1,932,000,000).

To calculate this cost, the value of NHS spending in general practice is multiplied by the proportion of spending allocated to general practice in England in 2022. The value of NHS spending in general practice was £14 billion (£13,800 million) (British Medical Association, 2023). NHS England (2023b) reported an allocation of 14% of local health spending to mental health. It is assumed that this is a similar percentage to the allocation of local health spending to mental health in general practice. Given this, the resulting estimate is £2 billion (£1,932,000,000) spent on mental health in general practice. We recognise this may be a low estimate, with the actual spend likely to be higher, but believe this to be the highest robust value that can be calculated with the data currently publicly available.

An alternative approach would be to determine the number of GP appointments in England in 2022, multiplied by the cost of each appointment to the NHS and the proportion of appointments related to mental health. There were 328,388,265 GP appointments in England in 2022, calculated from available data (NHS England, 2023c). The cost of an average nine-minute face-to-face GP appointment in the year 2021/22 was £42 (The King's Fund, 2023) which was assumed constant for the year 2022/23. Importantly, a shift took place from face-to-face to online appointments during and after Covid-19, which would imply some of these appointments would have been virtual. Due to a lack of data on the potential change in the associated cost, for the purposes of this study, the cost of the appointment is assumed constant between online and face-to-face consultations.



Finally, a Mind (2018) survey of over 1,000 GPs suggested that 40% of GP appointments involved mental health. Combining these figures would result in a total cost of £5,516,922,852. However, the robustness of data and assumptions is crucial to this study, with the authors tending towards underestimation rather than overestimation in all calculations. In this case, the 40% figure concerns GP appointments that involve mental health, and not necessarily mental health-centred appointments. As such, we have decided to use £1.9 billion as the final figure, as opposed to £5.5 billion, while recognising that it is likely an underestimate.

## **MEDICATION PRESCRIPTIONS**

The total cost of mental health drug prescriptions for people living with mental ill health in England in 2022 was £0.6 billion.

For this valuation, the cost of five types of medication prescribed to people living with mental health problems were adjusted based on figures from the NHS from 2021-2022 on prescription costs and quantities (NHS Business Services Authority, 2023). These drugs included hypnotics and anxiolytics, drugs for dementia, drugs used for psychoses and related disorders, Central Nervous System (CNS) stimulants and drugs used for ADHD, and antidepressants<sup>9</sup>. The net ingredient cost of each mental health drug that was prescribed between 2021 and 2022 was summed and amounted to a total cost of £101,355,073 for hypnotics and anxiolytics; £26,353,920 for drugs for dementia; £125,345,850 for drugs used in psychoses and related disorders; £86,548,139 for CNS stimulants and drugs used for ADHD; and £247,101,389 for antidepressant drugs; amounting to a total figure of £0.6 billion (£586,704,370<sup>10</sup>).

## **LOCAL AUTHORITY SOCIAL SERVICES**

Data for Adult Social Care Activity and Finance from NHS England for 2021-2022 places gross current expenditure on adult social care by local authorities at £22 billion. Of this total, gross current expenditure on mental health support by local authorities was £1.58 billion (NHS Digital, 2022a)<sup>11</sup>. It is possible that this figure may hide a large amount of unmet need for mental health social care.

## **NHS HOSPITAL AND COMMUNITY HEALTH SERVICES**

This section refers to NHS hospital and community health services expenditure for mental health (i.e. secondary and tertiary mental health services). NHS hospital and community health services cover a wide range of services and provide care for people from birth to the end of their life. Community Mental Health Teams play a vital role in supporting people with complex health and care needs to live independently in their own home for as long as possible (NHS England, 2023b).

Figures published by the National Audit Office (2023) concerning the Department of Health and Social Care place NHS spend on mental health services for the 2021-2022 period at £12 billion, or 9% of the NHS budget. Further communication with the Department of Health and Social Care revealed that NHS England spend on mental health services in January-December 2022 was equal to £13.6 billion, according to the estimates provided. The final figure for costs associated with NHS hospital and community health services is therefore £13.6 billion (£13,620,000,000).

## **MENTAL HEALTH AND PHYSICAL HEALTH (NOT INCLUDED IN TOTAL)**

Often, people with long-term physical health conditions experience mental health problems, which can translate into poorer health outcomes and reduced quality of life. A King's Fund and Centre for Mental Health report in 2012 found that people with long-term health conditions and co-morbid mental health problems are more likely to live in deprived areas and have limited access to resources of all kinds, with this interaction significantly contributing to the generation and perpetuation of inequalities (Naylor *et al.*, 2012).

The costs to the health care system associated with the interaction between physical illness and co-morbid mental health problems are substantial. Naylor *et al.* (2012) suggested that total health care costs are increased by at least 45% for each person with a long-term condition and co-morbid mental health problem. This, in turn, translates into 12-18% of all NHS expenditure on long-term conditions being linked to poor mental health and wellbeing – i.e. between £8 billion and £13 billion in England each year, in 2012 prices. The most conservative estimate would equate to around £1 in each £8 spent on long-term conditions (Naylor *et al.*, 2012).

For the purposes of this study, these costs have not been included in the final figures to prevent potential double-counting. Nevertheless, they represent substantial costs that ought not to be overlooked. Given this, we adjust the original estimates to 2022 prices, without considering changes in prevalence rates, NHS expenditure on long-term conditions, or other factors influencing the interaction between physical illness and co-morbid mental health problems. This would translate into a total cost of between £10.14 billion and £16.47 billion per year.

## **OTHER PUBLIC SECTOR COSTS**

### **SOCIAL SECURITY - ADMINISTRATION COSTS**

The total cost of administering benefits paid to people with mental health problems in England in 2022 was £0.3 billion.

There is debate in the field of economics on whether the total value of benefits paid, in this case to people with mental ill health, should be seen as a cost or as redistribution. For the purpose of this study, the value of benefits has not been included as a cost, and the only estimates that are included in the final figure concern the costs of administering these benefits. This stems from the perspective that social security payments are a transfer of purchasing power from one group in society (taxpayers) to another (benefit recipients). Of course, taxpayers and benefit recipients are not necessarily two separate groups of people – for example, benefit recipients also pay taxes.

As such, no loss of output has occurred, other than through the additional burden of administering this redistribution process, and thus no economic cost can be associated with it. The costs linked to people being unable to work due to sickness or disability are of course worth quantifying and including, but these are covered elsewhere in the study. Thus, to count benefit payments as a cost in this study would be a form of double-counting.

According to the Stevenson and Farmer review (2017), the total benefits paid to people with mental ill health in England in 2017 was £9.6 billion. The total benefits paid to people with mental ill health in England in 2022 were not made readily available. To estimate this figure in the present study, the ratio between the total disability, incapacity and carer benefits paid to working-age people, children, and pensioners in England in 2017, amounting to £51 billion (£51,100,000,000 – Department for Work and Pensions, 2018), and the total benefits to support disabled people with health conditions paid to working-age people and pensioners in England in 2022, amounting to £65 billion (£65,200,000,000 –

Department for Work and Pensions, 2023) was calculated at 0.78<sup>12</sup>. It is assumed that this 0.78 ratio is constant, resulting in an estimate of £12 billion (£12,248,923,679) total benefits paid to people with mental health problems in England in 2022.

There is no output from paying social security benefits, other than resources used for social security cost administration. It is estimated that the cost of administration is 2.5% of the value of benefits paid (The Sainsbury Centre for Mental Health, 2003; Office for Budget Responsibility, 2023) and this is assumed constant from 2002 to 2022. Factoring this in, the estimate of £12 billion (£12,248,923,679) total benefits paid to people with mental health problems in England in 2022 multiplied by the 2.5% of the value of benefits paid offered a final figure of £0.3 billion (£306,223,091) for administering benefits paid to people with mental health problems in England in 2022.

## **ACCOMMODATION FOR UNHOUSED PEOPLE STRUGGLING WITH MENTAL ILL HEALTH**

The total estimated cost of accommodation for people who are unhoused due to mental ill health in England in 2022 is £1.3 billion.

In the financial year of 2021/22, councils in England spent at least £1.6 billion on temporary accommodation (Wilson, 2023). This value is assumed constant for the year 2022/23. An article by the Psychiatric Times reported that mental ill health precedes homelessness in about two-thirds of cases in the US (Balasuriya, Buelt and Tsai, 2020). Factoring this in, and assuming this applies in the UK context, the £1.6 billion spent on temporary accommodation is multiplied by the assumed 66% of people unhoused whose situation is preceded by a mental health problem, to provide a final figure of £1.3 billion (£1,312,000,000<sup>13</sup>).

## **COSTS TO INDIVIDUALS AND FAMILIES**

### **PRIVATE SPENDING ON MENTAL HEALTH SERVICES: COUNSELLING, THERAPY AND OTHER THERAPEUTIC SERVICES**

The costs associated with mental health support services, such as counselling and therapy, are often supported by individuals and their support networks. There has been growing demand for these services, with NHS budgets not keeping up with inflation and demand in recent years, and as such an increasing share of this mental health support has occurred in a private capacity. The total cost of private spending on mental health services by individuals and families in England in 2022 is estimated at £1.1 billion (£1,125,480,204).

There was a total of 76,513 accredited mental health professionals in the UK in 2023 (Health and Care Professionals Council, 2023). Assuming an equal distribution of mental health professionals across the four nations, and following the England:UK population ratio, this would translate into a total of 63,506 accredited mental health professionals in England in 2022<sup>14</sup>.

The total number of public therapists in the NHS in England has been estimated at 20,000 (Self *et al.*, 2021), and these are taken away from the total figure. The BACP's workforce mapping survey, with just over 4,000 respondents, likely provides representative figures of the wider membership. Figures shared by the BACP show that 68.46% of respondents are in private practice. Assuming this figure holds across the sector, and excluding the number of public therapists within the NHS, results in an estimated 29,784 professionals working in therapy, counselling and similar services in a private or self-employed capacity.

The average number of sessions offered per week used in this study is 13.4 – relying on figures shared by BACP – which is likely an underestimate (see, for instance, 17 hours<sup>15</sup> – TalkSpace, 2023). This is multiplied by the number of working weeks in the year (47), resulting in an estimated total of 630 sessions per year. While the cost per session varies widely within therapy, counselling and other services, as well as between general and specialised services, the average cost per session used is £60 (Counselling Directory, 2023).

Multiplying the total yearly expenditure associated with each mental health professional by the total number of private or self-employed mental health professionals in England in 2022 gives a total of £1.1 billion (£1,125,480,204).

## **COSTS FOR SPENDING OF MENTAL HEALTH CHARITIES AND VOLUNTARY ORGANISATIONS THAT ARE PRIVATELY FINANCED**

Costs for spending of mental health charities and voluntary organisations that are privately financed were costed in the original 2002/03 report. These have not been costed in the current report due to a lack of reliable figures.

## **INFORMAL CARE TO PEOPLE WITH MENTAL ILL HEALTH**

Informal care, especially in the realm of mental health, is a crucial but often overlooked component of health and care. It encompasses the support provided by family, friends, and other members of support networks to those struggling with their mental health. These caregivers bear the emotional and practical responsibility of assisting others, to the benefit of their loved ones and society as a whole, often at the expense of their own wellbeing.

Of course, it is difficult to measure the costs associated with informal care, in part because this is unpaid labour (save for carer benefits), and as such is not subject to a market valuation. In the context of an economic valuation of informal care and the associated costs, two main angles could be adopted. The first would encompass finding an equivalent market rate for the amount and level of informal care services provided in the nation in the given period. The second would involve quantifying the costs incurred by informal carers, and the sacrifices they undergo, to monetise the associated decreases in quality of life. A complete economic assessment would likely have to involve components of the two approaches. However, in the context of the current study, only the former is assessed, to prevent any instances where there could be overlap with other quality-of-life valuations in the human costs section, possibly resulting in double-counting. We therefore acknowledge this shortcoming in the approach, possibly resulting in an undervaluation of the true costs associated with informal care.

The economic value of unpaid care for England and Wales has been estimated at £162 billion in 2021<sup>16</sup> (Petrillo and Bennett, 2021). Adjusting this figure, using the England:England & Wales GDP ratio (Office for National Statistics, 2022c), the economic value of unpaid care in England stands at £153,566,036,786. To calculate the share of this figure that is connected to mental ill health, the share of mental health carers as a percentage of total carers is used. Data around informal care for England (and the UK) is notoriously scarce. According to the 2021 census, there were approximately 4.7 million unpaid carers in England (Office for National Statistics, 2023c). However, recent data on the share of mental health carers isn't easily available. Therefore, using 2011 census data on the total number of informal carers in England and Wales, England-population adjusted (5,568,000); and 2013 estimates on the number of carers of people with mental ill health in the UK, England:UK population adjusted (1,265,240); and assuming constant figures between the two years, we estimate that 26 out of every 100 carers in England care for someone with mental ill health.

Assuming this ratio remains unchanged, it is estimated that 26% of the total economic value of informal care is connected to mental ill health, resulting in a final value of £39.7 billion (£39,715,354,341).



# HUMAN COSTS

The true cost of mental ill health extends beyond the impacts on economic productivity and the associated health care costs. It is virtually impossible to quantify the true extent to which depression, anxiety, PTSD, or schizophrenia, for example, impact a person and those around them. The authors acknowledge that using a £ sign is a poor proxy for the human impact of the suffering associated with mental ill health and cannot do justice to the pain and dread that may result from each person's struggle with mental distress.

Nevertheless, it is crucial for policy-making that human costs (in this case of mental ill health) be factored into decision-making processes, and in this context, there is merit in trying to quantify them, even if imperfectly. This study provides an estimate for the influence of mental ill health on several costs, including decreases in wellbeing and quality of life for children and young people, working-age adults, and the retired population; the human impact of self-harm and suicide; and decreases in quality of life for people in prison.

Importantly, human costs resulting from mental ill health present a disproportionate burden on certain groups of the population, such as people from racialised communities, people with physical disabilities, or people facing poverty and disadvantage, for example. Human costs can vary substantively and are linked to the social determinants of health. While the current study does not fully capture this, it is acknowledged that this should be considered when discussing decreases in quality of life and wellbeing associated with mental ill health.

## POOR QUALITY OF LIFE

### **CHILDREN, YOUNG PEOPLE AND THE RETIRED POPULATION (UNDER 20S AND OVER 65S)**

Mental ill health profoundly impacts the quality of life of individuals and their support networks, and extends beyond the effects associated with a productivity-centred, "human capital" valuation approach. A person's struggle with their mental health can lead to a wide range of emotional, psychological, and social struggles. These, in turn, can significantly diminish their overall wellbeing. As a result, people living with mental ill health often report lower quality of life, with their daily existence marred by persistent emotional suffering and impaired functioning. These negative effects on an individual's quality of life are typically reflected in reduced Quality-Adjusted Life Year (QALY) scores, providing a monetary representation of the extent to which mental ill health diminishes one's wellbeing, as a measure of both longevity and quality of life.

The prevalence of mental health difficulties is obtained from the Global Burden of Disease study, as used in McDaid and Park (2022)<sup>17</sup>. 11 diagnoses/categories are considered: schizophrenia, depression, dysthymia, bipolar, anxiety, anorexia, bulimia, autism, ADHD, and conduct disorder. Of these, we exclude ADHD and autism as they constitute neurodevelopmental conditions, rather than mental health conditions – although these costs are still shown, for reference.

Prevalence figures are assumed constant between 2019 and 2022. We believe this to be an underestimate on the basis of evidence since the start of the pandemic. Figures are adjusted to England's population through the England:UK population ratio used earlier. Prevalence of each mental health problem is assumed constant between England and the UK's population.

**TABLE 3: PREVALENCE OF MENTAL HEALTH PROBLEMS IN ENGLAND IN 2019  
(NUMBER OF CASES 1000S)**

Condition	Under-5		5-14		15-49		50-69		70+		All ages		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	All
Schizophrenia	-	-	101	84	51,484	41,076	28,241	29,308	6,199	8,946	86,033	79,405	165,438
Depression	17	17	18,631	26,956	434,204	619,097	237,628	332,195	113,039	182,255	803,519	1,160,510	1,964,029
Dysthymia	8	8	4,259	6,552	175,249	224,918	112,468	128,864	49,753	62,160	341,737	422,503	764,240
Bipolar	-	-	5,729	6,560	166,261	226,750	87,830	114,391	33,155	44,251	292,967	391,952	684,928
Anxiety	1,806	2,856	93,349	147,529	528,360	845,930	262,668	422,310	114,433	228,371	1,000,608	1,646,996	2,647,613
Anorexia	-	-	1,016	2,579	12,004	45,629	-	-	-	-	13,012	48,199	61,219
Bulimia	-	-	1,504	3,973	41,740	101,623	-	-	-	-	43,243	105,596	148,840
Autism	24,125	4,057	47,594	7,997	160,734	27,544	72,139	12,398	32,348	6,350	336,949	58,346	395,296
ADHD	6,754	2,470	162,742	61,597	181,910	85,352	14,893	7,988	470	286	366,778	157,702	524,479
<b>Total</b>	<b>32,710</b>	<b>9,408</b>	<b>444,049</b>	<b>328,348</b>	<b>2,104,654</b>	<b>2,437,420</b>	<b>1,024,447</b>	<b>1,196,689</b>	<b>452,978</b>	<b>627,278</b>	<b>4,058,838</b>	<b>4,599,151</b>	<b>8,657,981</b>

In order to monetise the impact of mental ill health on quality of life, this study relies on the EuroQol instrument, an application of the QALY approach containing a number of general measures of health status. One of the advantages of choosing this approach lies in the fact that it has similarities with the one used in the Centre's original study, thus making comparisons between the 2002 and 2022 figures easier. This study's approach relies on the 5-level EQ-5D version (EQ-5D-5L), introduced by the EuroQol Group in 2009 to improve the instrument's sensitivity and to reduce ceiling effects from previous versions (EQ-5D, 2023). The five characteristics that make up the descriptive system are: mobility, self-care, regular activities, pain/discomfort, and anxiety/depression. There are five levels for each dimension: none, minor, moderate, severe, and serious difficulties. Patients are asked to identify the state of their health, with the level chosen for that dimension expressed as a single digit number (1-5). A five-digit number that represents the patient's state of health can be created by combining the digits for the five dimensions in a single number (e.g. 43521) (EQ-5D, 2021).

A literature search was conducted to obtain estimates for reported decreases in quality of life associated with each mental health problem expressed in EQ-5D mean scores. The literature search revealed estimates for reported decreases in quality of life associated with each disorder, expressed in EQ-5D mean scores. However, it is noteworthy that literature on decreases in quality of life measured specifically in EQ-5D mean scores is limited, particularly for people under 20 years old and people over 65 years old. Consequently, the estimates utilised values of reference of EQ-5D scores for the disorders, and it is acknowledged that more accurate estimates from further research would significantly enhance the precision of our findings. Mean utility scores for each disorder are included in the table below.

**TABLE 4: EQ-5D MEAN UTILITY SCORES PER MENTAL HEALTH PROBLEM**

Disorder	Value (mean utility score)	EQ-5D	Scope	Limitations	Source
Schizophrenia	0.68	x	General population	Multi-site European study (Netherlands, Germany, the UK and Italy)	(McCrone <i>et al.</i> , 2009)
Depression	0.47	x	General population	Sweden; mean EQ-5D utility score at baseline was 0.47; Milder cases of depression reported a health utility of 0.60, whereas moderately and severely depressed patients reported utility values of 0.46 and 0.27, respectively	(Sobocki <i>et al.</i> , 2007)
Dysthymia	0.583	x	General population		(Saarni <i>et al.</i> , 2007)
Bipolar	0.702	x	General population		(Saarni <i>et al.</i> , 2010)
Anxiety	0.75	x	General population	No level of severity measured	(Konig <i>et al.</i> , 2010)
Anorexia	0.531	x (converted)	General population		(Turner <i>et al.</i> , 2010 - cited in Deloitte Access Economics, 2020)
Bulimia	0.643	x (converted)	General population		(Turner <i>et al.</i> , 2010 - cited in Deloitte Access Economics, 2020)
Autism	0.67	x	Children	Study conducted in the Netherlands	(Hoopen <i>et al.</i> , 2020)
ADHD	0.75	x	Children	Parents assessment; sample of US and UK children	(Matza <i>et al.</i> , 2005)

Mean EQ-5D utility scores for the relevant age groups were derived from McNamara *et al.* (2023), which calculated QALY shortfall associated with some conditions as well as quality-adjusted life expectancy norms for the adult population in England. In both cohorts, a final mean utility score for each age group is determined by computing a weighted average of the mean utility score per gender within each cohort. This weighting is based on the gender distribution observed in the corresponding age cohort of the general UK population, using population estimates from the ONS (2023).

Data and estimates for individuals under 16 years old are not available. The estimated mean utility score for 16-17 year olds is of 0.897, while for 18-19 year olds it stands at 0.892. In the interest of being conservative in our estimates, we assume the lowest value of the two to be representative of the mean utility score of the cohort of children and young people (under 20) – while recognising this likely leads to an underestimate.<sup>18</sup>

Following the estimates from McNamara *et al.* (2023), mean utility scores for each age group within the retired population are calculated as follows, using the weighted average method detailed above: 65-69 - 0.785; 70-74 - 0.792; 75-79 - 0.757; 80-84 - 0.735; 85-89 - 0.691; 90+ - 0.663 (see Appendix 4).



Mean utility scores associated with each disorder are then subtracted from mean utility scores for the general population within each age cohort, thus providing the estimated decrease in quality of life associated with each disorder. This decrease is then multiplied by the monetary value of a QALY. The value of a QALY is taken to be of the order of £70,000, as recommended in the HMT Green Book (GOV.UK, 2023) following the update on QALY valuation. This is based on revealed and stated preference techniques used to elicit estimates of individuals' willingness-to-pay (WTP) or willingness to accept for a specific outcome. The Green Book thus states the current monetary WTP value for a QALY to be £70,000 in 2020/21 prices.<sup>19</sup> This value is assumed constant for 2022.

Given the limited availability of studies estimating decreases in quality of life expressed in EQ-5D scores for the age cohorts in question, only a number of disorders are monetised and featured in the final calculation in the current study. These include depression, dysthymia, bipolar, anxiety, anorexia and bulimia for under-20 year olds; and schizophrenia, depression, dysthymia, bipolar and anxiety for over-70 year olds (see Table 5). We acknowledge this translates into an underestimation of the economic impact of mental health problems in the age cohorts considered. Future studies could address this limitation.

Bringing together data on prevalence, EQ5D mean utility scores, and QALY monetary values, the monetary expression of the loss of quality of life associated with the quantified mental health problems would amount to £33 billion (£33,200,232,845). The monetary value of the impact of each mental health problem is detailed in Table 5.



**TABLE 5: EQ-5D-BASED QALY DECREASE IN UNDER-20S AND OVER-65S**

Mental health problem	Age category (years)	Prevalence	EQ5D decrease	Age group (years)	EQ-5D mean score	EQ-5D decrease	QALY	Total decrease
Anorexia nervosa	<20	13,429	0.531	<20	0.892	0.361	£70,000	£339,278,532
	65-69	0	0.531	65-69	0.785	0.254	£70,000	£-
	70-74	0	0.531	70-74	0.792	0.261	£70,000	£-
	75-79	0	0.531	75-79	0.757	0.226	£70,000	£-
	80-84	0	0.531	80-84	0.735	0.204	£70,000	£-
	85-89	0	0.531	85-89	0.691	0.160	£70,000	£-
	90-94	0	0.531	90+	0.663	0.132	£70,000	£-
	95+	0	0.531	95+	0.663	0.132	£70,000	£-
Anxiety disorders	<20	430,029	0.66	<20	0.892	0.232	£70,000	£6,981,355,808
	65-69	143,746	0.66	65-69	0.785	0.125	£70,000	£1,262,673,456
	70-74	137,919	0.66	70-74	0.792	0.132	£70,000	£1,275,368,439
	75-79	92,210	0.66	75-79	0.757	0.097	£70,000	£625,862,321
	80-84	63,036	0.66	80-84	0.735	0.075	£70,000	£331,411,375
	85-89	34,690	0.66	85-89	0.691	0.031	£70,000	£74,246,237
	90-94	13,841	0.66	90+	0.663	0.003	£70,000	£2,707,844
	95+	3,358	0.66	95+	0.663	0.003	£70,000	£656,957
Attention-deficit/hyperactivity disorder	<20	332,981	0.75	<20	0.892	0.142	£70,000	£3,308,038,467
	65-69	1,195	0.75	65-69	0.785	0.035	£70,000	£2,968,451
	70-74	473	0.75	70-74	0.792	0.042	£70,000	£1,394,039
	75-79	90	0.75	75-79	0.757	0.007	£70,000	£43,862
	80-84	3	0.75	80-84	0.735	-0.015	£70,000	n/a
	85-89	0	0.75	85-89	0.691	-0.059	£70,000	£-
	90-94	0	0.75	90+	0.663	-0.087	£70,000	£-
	95+	0	0.75	95+	0.663	-0.087	£70,000	£-
Autism spectrum disorders	<20	114,494	0.67	<20	0.892	0.222	£70,000	£1,778,620,357
	65-69	17,228	0.67	65-69	0.785	0.115	£70,000	£139,272,182
	70-74	16,342	0.67	70-74	0.792	0.122	£70,000	£139,678,800
	75-79	10,846	0.67	75-79	0.757	0.087	£70,000	£66,023,490
	80-84	7,390	0.67	80-84	0.735	0.065	£70,000	£33,679,879
	85-89	4,029	0.67	85-89	0.691	0.021	£70,000	£5,802,879
	90-94	1,586	0.67	90+	0.663	-0.007	£70,000	n/a
	95+	361	0.67	95+	0.66	-0.00	£70,000	n/a
Bipolar disorder	<20	55,672	0.702	<20	0.892	0.190	£70,000	£740,137,878
	65-69	40,706	0.702	65-69	0.785	0.083	£70,000	£237,888,297
	70-74	36,001	0.702	70-74	0.792	0.090	£70,000	£227,066,515
	75-79	21,354	0.702	75-79	0.757	0.055	£70,000	£82,156,492
	80-84	12,532	0.702	80-84	0.735	0.033	£70,000	£29,042,832
	85-89	6,005	0.702	85-89	0.691	-0.011	£70,000	£-4,802,332
	90-94	2,162	0.702	90+	0.663	-0.039	£70,000	£-5,933,308
	95+	494	0.702	95+	0.663	-0.039	£70,000	£-1,355,714
Bulimia nervosa	<20	20,418	0.643	<20	0.892	0.249	£70,000	£355,775,815
	65-69	0	0.643	65-69	0.785	0.142	£70,000	£-
	70-74	0	0.643	70-74	0.792	0.149	£70,000	£-
	75-79	0	0.643	75-79	0.757	0.114	£70,000	£-
	80-84	0	0.643	80-84	0.735	0.092	£70,000	£-
	85-89	0	0.643	85-89	0.691	0.048	£70,000	£-
	90-94	0	0.643	90+	0.663	0.020	£70,000	£-
	95+	0	0.643	95+	0.663	0.020	£70,000	£-
Conduct disorder	<20	253,633	0.56	<20	0.892	0.332	£70,000	£5,893,065,433
	65-69	0	0.56	65-69	0.785	0.225	£70,000	£-
	70-74	0	0.56	70-74	0.792	0.232	£70,000	£-
	75-79	0	0.56	75-79	0.757	0.197	£70,000	£-
	80-84	0	0.56	80-84	0.735	0.175	£70,000	£-
	85-89	0	0.56	85-89	0.691	0.131	£70,000	£-
	90-94	0	0.56	90+	0.663	0.103	£70,000	£-
	95+	0	0.56	95+	0.663	0.103	£70,000	£-
Dysthymia	<20	36,419	0.583	<20	0.892	0.309	£70,000	£787,546,901
	65-69	48,822	0.583	65-69	0.785	0.202	£70,000	£692,005,946
	70-74	45,440	0.583	70-74	0.792	0.209	£70,000	£665,115,641
	75-79	29,495	0.583	75-79	0.757	0.174	£70,000	£359,171,187
	80-84	19,899	0.583	80-84	0.735	0.152	£70,000	£211,874,478
	85-89	11,341	0.583	85-89	0.691	0.108	£70,000	£85,400,881
	90-94	4,923	0.583	90+	0.663	0.080	£70,000	£27,498,102
	95+	1,352	0.583	95+	0.663	0.080	£70,000	£755,784
Major depressive disorder	<20	137,376	0.47	<20	0.892	0.422	£70,000	£4,057,347,447
	65-69	113,298	0.47	65-69	0.785	0.315	£70,000	£2,502,079,804
	70-74	110,341	0.47	70-74	0.792	0.322	£70,000	£2,487,883,685
	75-79	76,289	0.47	75-79	0.757	0.287	£70,000	£1,532,444,487
	80-84	56,172	0.47	80-84	0.735	0.265	£70,000	£1,042,411,538
	85-89	0	0.47	85-89	0.691	0.221	£70,000	£-
	90-94	16,853	0.47	90+	0.663	0.193	£70,000	£227,442,010
	95+	5,028	0.47	95+	0.663	0.193	£70,000	£67,856,075

## ADULT WORKING-AGE POPULATION (AGED 20-64)

Recent years have seen economists review usage of QALYs in valuing mental health difficulties. Despite presenting advantages over other generic measures of disease burden, QALY estimations tend to under-assess the impact of mental health problems, compared to physical health conditions.

Moreover, in order to assess quality-of-life decreases for the adult working-age population, it is crucial to ensure that the monetisation of the impact does not include any instance of overlap with productivity losses estimated elsewhere. Therefore, these QALY losses would need to be net of any non-mortality related productivity losses for people with mental health problems. Therefore, estimating wellbeing decreases for the working-age population through a QALY-based methodology poses a risk of double-counting.

Therefore, the authors monetise the changes in wellbeing associated with mental ill health for the working-age population through a WELLBY-based approach. First introduced in 2020, a WELLBY – short for ‘Wellbeing-Adjusted Life Year’ – is a way to consistently measure and value improvements in wellbeing. According to the UK Treasury, it can be defined as a ‘change in life satisfaction of one point on a scale of 1-10, per person, per year’ (HM Treasury, 2021).

The 2021 HM Treasury Wellbeing Guidance for Appraisal, which provides supplementary Green Book guidance, recommends a value of £13,000 per WELLBY (2019 prices and values), based on two valuation methods: one focusing on the relationship between health and life satisfaction, pivoting off the Green Book value of a QALY; and another using the relationship between income and life satisfaction, calculating the willingness to pay (WTP) for life satisfaction changes (based on Fujiwara, 2021). The estimates for the two approaches are then treated as upper and lower bound, therefore taking the mid-point as recommended central estimates of the WTP-per-WELLBY.

The WTP-WELLBY value is adjusted to 2022 price and value base using the following formula, as recommended by the Treasury’s Wellbeing Guidance for Appraisal (2021), providing a final 2022 WTP-WELLBY value of £15,650.

$$WTP (WELLBY_t) = WTP (WELLBY_{base}) \cdot \frac{GDP\_deflator_t}{GDP\_deflator_{base}} \cdot \left( \frac{GDP\_per\_capita_t}{GDP\_per\_capita_{base}} \right)$$

The adjustment relies on GDP per capita figures from the World Bank (2024) and GDP deflator figures from HM Treasury (2023).

To estimate the changes in life satisfaction associated with mental health problems for the working-age population, this study resorted to data from wave 13 of Understanding Society – the UK Household Longitudinal Study, one of the largest panel surveys in the world, with a sample size of 40,000 households, or approximately 100,000 individuals, from the United Kingdom (University of Essex, 2023).

Data for approximately 27,000 individuals is analysed. The selected variables covered: (i) reported life satisfaction; (ii) whether respondents had a mental health problem; (iii) income level; (iv) educational level; and (v) employment status.

We conducted an ANCOVA analysis of the impact of each specific mental health problem on reported life satisfaction, controlling for income level, employment status, and educational background (as covariates). This allows us to examine the overall impact of having a mental health difficulty on life satisfaction whilst controlling for income and unemployment that are captured elsewhere in the report. The mental health problems considered included: obsessive compulsive disorder; 'borderline personality disorder'; eating disorders; anxiety; major depressive disorder; and schizophrenia. ADHD was excluded as it represents a neurodevelopmental condition – associated decreases in life satisfaction are included for reference. Prevalence rates for eating disorders, anxiety, major depressive disorder and schizophrenia were obtained from the 2019 Global Burden of Disease study; while OCD and 'borderline personality disorder' prevalence figures are calculated using the 2014 Adult Psychiatric Morbidity Survey<sup>20</sup>, Mental Health UK (2024), and ONS (2022) population data.

The resulting decreases in reported life satisfaction (difference score in Table 6), as well as the resulting confidence intervals, were used to calculate WELLBYs. For this purpose, the adjusted life satisfaction scores calculated here (on a scale of 1-7 as per the Understanding Society Survey) were adjusted to the 0-10 Likert Scale used for the calculation of WELLBYs. These values were then converted, using £15,650 as the 2022 WELLBY-WTP value, the result of which is presented in the table below. The estimated range of costs is between £81 billion (£81,681,962,175 – lower bound) and £97 billion (£97,086,272,180 – upper bound), with an estimated total final (average) cost of £90 billion (£90,173,620,727).

**TABLE 6: WELLBY-DECREASE IN WORKING-AGE ADULTS (20-65)**

Condition	Prevalence (total)	Yes (has the condition)	No (does not)	Difference Score	CI (Yes Lower)	CI (Yes Upper)	CI (No Lower)	CI (No Upper)	CI (DiffScore Lower)	CI (DiffScore Upper)	Conversion to Likert Scale (Avg)	Conversion to Likert Scale (Lower)	Conversion to Likert Scale (Upper)	Conversion to WELLBYs (Avg)	Conversion to WELLBYs (Lower)	Conversion to WELLBYs (Upper)
OCD	399,140	4.315	5.172	0.857	4.143	4.487	5.155	5.189	0.702	1.012	1.347	1.103	1.590	£8,412,295,969	£6,890,818,868	£9,933,773,069
BPD	332,616	3.962	5.172	1.21	3.753	4.171	5.155	5.188	1.017	1.402	1.901	1.598	2.203	£9,897,781,138	£8,319,044,146	£11,468,338,145
Eating disorders	178,725	4.175	5.173	0.998	4.004	4.347	5.157	5.19	0.843	1.153	1.568	1.325	1.812	£4,386,567,676	£3,705,287,125	£5,067,848,227
Anxiety	1,718,645	4.486	5.203	0.717	4.415	4.556	5.186	5.22	0.664	0.771	1.127	1.043	1.212	£30,305,002,321	£28,064,883,600	£32,587,387,433
MDD	1,419,900	4.327	5.295	0.968	4.327	4.408	5.295	5.33	0.922	0.968	1.521	1.449	1.521	£33,801,977,126	£32,195,684,824	£33,801,977,126
Schizophrenia	138,276	4.177	5.168	0.991	3.908	4.447	5.151	5.184	0.737	1.243	1.557	1.158	1.953	£3,369,996,497	£2,506,243,611	£4,226,948,179
ADHD	211,787	4.324	5.17	0.846	4.118	4.529	5.153	5.186	0.657	1.035	1.329	1.032	1.626	£4,406,346,531	£3,421,949,965	£5,390,743,096

## SELF-HARM AND PREMATURE MORTALITY

The human costs associated with suicide deaths represent a profound aspect of the economic valuation of mental ill health for a nation. The impact of premature mortality extends far beyond the losses in productive capacity of the economy, exacting a heavy toll on human lives. Beyond the immediate loss, the impact ripples through society, affecting the quality of life of those bereaved by suicide, often for the rest of their own lives. Similarly, self-harm can have profound implications in the lives of individuals, including decreased quality of life associated with long-lasting health repercussions. While it is both crude and impossible to accurately represent with a £ sign the emotional and psychological scars of such impacts, it is still better to provide a rough estimate than to leave this impact unaccounted for.

This paper estimates the annual decrease in quality of life associated with self-harm and suicide, and the associated economic impact. Economic costs related to lost productivity are intentionally omitted in order to prevent any double-counting due to overlap with other economic costs.

The number of suicides for England in 2022 remains close to constant, with a 0.6% decrease in comparison to 2019, as shown in the table below.

**TABLE 7: NUMBER OF SUICIDES PER QUARTER, ENGLAND, 2022  
(ONS, 2023B)**

Year/Quarter	2019	2022
Q1	1,247	1,318
Q2	1,326	1,205
Q3	1,330	1,386
Q4	1,413	1,375
<b>Total</b>	<b>5,316</b>	<b>5,284</b>

Obtaining accurate self-harm figures in England is challenging due to underreporting, often associated with stigma and fear as well as the sensitive nature of the topic. Data for hospital admissions associated with self-poisoning (excluding alcohol) and intentional self-harm in children and young people (aged 9-17) suggests that figures remained constant between 2019-2022, with 20,325 incidents in 2019, 20,450 in 2021, and 16,160 incidents between April and November 2022 (NHS Digital, 2022b). It is likely that figures for the overall population have remained constant, if not increased, given the impact of both the Covid-19 pandemic and the cost-of-living crisis on mental health. Given this, for the purpose of this study, we assume levels of self-harm remain constant between 2019 and 2022.

McDaid and Park (2022) include regional and national estimates on annual quality of life costs for intentional self-harm, including suicide, for 2019. These figures are assumed constant and adjusted to 2022 prices (see Table 8) (Bank of England, 2023). This translates into a total annual quality of life cost for intentional self-harm, including suicide, of £7.1 billion, across England in 2022.



**TABLE 8: ANNUAL QUALITY OF LIFE COSTS FOR INTENTIONAL SELF-HARM, INCLUDING SUICIDE UK, 2022 (£ MILLIONS, 2022 PRICES, DERIVED FROM MCDAID AND PARK, 2022)**

	Under 5		5-14		15-49		50-69		70+		All ages		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	All
East Midlands	-	-	1	-	266	71	88	33	17	8	372	113	485
East of England	-	-	1	1	372	103	127	47	26	12	528	164	692
Greater London	-	-	3	2	903	284	241	106	35	20	1,183	414	1,596
North East England	-	-	1	-	181	38	51	19	10	5	241	62	303
North West England	-	-	2	1	517	140	168	63	29	15	718	219	936
South East England	-	-	2	1	624	186	218	87	43	23	888	297	1,185
South West England	-	-	1	1	342	103	117	47	26	14	486	165	650
West Midlands	-	-	2	1	349	93	111	39	21	10	483	143	625
Yorkshire and the Humber	-	-	1	1	360	91	106	39	20	10	487	142	630
England	-	-	17	8	3,915	1,110	1,227	482	228	116	5,386	1,717	7,103
Northern Ireland	-	-	-	-	178	35	35	14	6	2	220	51	271
Scotland	-	-	1	1	565	171	162	67	26	12	755	252	1,006
Wales	-	-	-	-	217	49	61	23	12	6	290	76	367
United Kingdom	-	-	19	9	4,875	1,365	1,487	584	271	137	6,651	2,095	8,747

## **HUMAN COST**

National estimates for the prevalence of mental health problems among people in prison in England (and the UK) are not abundant and would benefit from an update, as well as more thorough assessment. Notably, much of the best quality prevalence data for adults is around 25 years old, from an ONS study conducted in 1997 (Singleton *et al.*, 1998), as noted by Durcan (2023).

In this current study, wellbeing decreases associated with mental health problems are quantified and monetised for four mental health problems: eating disorders, anxiety, depression, and schizophrenia (psychosis).

According to national offender management statistics (GOV.UK, 2022), between April and June 2022 there were 81,309 people in prison in England and Wales. The number of people in prison was adjusted in line with the Wales:England population ratio (Office for National Statistics, 2022c) and assumed constant, equating to 77,075 people in prison in England in 2022.

Prevalence within the prison population for each assessed mental health problem is considered as follows: anxiety – 36.2% (Tyler *et al.*, 2019); eating disorders – 19.6% (Tyler *et al.*, 2019); depression – 39.2% (Jakobowitz *et al.*, 2017); psychosis – 8% (Singleton *et al.*, 1998 – cited in Durcan, 2023).

The economic impact of these is then assessed by estimating the WELLBY decreases for each condition, following the approach outlined above. Several assumptions are made, due to lack of reliable available data, that deserve attention:

- ⦿ The impact of a mental health problem on an individual who is imprisoned is similar to that of a working-age person living in the community (20-65)
- ⦿ The wellbeing decreases of someone experiencing psychosis is similar to that of someone with schizophrenia
- ⦿ Prevalence of each condition is assumed to last the whole year (or longer)
- ⦿ The wellbeing impact of depression is assumed to be similar to that of major depressive disorder in the working-age adult population
- ⦿ There is no overlap between any two conditions for each individual considered.

The authors acknowledge that these assumptions may not necessarily hold, and as such future studies should consider a more thorough assessment of the economic impact of mental ill health on the prison population. Partly due to this, the final cost associated with this is not included in the total cost figures. Nevertheless, this approach and these figures could be used as a baseline for future research, as well as an illustrative example of the burden of mental ill health on this part of the population. The table below includes the associated (human) cost for each condition, with a final total figure of £1.7 billion.

**TABLE 9: WELLBEING DECREASE ASSOCIATED WITH CERTAIN MENTAL HEALTH PROBLEMS AMONG POPULATION IN PRISON, ENGLAND, 2022**

Condition	Percentage	Prevalence (total)	Conversion to WELLBYs (average)
Eating disorders	19.60%	15,107	£370,773,881
Anxiety	36.20%	27,901	£491,983,170
Depression	39.20%	30,213	£719,256,747
Schizophrenia	8%	6,166	£150,274,801
<b>Total</b>			<b>£1,732,288,600</b>

### **AVOIDABLE PRISON SENTENCES - MENTAL ILL HEALTH**

Avoidable prison sentences that were due to mental ill health refer to cases where someone with a mental health problem could have been given a community sentence, including an offer of mental health support, instead of being imprisoned. The cost of avoidable prison sentences that were due to mental ill health in England in 2022 was £0.4 billion.

In 2021, there were up to 8,000 avoidable prison sentences due to mental ill health in England and Wales (Royal College of Psychiatrists, 2021). This figure was assumed constant for England and Wales in 2022. The number of avoidable prison sentences due to mental ill health was adjusted in line with the Wales:England ratio of 0.95 (Office for National Statistics, 2022c)<sup>21</sup>, amounting to a figure of 7,520 avoidable prison sentences due to mental ill health in England in 2022. In the 2021/22 financial year, the average cost of a prison place in England and Wales was £46,696 per prisoner (Statista, 2023). Multiplying this cost by the 7,520 avoidable prison sentences due to mental ill health in England in 2022 provides a final figure of £0.4 billion (£351,153,920)<sup>22</sup>.



# INTANGIBLE COSTS

## INNOVATION AND CREATIVITY

### **CREATIVITY**

Mental ill health could be seen as a deterrent of creativity, under certain circumstances. For example, a Qualtrics (2020) survey of over 2,000 employees conducted in the wake of the Covid-19 pandemic found that 42% of respondents reported a decline in their mental health. These respondents reported exerting significantly more effort in completing creative tasks, whereas individuals with better mental health experienced a faster, more efficient creative process. This could indicate that certain levels of mental ill health may hinder someone's ability to be creative and innovative, ultimately also affecting how engaged and creative the workforce is when experiencing mental ill health.

### **INNOVATION**

The capacity to be innovative, much like creativity, seems to be intertwined with a person's mental health. While creativity is of course helpful in the innovation process, an individual's mental wellbeing is also linked to other components of this process. For example, problem-solving skills and resilience are two important components that can be influenced by mental health. Similarly, one's ability to think critically, take risks, and recover from setbacks are also influenced by mental health status (Rajkovic, 2023). Further, PWC Australia also includes symptoms such as resistance to change or new ideas, reduced confidence, and lack of focus as examples of challenges stemming from mental ill health that may contribute to reduced innovation levels (Eriksson, 2016).

### **LINKS TO ECONOMIC PRODUCTIVITY AND GROWTH**

While creativity and innovation can benefit a wide range of sectors and jobs in England's economy, the creative sector in particular is a sizeable part of the economy, amounting to £109 billion in 2021 (House of Lords Library, 2022). Lower levels of innovation and creativity may thus hamper its growth and development, while potentially also impacting other sectors (UNCTAD, 2019). For example, creativity can be seen as a catalyst for innovation and globalisation, particularly in knowledge-based sectors, therefore leading to increased competitiveness and productivity (UNCTAD, 2019). This is highly relevant for England and for Britain, in part given the size and importance of its knowledge economy.

In the context of the growing relevance of the global creative economy – currently estimated at \$985 billion and expected to contribute 10% of global GDP by 2030 – it would be important to evaluate how the mental health of the nation would impact this, as well as estimate the subsequent costs associated (Bogachev, 2023). In a field that is premised on human creativity and technology to create economic value, the shift towards Industry 4.0 would require high levels of mental agility and innovation from all involved parties, in order to fully engage with digitalisation, automation, AI, and emerging technologies (Bogachev, 2023). Creativity and technological innovation are undoubtedly a part of the current and future outlook of England's economy and can be seen as driving forces behind economic growth and competitiveness within the global economy (Bogachev, 2023). Ultimately, mental ill health may result in lower levels of innovation and creativity, and this may hamper current and future economic prospects for England. The associated costs would thus be worth including in a more comprehensive assessment of the costs associated with mental ill health.

## **SHORT-TERM AND ILL-ADVISED FINANCIAL DECISIONS**

Individuals struggling with mental ill health often find themselves trapped in a cycle of short-term thinking, with little to no room for longer-term thinking and planning. This translates into individuals prioritising immediate coping strategies over long-term goals and financial planning, attributing a higher utility weight to the short-term than they would under standard circumstances. As a result, this limits their personal financial security, hampers their contribution to the workforce, and may result in short-term thinking and impulsive choices. The additional burden of mental ill health often contributes to the negative vicious cycle between poverty, economic insecurity, and mental ill health. This, in turn, has consequences for society in the form of reduced economic growth and productivity, a lack of long-term vision, and a need for increased public support.

For example, mental health problems like depression can sometimes impact cognitive functions, potentially resulting in short-term thinking and impulsive spending (Cartreine, 2016). Research shows that even common antidepressant medications show limited efficacy in improving cognitive deficits in people experiencing depression (Shilyansky *et al.*, 2016). Similarly, during manic or hypomanic states, individuals may engage in impulsive financial behaviours such as overspending or gambling (Mind, 2022).

Further, the link between financial worries and psychological distress is clear and a self-reinforcing feedback loop (Mental Health Foundation, 2022). Specific groups such as people who are unmarried, unemployed, living in lower-income households or renting are particularly exposed to this cycle (Mind, 2022). This may then translate into limited spending capacity, potentially impacting aggregate demand and hindering future economic growth.

Future research could explore several angles. For instance, it could investigate whether impulsive spending associated with mental ill health (linked to a higher utility derived from short-term consumption) may lead to inflationary pressures and decreased savings and investment in the economy. An example of this hypothesis could be linked to consumer expenditure patterns immediately after the Covid-19 pandemic lockdowns. Conversely, another possible hypothesis would be of reduced aggregate demand due to decreased consumer spending, as resources are reallocated to privately funding therapy or health care, for example. Both these hypotheses would likely have consequences on both monetary policy (in the shape of inflation and interest rates) and fiscal policy, and would have consequences for the short- and long-term prospects of England's economy.



## **SOCIAL TRUST**

At the individual level, mental ill health and its impacts have the potential to erode social cohesion and social trust. As individuals experience vulnerability, fear, and interpersonal conflicts, this may lead to social withdrawal and isolation. The stigma still surrounding mental health may further compound this isolation, reducing people's self-esteem and trust in others.

At the societal level, these struggles may translate into substantial economic costs, ranging from reduced productive output to a divided and fragmented society. Multiple studies have shown the links between levels of social trust and economic productivity, or of social cohesion and economic growth. The diminished social trust and cohesion resulting from mental ill health may negatively affect the wellbeing and resilience of individuals, as well as amplifying the economic toll associated with it.

### **MENTAL HEALTH AND SOCIAL TRUST**

Recent research by Roychowdhury (2021) shows strong evidence of the significant negative effect of mental ill health on social trust, with this effect likely due to reductions in the levels of optimism, hope, and participation in networks by individuals. The paper examines the causal effect using data from the European Social Survey, providing robust causal evidence of the relationship. Further, the research results suggest that a durable increase in social trust may highly benefit from interventions to promote people's mental health.

Estimating the causal effect around the link between mental health and social trust is, however, challenging, and previous evidence in the literature has been scarce. This is because the relationship between mental health and social trust is endogenous due to reverse causality and unmeasured confounding, as Roychowdhury (2021) explains. In other words, the relationship between mental health and social trust is complicated because mental health issues can both influence and be influenced by social trust, and there may be other factors we haven't considered that affect both mental health and social trust. This is circumvented in Roychowdhury's paper by using a "Minimum Biased Estimator", an econometric technique that does not rely on valid exclusion restriction for identification.

### **IMPACT OF SOCIAL TRUST LEVELS ON ECONOMIC GROWTH**

As shown by Bjørnskov (2022), economists have long recognised social trust as a robust determinant of long-run economic growth, as initially demonstrated by Knack and Keefer (1997). Subsequent research expanded understanding and proved the robustness of the association, exploring the conditions for this link and showing it to be at least as robust as other accepted determinants of growth (Bjørnskov, 2022; Beugelsdijk *et al.*, 2004; Horváth, 2013; Whiteley, 2000; Zak and Knack, 2001). Furthermore, the influence of social trust in good governance and the quality of formal institutions, as originally advanced by Putnam (1993), has been confirmed by subsequent research (Bjørnskov, 2018, 2022; Knack, 2002).



More recent research has focused on trying to understand which (and to what extent) determinants of growth are impacted by changes in social trust. The literature shows that social trust could have an impact on (i) the accumulation of physical and human capital, (ii) the rate of productivity, as well as (iii) the quality of formal institutions (Bjørnskov, 2022). Bjørnskov (2022) uses a panel of over 60 countries observed between 1977 and 2017, using growth accounting to differentiate patterns of growth, in order to demonstrate which determinants of growth are affected by social trust. The paper shows the predominant effect is on the growth of productivity, with only a small share running through the effects of trust on formal institutions.

Similarly, there are multiple examples of the impact that lower social trust levels have on the rate of accumulation of physical and human capital. In the context of physical capital, higher levels of social trust can lead to lower transactional costs due to increased social capital from voluntary associations (Bjørnskov, 2022). This can result in more productive investments (Torsvik, 2000). Similarly, reduced specific transaction costs related to investment decisions, such as less time and resources spent on researching brokers, can lead to greater investments in physical capital (Zak and Knack, 2001; Dearmon and Grier, 2011).

Regarding human capital, in high-trust societies, reduced transaction costs for job applicant screening foster investments in education and training (Bjørnskov, 2009). This is particularly relevant as research shows that higher education levels are linked to increased social trust, implying that investments in education not only enhance human capital but also promote a more trusting and cooperative society, benefiting economic growth and social cohesion (Dearmon and Grier, 2011; Papagapitos and Riley, 2009; Williamson and Mathers, 2011).

## **EMIGRATION AND ‘BRAIN DRAIN’**

Mental ill health may sometimes contribute to people choosing to emigrate. They may do so to access better mental health services, escape stigmatisation, pursue educational opportunities in more supportive environments, or just seek an overall better quality of life with improved wellbeing. This may apply more to skilled, educated individuals (although not exclusively), resulting in ‘brain drain’ associated with a significant loss of talent and expertise for the home country.

The economic consequences of this include a weakened domestic workforce, skill shortages in critical sectors, and lower aggregate potential output of the economy as a result. As such, it is worth isolating the impact of mental ill health on emigration and calculating the associated costs for the economy.

In the case of the UK, it is estimated that, in 2022, 4.5 million British people were considering moving overseas, with 3.4 million UK working adults saying that moving from the UK was a long-term goal, and 3% (380,000) actively planning to relocate in the next year or two (Totaljobs, 2022). This trend was particularly prevalent among UK adults aged 18-24 who were working (30%), as well as adults living in London (23%), potentially representing a risk of ‘brain drain’ for the capital and the nation. Better quality of life and the cost of living in the UK were the top reasons given for considering a move abroad, at 64% and 43% respectively (Totaljobs, 2022).

A hypothesis for future economic research could be as follows. Given the current levels of poor mental health in the UK, along with the links between quality of life and mental health, and the cost-of-living crisis and mental health, the impact of emigration associated with mental health could be studied. This should be informed by the fact that people from higher socio-economic backgrounds are the most geographically mobile group, with highly educated and highly skilled people overrepresented in this sector of the population. If the current conditions persist or worsen, a percentage of the highly skilled workforce may consider moving abroad, with the resulting ‘brain drain’ effect having negative consequences for England’s economy in the short and long term.

# LIMITATIONS AND AREAS FOR FUTURE RESEARCH

- 1. EQ-5D mean utility scores for different mental health problems:** There are gaps in the literature concerning changes in mean utility scores as measured by the EQ-5D-5L instrument. Utility changes are not always available for each mental health problem and, when estimated, they may have limitations, such as being unavailable for all age groups or specific to the UK. The studies used have been outlined in the wellbeing costs section concerning children and the retired population. Future research could address this gap by providing more comprehensive data on changes in mean utility scores for different mental health problems.
- 2. No long-term costs assessment:** While the current study aims to present a holistic assessment of the costs associated with mental ill health, it primarily focuses on yearly costs for 2022. However, this snapshot does not capture the longer-term costs associated with mental health problems, which are essential for understanding the full economic impact over time.
- 3. Lag in costs:** This study does not fully account for the lag in impact associated with certain mental health problems, such as adverse childhood experiences (ACE), which can manifest as mental health problems with significant impacts later in life. By not capturing this lag in impact, the study may underestimate the true economic cost of mental health problems.
- 4. No analysis of indirect relationships:** For the most part, the paper does not assess indirect relationships connected with mental health. While this prevents potential instances of double-counting, the size of the effect within indirect relationships can also be difficult to prove, isolate and quantify. This leaves aside several important relationships, whose existence is recognised, yet do not feature in this study. Examples of these include the relationship between money, mental health and other costs; implications of mental health problems for the health sector as a whole, particularly around co-morbidity; relationships between the criminal justice system, mental health, and associated costs; or social exclusion and loneliness, mental health, and associated impacts.
- 5. Single-point estimate for staff turnover and presenteeism:** The evidence base and data around the impact of mental health problems on presenteeism and staff turnover could be stronger. Figures in the current study concerning staff turnover and presenteeism rely on a survey of a nationally representative sample of over 3,500 individuals in the UK conducted in September/October 2021 by Deloitte (Hampson *et al.*, 2022). This includes findings that respondents reported mental health being a reason for their job change in 61% of cases, and for presenteeism in 46% of instances. While these should represent reliable estimates, studies on these costs could benefit from further research and data, as there is still a degree of uncertainty around both costs, and as such this is acknowledged as a limitation of the present study.
- 6. Data regarding carers and prisons in the UK:** Data regarding informal carers as well as the prison population is scarce. As such, some of the estimates used regarding carers as well as prisons in the UK are not very recent, and future research could address this. This is noted as a limitation of the current study.

- 7. Possible overlap with suicide and self-harm figures:** Estimates of the Disability-Adjusted Life Year (DALY) impact of suicide and self-harm are based on figures presented in the 2022 report by David McDaid and A-La Park, using prevalence data from the Global Burden of Disease (GBD). This may pose a risk of double-counting a fraction of these costs with WELLBY-based figures for life satisfaction and QALY-based figures for children, young people, and the retired population. While this risk should be low, and given the low value of the double-counted figure (a fraction of £7 billion – a small value in the context of the present study), this is acknowledged as a limitation. In order to prevent any instances of double-counting, we exclude the total cost of suicide and self-harm from the lower bound value of the range of total costs.
- 8. WELLBYs versus QALYs (and EQ-5D):** The debate around the suitability of QALYs and EQ-5D in economic evaluations of mental health problems has existed for a long time (see for example Knapp and Mangalore, 2007). Factors such as the (i) heterogeneity and complexity of mental health problems, (ii) lack of sensitivity of QALY-generating instruments to nuanced changes in mental health states, or (iii) difficulties in capturing social functioning and subjective experiences, all contribute to the need for more refined and sensitive measurement approaches. Nevertheless, the largest UK Household Longitudinal Study (Understanding Society) and the corresponding life satisfaction variables used in this paper to calculate WELLBYs only collect information for a number of mental health problems.

Given this, to calculate human costs for children, young people, and the retired population, we opt for using data from the GBD around prevalence and DALY-scores for a larger number of conditions, particularly those affecting these groups. This allows us to factor in the age-sensitive mean utility scores published by McNamara *et al.* (2023), using estimated mean utility scores for the mental health problems included in the GBD database, and to calculate the deviation from EQ-5D mean utility scores for each, taking into account age-specific utility scores.

For the working-age adult population, WELLBYs are used to evaluate the economic costs associated with mental ill health, following the HM Treasury's Wellbeing Guidance for Appraisal. This prevents any instance of double-counting with any of the productivity losses calculated in the economic costs section, while also better reflecting the wellbeing losses associated with mental ill health.

Ideally, future research would calculate decreases in wellbeing through WELLBYs for all mental health problems for the whole population. For this to be possible, more research and data is needed. Therefore, this is acknowledged as a limitation of the present study.

- 9. Lack of data availability:** Not all mental health difficulties and their associated impacts are costed, particularly regarding quality-of-life decreases, due to lack of available data.
- 10. Disproportionate impact of mental ill health on different groups:** In combining the costs, this study is not able to fully demonstrate how the burden of mental ill health is distributed unevenly across the population.
- 11. QALY value:** The current economic assessment includes the economic value of a QALY at a valuation of £70,000 per QALY, in line with the recommendation in HM Treasury's Green Book. This is expressed in 20/21 prices and is assumed to be constant for 2022.

# CONCLUSION

This study highlights the substantial economic and social costs of mental ill health in England, which reached £300 billion in 2022. The bulk of these costs is sustained by individuals and their families, at £175 billion, while both businesses and government also shoulder a substantial economic impact – £101 billion and £25 billion respectively. Importantly, our report suggests that the majority of costs deriving from mental ill health do not fall on health care systems, and are instead reflected in decreases in wellbeing and productivity losses.

The considerable increase in costs underscores the urgent need for action, with investment in both prevention and support likely to be both economically and socially beneficial, given the magnitude of the economic impact of mental ill health. While there is a strong evidence base demonstrating the cost-effectiveness of prevention (see for example McDaid and Park, 2022), a public policy response to population mental health may be particularly important given the potential long-term effects of both the pandemic and the cost-of-living crisis on mental health in the nation.

In parallel, Centre for Mental Health, in collaboration with over 60 organisations, including the NHS Confederation's Mental Health Network, has developed a long-term plan for building a mentally healthier nation (Davie, 2023). Focused on prevention, equality and support, this plan offers a ten-year, cross-government mental health strategy, providing sector-approved solutions to the national economic and social costs this report exposes. *No Wrong Door* (Pollard and Bell, 2022), commissioned by the NHS Confederation's Mental Health Network, complements this vision, emphasising the need for radical change and substantial investment in mental health, learning disability and autism services over the next decade. All in all, given the relational nature of these costs, it is likely that investment in mental health prevention and support would result in a net decrease of the costs associated with mental ill health.

# APPENDICES

## APPENDIX 1: ESTIMATED ECONOMIC VALUE OF UNPAID WORK

	Female	Male	Value (hourly)	Value (yearly)	Average time (per week)	Average time (per day)	Total (weekly)	Total (daily)	Total (yearly)
Housework	4.6	2.4	£8.58	£446.16	3.5	0.7	£30.03	£6.01	£1,561.56
Childcare	4.6	1.9	£15.28	£794.56	3.25	0.65	£49.66	£9.93	£2,582.32
Cooking	7.2	3.6	£7.63	£396.76	5.4	1.08	£41.20	£8.24	£2,142.50
Laundry	2.4	0.4	£7.82	£406.64	1.4	0.28	£10.95	£2.19	£569.30
Transport	5.8	7.2	£11.24	£584.48	6.5	1.3	£73.06	£14.61	£3,799.12
Adult care	0.3	0	£9.75	£507.00	0.15	0.03	£1.46	£0.29	£76.05
Volunteering	0.4	0.2	£14.43	£750.36	0.3	0.06	£4.33	£0.87	£225.11
<b>Sums</b>	<b>25.3</b>	<b>15.7</b>	<b>£74.73</b>	<b>£3,885.96</b>	<b>20.5</b>	<b>4.1</b>	<b>£210.69</b>	<b>£42.14</b>	<b>£10,955.96</b>



## APPENDIX 2: TOTAL COSTS OF MEDICATION FOR MENTAL HEALTH PROBLEMS

Year and quarter	Type of drug	Total patients	Total items	Total net ingredient cost
2021/2022 Q1	Hypnotics and anxiolytics	1,040,613	3,373,911	21,733,147.08
2021/2022 Q1	Hypnotics and anxiolytics	0	111,809	2,715,306.50
2021/2022 Q1	Drugs used in psychoses and related disorders	630,238	3,162,383	29,568,000.86
2021/2022 Q1	Drugs used in psychoses and related disorders	0	108,277	2,567,665.90
2021/2022 Q1	Antidepressant drugs	6,319,221	20,300,530	72,355,941.07
2021/2022 Q1	Antidepressant drugs	0	207,761	1,233,027.71
2021/2022 Q1	CNS stimulants and drugs used for ADHD	138,947	446,004	18,274,177.06
2021/2022 Q1	CNS stimulants and drugs used for ADHD	0	62,879	3,024,093.96
2021/2022 Q1	Drugs for dementia	223,729	962,374	6,675,086.89
2021/2022 Q1	Drugs for dementia	0	34,506	479,406.29
2021/2022 Q2	Hypnotics and anxiolytics	1,055,327	3,409,808	22,655,000.26
2021/2022 Q2	Hypnotics and anxiolytics	0	109,468	2,589,088.56
2021/2022 Q2	Drugs used in psychoses and related disorders	634,666	3,201,472	29,044,841.87
2021/2022 Q2	Drugs used in psychoses and related disorders	0	107,247	2,530,307.06
2021/2022 Q2	Antidepressant drugs	6,358,500	20,561,580	63,005,385.55
2021/2022 Q2	Antidepressant drugs	0	209,650	1,138,841.16
2021/2022 Q2	CNS stimulants and drugs used for ADHD	141,170	448,075	18,033,801.41
2021/2022 Q2	CNS stimulants and drugs used for ADHD	0	60,966	2,836,148.40
2021/2022 Q2	Drugs for dementia	227,909	988,060	6,257,544.76
2021/2022 Q2	Drugs for dementia	0	34,026	446,783.97
2021/2022 Q3	Hypnotics and anxiolytics	1,062,720	3,437,749	23,475,706.59
2021/2022 Q3	Hypnotics and anxiolytics	0	110,417	2,536,271.17
2021/2022 Q3	Drugs used in psychoses and related disorders	639,772	3,231,208	28,933,561.78
2021/2022 Q3	Drugs used in psychoses and related disorders	0	108,883	2,429,535.10
2021/2022 Q3	Antidepressant drugs	6,431,153	20,943,049	58,599,036.97
2021/2022 Q3	Antidepressant drugs	0	218,847	1,144,337.92
2021/2022 Q3	CNS stimulants and drugs used for ADHD	149,362	477,970	18,865,547.30
2021/2022 Q3	CNS stimulants and drugs used for ADHD	0	70,498	3,096,905.15
2021/2022 Q3	Drugs for dementia	231,033	997,314	5,920,369.30
2021/2022 Q3	Drugs for dementia	0	34,598	436,358.31
2021/2022 Q4	Hypnotics and anxiolytics	1,078,174	3,380,632	23,200,626.47
2021/2022 Q4	Hypnotics and anxiolytics	0	107,645	2,449,926.60
2021/2022 Q4	Drugs used in psychoses and related disorders	640,845	3,181,765	27,887,906.15
2021/2022 Q4	Drugs used in psychoses and related disorders	0	106,718	2,384,031.12
2021/2022 Q4	Antidepressant drugs	6,527,069	20,787,159	48,522,932.40
2021/2022 Q4	Antidepressant drugs	0	209,552	1,101,886.42
2021/2022 Q4	CNS stimulants and drugs used for ADHD	157,828	496,113	19,481,551.51
2021/2022 Q4	CNS stimulants and drugs used for ADHD	0	69,572	2,935,914.30
2021/2022 Q4	Drugs for dementia	232,187	980,913	5,700,208.34
2021/2022 Q4	Drugs for dementia	0	35,249	438,161.68

Total mental health drugs prescribed, and net ingredient costs taken from NHS figures for the financial year 2021/22.

### APPENDIX 3: DRUG PRESCRIPTION COST CALCULATIONS

Type of medication (2021/2022)	Total quantity	Total cost (2021/2022)
Hypnotics and anxiolytics	14,041,439.00	£101,355,073.23
Drugs for dementia	4,067,040.00	£26,353,919.54
Drugs used in psychoses and related disorders	13,207,953.00	£125,345,849.84
CNS stimulants and drugs used for ADHD	2,132,077.00	£86,548,139.09
Antidepressant drugs	83,438,128.00	£247,101,389.20
<b>Final cost (England)</b>	<b>116,886,637</b>	<b>£586,704,370.90</b>

## APPENDIX 4: EUROQOL MEAN UTILITY SCORES

Age (years)	Female		Male	
	Mean (95% CI)	n	Mean (95% CI)	n
16-17	0.878 (0.870-0.896)	151	0.918 (0.910-0.935)	146
18-19	0.856 (0.846-0.895)	122	0.930 (0.925-0.945)	110
20-24	0.859 (0.853-0.875)	370	0.894 (0.889-0.910)	298
25-29	0.869 (0.864-0.881)	515	0.895 (0.890-0.907)	366
30-34	0.869 (0.867-0.883)	669	0.915 (0.911-0.925)	450
35-39	0.854 (0.850-0.869)	722	0.863 (0.853-0.887)	465
40-44	0.846 (0.842-0.861)	668	0.872 (0.868-0.887)	498
45-49	0.806 (0.801-0.820)	693	0.822 (0.815-0.844)	527
50-54	0.798 (0.793-0.815)	729	0.836 (0.831-0.852)	529
55-59	0.791 (0.787-0.809)	730	0.809 (0.803-0.826)	582
60-64	0.776 (0.769-0.797)	608	0.803 (0.798-0.822)	532
65-69	0.775 (0.770-0.795)	619	0.797 (0.792-0.818)	568
70-74	0.784 (0.779-0.801)	619	0.801 (0.794-0.818)	505
75-79	0.730 (0.724-0.755)	399	0.788 (0.781-0.806)	335
80-84	0.710 (0.699-0.733)	268	0.767 (0.760-0.801)	233
85-89	0.666 (0.657-0.707)	145	0.727 (0.704-0.764)	126
90+	0.666 (0.651-0.721)	67	0.656 (0.635-0.730)	49

CI indicates confidence interval; EQ-5D-5L, 5-level version of EQ-5D.

Mean EQ-5D-5L utility scores based on age group and sex and 95% confidence intervals (based on bootstrapping with 10 000 iterations and Hernandez Alava *et al.* crosswalk). Reproduced from McNamara *et al.* (2022).

# NOTES

1. The net daily salary of an employee earning the median salary in the UK in 2022 was £33,000. This is likely an underestimate for two main reasons: in most sectors, wage-earners would not be compensated with 100% of the product of their work, thus an employee would have to produce more than £101 worth of output in a day to earn £101; and salaries in England, on average, tend to be higher than those of other nations in the UK. An inflation-adjusted estimate from the Confederation of British Industry (CBI) would place this value at £111, for example.
2. Given this, we work on the assumption that this value holds constant for 2022 in England.
3. ONS figures of 29,900,000 people in employment in the UK in December 2022 are adjusted to England, using the England:UK population ratio for 2021, assumed constant (ONS, 2023a).
4. This calculation does not factor in part-time workers and self-employed workers. More research on presenteeism would be needed to understand the implications on these two groups. Data shows that 77% of working-age people (16-64 year olds) who were employed in 2021 worked full time, and 23% worked part time. If we assume that all 23% of part-time workers work at half capacity, this would translate into 11.5% of the workforce at full-time. Since 13% of England's workforce is self-employed, the changes in the final figure would roughly cancel out, according to this estimate. However, more research would be needed to inform calculations around these two groups in the workforce.
5. Research from Oxford Economics (2014) estimates the value of lost output and wages from a new employee operating below their optimum productivity, or the level of productivity exhibited by a worker in that role performing in line with expectations. Following this, the costs associated with the process of recruiting for a replacement, known as logistical costs, are estimated. The study uses publicly available and bespoke data resources (including the Annual Survey of Hours and Earnings (ASHE), the Labour Force Survey (LFS), and the Annual Business Survey (ABS), all produced by the ONS) to give key insights into the level of labour turnover, replacement workers, and the wages paid across different sectors. Finally, to reflect how long different types of workers take in firms' views to get 'up to speed', as well as which particular types of skills they find most difficult to develop when entering their new roles, the study includes a survey of 500 firms of various sizes.
6. These figures are for the UK for January-March 2023, assumed to be unchanged from previous quarter.

7. Given the complex interactions between mental health, physical health, deprivation, and poorer educational outcomes, among other factors, it is likely that mental health problems have a negative impact on wages, thus making individuals with mental health problems disproportionately likely to earn less than the median wage. Given this, a more robust approach would be to compare wages between those with and without mental health problems. This is particularly important when estimating costs associated with economic inactivity and unemployment. Similarly, this disparity in wages is reflected in the calculation of lost tax revenue due to mental ill health. In other cases, such as those in absenteeism, presenteeism, and staff turnover, net daily median wage is used throughout the study in order to fully represent the impact of mental ill health – as a share of presenteeism/absenteeism/staff turnover may be associated with temporary mental ill health periods without necessarily reflecting a diagnosable condition.

In the context of this study, data from the Quarterly Jan-March 2022 Labour Force Survey was used to test this hypothesis. Out of the 79,566 respondents, 28,073 reported a (main) health problem (variable HEALTH20). Within this cohort, 2,673 reported “depression, bad nerves, anxiety” as their main health condition, while 832 individuals reported “mental illness or suffer from phobias, panics or other nervous disorders” as their main health problem.

Within this sub-cohort, the reported mean annual salary was of £25,744, while the mean annual salary for the whole cohort (excluding those with mental ill health symptoms) was of £31,111. From this, it follows that those who did report mental health problems had on average a 17.15% lower mean annual salary than those who did not report mental health problems. Using this figure and given the median daily net salary in England (£72.50), we can then deduct the loss in earnings for people who are unemployed or economically inactive due to a mental health problem – as well as the associated loss in tax revenue – for a final figure of £61.70 net daily salary.

8. The complete table is included in appendix 1 (table 1).
9. See table 2 in appendix 2 for NHS figures for the total patients treated, total drugs prescribed, and total net ingredient cost for each drug, in each quarter between 2021 and 2022.
10. See table 3 in appendix 2 for calculations used in this valuation.
11. Meanwhile net current expenditure was £1.41 billion in 2021/2022. The difference is explained by the fact that gross current expenditure includes client contributions. For the purpose of this study, gross current expenditure is used.
12. It is assumed that disability, incapacity, and carer benefits paid in England in 2017 and benefits paid to support disabled people and people with health conditions in England in 2022 represent the same benefits.
13. This figure is likely to be an underestimate as it does not include the cost of long-term or permanent accommodation and other mental health services.
14. This is likely an underestimate because the prevalence of mental health professionals is likely higher in England.
15. A mid-range value of the 15-20 sessions suggested by TalkSpace (2023).
16. While large, this figure could potentially be seen as an undervaluation. Robustness checks for the Centre for Care study include fixed unit cost adjustments for nominal and real unit cost of replacement care over time; disaggregation of the 50+ hours category, assuming that people who reported providing 50+ hours of unpaid care in the 2021 census provided exactly 50 hours (and not more); and a replication of the analysis removing younger carers aged 5-17.

17. The Global Burden of Disease (GBD) study is chosen as the main database for estimating prevalence rates of mental health problems in England due to its comprehensive methodology, extensive data sources and systematic approach. It also includes standardised estimates of disease burden globally, thus enabling international comparisons. All of these factors make it a credible choice for informing the current paper.
18. See Appendix 4.
19. The monetary value for a QALY is not uniform and depends on the context of the economic valuation. For example, NICE's cost-effectiveness threshold is set at £20,000-£30,000 per QALY gained, used to assess whether a particular product or service is cost-effective by identifying whether the incremental cost-effectiveness ratio is below the maximum a decision-maker is willing to pay for a QALY (Office for Health Improvement and Disparities, 2020).

The HMT Green Book (2022) QALY valuation is based on the appraisal of social value, also known as public value. This approach is based on the principles of welfare economics, concerning overall social welfare efficiency, as opposed to simple economic market efficiency. Therefore, it includes all relevant costs and benefits that affect the wellbeing and welfare of the population, not just market effects. This includes environmental, cultural, health, social care, justice, and security effects (HMT, 2022). As such, the authors deem it adequate to use the HMT estimate for the economic value of a QALY, in the context of a holistic economic assessment of the human costs associated with mental ill health. Further, as the methodology for social value for money and the basis for the value of a QALY is not fully disclosed in the Green Book, several costs in this study associated with institutional population and incarceration are removed, to prevent any possible instances of double-counting. Moreover, several economic valuations have resorted to the updated figure since the publication of the HMT Green Book QALY update, including a Welsh Government (2022) paper on the social value of a Covid case, and a UK Home Office (2023) publication on the economic and social costs of fire. While the HMT current monetary willingness-to-pay (WTP) value for a QALY of £70,000 is expressed in 20/21 prices, no discount rate is applied in this study, hence assuming a constant QALY monetary value.

20. The upcoming 2025 Adult Psychiatric Morbidity Survey data was not available at the time of writing. This figure could be updated once data is made public.
21. This ratio is from 2021 and assumed constant.
22. This figure is likely to be an overestimate as this figure does not include the cost of providing these individuals with mental health support, for example.

# REFERENCES

Baker, C. and Kirk-Wade, E. (2023) Mental health statistics: Prevalence, services and funding in England. London: House of Commons Library. Available from: <https://researchbriefings.files.parliament.uk/documents/SN06988/SN06988.pdf> [Accessed 20 October 2023]

Balasuriya, L., Buelt, E. and Tsai, J. (2020) The never-ending loop: Homelessness, psychiatric disorder, and mortality. *Psychiatric Times*, 37 (5) 12-14. Available from: <https://www.psychiatristimes.com/view/never-ending-loop-homelessness-psychiatric-disorder-and-mortality> [Accessed 18 October 2023]

Barnard, H. (2022) How might the cost of living crisis affect long-term poverty? Pro Bono Economics. Available from: <https://www.economicsobservatory.com/how-might-the-cost-of-living-crisis-affect-long-term-poverty> [Accessed 19 March 2023]

BBC News (2017) 'Depression lost me my job': How mental health costs up to 300,000 jobs a year. Available from: <https://www.bbc.co.uk/news/health-41740666> [Accessed 17 October 2023]

Berg, V. (2023) Care home stats: Number of settings, population & workforce. Hungerford: Tomorrow's Guides Ltd. Available from: <https://www.carehome.co.uk/advice/care-home-stats-number-of-settings-population-workforce> [Accessed 17 October 2023]

Beugelsdijk, S., de Groot, H. L. F., and van Schaik, A. B. T. M. (2004) Trust and economic growth: a robustness analysis. *Oxford Economic Papers*, 56 (1) 118. doi: 10.1093/oep/56.1.118

Bielecky, A., Chen, C., Ibrahim, S., Beaton, D. E., Mustard, C. A., & Smith, P. M. (2015) The impact of co-morbid mental and physical disorders on presenteeism. *Scandinavian Journal of Work, Environment & Health*, 41(6), 554-564.

Birmingham, L. (2003) The mental health of prisoners. *Advances in Psychiatric Treatment*, 9 (3) 191-199. DOI: <https://doi.org/10.1192/apt.9.3.191>

Bjørnskov, J. (2009) Social trust and the growth of schooling. *Economics of Education Review*, 28 (2) 249-257. DOI: <https://doi.org/10.1016/j.econedurev.2006.09.013>

Bjørnskov, J. (2018) Social trust and economic growth. In: E.M. Uslander (Ed.) *Oxford handbook of social and political trust*. Oxford: Oxford University Press.

Bjørnskov, J. (2022) How does social trust affect economic growth? *Southern Economic Journal*, 78 (4) 1346. DOI: <https://doi.org/10.4284/0038-4038-78.4.1346>

Black, C. (2008) *Working for a healthier tomorrow*. London: TSO. Available from: <https://assets.publishing.service.gov.uk/media/5a7c55bee5274a1b0042313c/hwwb-working-for-a-healthier-tomorrow.pdf> [Accessed 17 October 2023]

Bloomberg Economics (2021) Virus May Have Cost U.K. GDP 260 Billion Pounds in 2020. Bloomberg. Available from: <https://www.bloomberg.com/news/articles/2021-02-09/virus-may-have-cost-u-k-gdp-260-billion-pounds-in-2020-chart> [Accessed 20 March 2024]

- Bogachev, I. (2023) How the Growing Creative Economy Will Soon Devour The Real Economy. *Forbes*, 16 May 2023. Available from: <https://www.forbes.com/sites/forbestechcouncil/2023/05/16/how-the-growing-creative-economy-will-soon-devour-the-real-economy/> [Accessed 30 October 2023]
- Brådvik, L. (2018) Suicide risk and mental disorders. *International Journal of Environmental Research and Public Health*, 15 (9) 2028. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6165520/> [Accessed 19 March 2024]
- British Medical Association (2023) Health funding data analysis. Available from: <https://www.bma.org.uk/advice-and-support/nhs-delivery-and-workforce/funding/health-funding-data-analysis> [Accessed 17 October 2023]
- Bruce-Lockhart, C. (2019) At work but out of it. *Financial Times*, 21 November 2019. Available from: <https://ig.ft.com/special-reports/health-work/2019/> [Accessed 20 October 2023]
- Cartreine, J. (2016) More than sad: Depression affects your ability to think. Harvard Health Blog, 16 May 2016. Available from: <https://www.health.harvard.edu/blog/sad-depression-affects-ability-think-201605069551> [Accessed 30 October 2023]
- Cendex (2023) Labour turnover rates: 2022 calendar year. Available from: [https://www.cendex.co.uk/resources/labour-turnover-rates-2022-calendar-year/?cmpid=RewardGooglePerformanceMaxContentDownload2024&sfid=7014G000001oIm7&gad\\_source=1&gclid=EAlaIqobChMlr4OE8uCAhQMVeJFQBh2xnQ4oEAAAYASAAEgKaGPD\\_BwE](https://www.cendex.co.uk/resources/labour-turnover-rates-2022-calendar-year/?cmpid=RewardGooglePerformanceMaxContentDownload2024&sfid=7014G000001oIm7&gad_source=1&gclid=EAlaIqobChMlr4OE8uCAhQMVeJFQBh2xnQ4oEAAAYASAAEgKaGPD_BwE) [Accessed 23 May 2023]
- Centre for Mental Health (2010) *The economic and social costs of mental health problems in 2009/10*. London: Centre for Mental Health. Available from: <https://www.centreformentalhealth.org.uk/publications/economic-and-social-costs-mental-health-problems-200910> [Accessed 19 October 2023]
- Centre for Health Economics (1995) *The Measurement and Valuation of Health: Final Report on the Modelling of Valuation Tariffs*. York: University of York. Available from: <https://www.york.ac.uk/media/che/documents/reports/MVH%20Final%20Report.pdf> [Accessed 20 October 2023]
- Cerel, J., Brown, M. M., Maple, M., Singleton, M., van de Venne, J., Moore, M. and Flaherty, C. (2018) How many people are exposed to suicide? Not six. *Suicide and Life-Threatening Behavior*, 49 (2) 529-534. doi: <https://doi.org/10.1111/sltb.12450>
- CIPD (n.d.) Employee turnover: how much is too much? Available from: <https://www.peoplemanagement.co.uk/article/1823900/employee-turnover-much> [Accessed 20 October 2023]
- Counselling Directory (2023) Let's talk fees. Available from: <https://www.counselling-directory.org.uk/memberarticles/lets-talk-fees> [Accessed 17 October 2023]
- Davie, E. (2023) *A mentally healthier nation: Towards a ten-year, cross-government plan for better prevention, equality and support*. London: Centre for Mental Health. Available from: <https://www.centreformentalhealth.org.uk/publications/mentally-healthier-nation/> [Accessed 7 March 2024]
- Dearmon, J., & Grier, K. B. (2009) Trust and development. *Journal of Economic Behaviour and Organisation*, 71 (2) 210-220. doi: <http://dx.doi.org/10.1016/j.jebo.2009.02.011>
- Deloitte Access Economics (2020) *The Social and Economic Cost of Eating Disorders in the United States of America: A Report for the Strategic Training Initiative for the Prevention of Eating Disorders and the Academy for Eating Disorders*. Available from: <https://www.hsph.harvard.edu/striped/report-economic-costs-of-eating-disorders/> [Accessed 7 March 2024]



Department for Work and Pensions (2018) *Annual report and accounts 2017-2018*. London: Department for Work and Pensions. Available from: <https://assets.publishing.service.gov.uk/media/5b364091e5274a0bc32fabf7/dwp-annual-report-and-accounts-2017-2018.pdf> [Accessed 17 October 2023]

Department for Work and Pensions (2023) *Annual report and accounts 2022-2023*. London: Department for Work and Pensions. Available from: <https://committees.parliament.uk/writtenevidence/70998/pdf/> [Accessed 17 October 2023]

Department of Health and Social Care (2016) Written evidence from the Department of Health (SPR0110). London: Department of Health and Social Care. Available from: <https://www.lse.ac.uk/PBS/assets/documents/Estimating-the-monetary-value-of-the-deaths-prevented-from-the-UK-Covid-19-lockdown-when-it-was-decided-upon-and-the-value-of-flattening-the-curve-June-2020.pdf> [Accessed 17 October 2023]

Dolan, P. and Jenkins, P. (2020) *Estimating the monetary value of the deaths prevented from the UK Covid-19 lockdown when it was decided upon – and the value of “flattening the curve”*. London: London School of Economics and Political Science. Available from: <https://www.lse.ac.uk/PBS/assets/documents/Estimating-the-monetary-value-of-the-deaths-prevented-from-the-UK-Covid-19-lockdown-when-it-was-decided-upon-and-the-value-of-flattening-the-curve-June-2020.pdf> [Accessed 17 October 2023]

Durcan, G. (2023) *Prison mental health services in England, 2023: Prison and young offender institution mental health needs analysis*. London: Centre for Mental Health. Available from: <https://www.centreformentalhealth.org/publications/prison-mental-health-services-england-2023/> [Accessed 17 October 2023]

EQ-5D (2021) EQ-5D-5L. Available from: <https://euroqol.org/eq-5d-instruments/eq-5d-5l-about/> [Accessed 20 October 2023]

EQ-5D (2023) EUROQOL. Available from: <https://euroqol.org/euroqol/> [Accessed 20 October 2023]

Francis-Devine, B. and Powell, A. (2023) UK labour market statistics. London: House of Commons Library. Available from: <https://researchbriefings.files.parliament.uk/documents/CBP-9366/CBP-9366.pdf> [Accessed 17 October 2023]

GOV.UK (2022) Offender management statistics quarterly: April to June 2022. Available from: <https://www.gov.uk/government/statistics/offender-management-statistics-quarterly-april-to-june-2022/offender-management-statistics-quarterly-april-to-june-2022> [Accessed 17 October 2023]

GOV.UK (2023) The Green Book (2022). Available from: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government/the-green-book-2020> [Accessed 20 October 2023]

GOV.UK (2024) Food statistics in your pocket. Available from: <https://www.gov.uk/government/statistics/food-statistics-pocketbook/food-statistics-in-your-pocket> [Accessed 20 March 2024]

Haidt, J., & Allen, N. (2020) Scrutinizing the effects of digital technology on mental health. *Nature*. <https://doi.org/10.1038/d41586-020-00296-x>

Hampson, E., Polner, A., Assal, V. and Abrahams, N. (2022) *Mental health and employers: The case for investment – pandemic and beyond*. London: Deloitte. Available from: <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/consultancy/deloitte-uk-mental-health-report-2022.pdf> [Accessed 17 October 2023]

Hayhurst, H., Palmer, S., Abbott, R., Johnson, T., & Scott, J. (2006) Measuring health-related quality of life in bipolar disorder: Relationship of the EuroQol (EQ-5D) to condition-specific measures. *Quality of Life Research*, 15(9), 1271–1280. Available from: <https://link.springer.com/article/10.1007/s11136-006-0059-z> [Accessed 19 March 2024]

Health & Care Professionals Council (2023) Registrant snapshot - 1 March 2023. Available from: <https://www.hcpc-uk.org/resources/data/2023/registrant-snapshot-march-2023/> [Accessed 17 October 2023]

HM Treasury (2023) GDP deflators at market prices and money GDP March 2023. Spring Budget. Available from: <https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-march-2023-spring-budget> [Accessed 7 March 2024]

Horváth, R. (2013) Does trust promote growth? *Journal of comparative economics*, 41 (3) 777-788. DOI: <https://doi.org/10.1016/j.jce.2012.10.006>

House of Lords Library (2022) Arts and creative industries: The case for a strategy. Available from: <https://lordslibrary.parliament.uk/arts-and-creative-industries-the-case-for-a-strategy/> [Accessed 30 October 2023]

IPPR (2022) *Getting better?: Health and the labour market*. Available from: <https://www.ippr.org/research/publications/getting-better-health-and-labour-market> [Accessed 30 October 2023]

The King's Fund (2023) Key facts and figures about the NHS. Available from: <https://www.kingsfund.org.uk/audio-video/key-facts-figures-nhs> [Accessed 17 October 2023]

Knack, S. (2002) Social capital and the quality of government: evidence from the states. *American Journal of Political Science*, 46 (4) 772–785. DOI: <https://doi.org/10.2307/3088433>

Knack, S., & Keefer, P. (1997) Does social capital have an economic payoff? *The Quarterly Journal of Economics*, 112 (4) 1251-1288. Available from: <https://www.jstor.org/stable/2951271> [Accessed 30 October 2023]

Knapp, M., & Mangalore, R. (2007) The trouble with QALYs.... *Epidemiologia e Psichiatria Sociale*, 16(4), 289-293. DOI: <https://doi.org/10.1017/S1121189X00002451>

König, H. H., Born, A., Günther, O., Matschinger, H., Heinrich, S., Riedel-Heller, S. G., Angermeyer, M. C., & Roick, C. (2010) Validity and responsiveness of the EQ-5D in assessing and valuing health status in patients with anxiety disorders. *Health and Quality of Life Outcomes*, 8(1), 47. DOI: <https://doi.org/10.1186/1477-7525-8-47>

McCrone, P., Patel, A., Knapp, M., Schene, A., Koeter, M., Ammadeo, F., Ruggeri, M., Giessler, A., Puschner, B., & Thornicroft, G. (2009) A comparison of SF-6D and EQ-5D utility scores in a study of patients with schizophrenia, *Journal of Mental Health Policy and Economics*, 12(1), 27-31. ISSN 1099-176X

McDaid, D. and Park, A-L. (2022) *The economic case for investing in the prevention of mental health conditions in the UK*. London: Mental Health Foundation. Available from: <https://www.mentalhealth.org.uk/sites/default/files/2022-06/MHF-Investing-in-Prevention-Full-Report.pdf> [Accessed 19 October 2023]

McElroy, E., Hyland, P., Shevlin, M., Karatzias, T., Vallières, F., Ben-Ezra, M., Vang, M. L., Lorberg, B., & Martsenkovskiy, D. (2023) Change in child mental health during the Ukraine war: Evidence from a large sample of parents. *European Child & Adolescent Psychiatry*. Advance online publication. DOI: <https://doi.org/10.1007/s00787-023-02255-z>

McManus, S., Bebbington, P., Jenkins, R., Brugha, T. (2016) *Mental health and wellbeing in England: Adult Psychiatric Morbidity Survey 2014*. Leeds: NHS Digital. Available from: [https://files.digital.nhs.uk/pdf/q/3/mental\\_health\\_and\\_wellbeing\\_in\\_england\\_full\\_report.pdf](https://files.digital.nhs.uk/pdf/q/3/mental_health_and_wellbeing_in_england_full_report.pdf) [Accessed 19 October 2023]

McNamara, S., Schneider, P. P., Love-Koh, J., Doran, T., and Gutacker, N. (2023) Quality-adjusted life expectancy norms for the English population. *Value in Health*, 26 (2) 163-169. DOI: <https://doi.org/10.1016/j.jval.2022.07.005>

Mental Health Foundation (2022) Stress, anxiety and hopelessness over personal finances widespread across UK - New mental health survey. Available from: <https://www.mentalhealth.org.uk/about-us/news/stress-anxiety-and-hopelessness-over-personal-finances-widespread-across-uk-new-mental-health-survey> [Accessed 30 October 2023]

Mind (2022) The link between money and mental health. Available from: <https://www.mind.org.uk/information-support/tips-for-everyday-living/money-and-mental-health/the-link-between-money-and-mental-health/> [Accessed 30 October 2023]

Mind (2018) 40% of all GP appointments about mental health. Available from: <https://www.mind.org.uk/news-campaigns/news/40-of-all-gp-appointments-about-mental-health/> [Accessed 30 October 2023]

National Audit Office (2023) Progress in improving mental health services in England. London: Department of Health and Social Care. Available from: <https://www.nao.org.uk/wp-content/uploads/2023/02/Progress-in-improving-mental-health-services-CS.pdf> [Accessed 17 October 2023]

National Institute for Health and Care Excellence (2013) *Health and social care quality programme: Briefing paper*. Available from: <https://www.nice.org.uk/guidance/qs50/documents/mental-wellbeing-of-older-people-in-care-homes-briefing-paper2> [Accessed 17 October 2023]

NHS Business Services Authority (2023) Medicines used in Mental Health – England – quarterly summary statistics October to December 2022. Available from: <https://www.nhsbsa.nhs.uk/statistical-collections/medicines-used-mental-health-england/medicines-used-mental-health-england-quarterly-summary-statistics-october-december-2022> [Accessed 17 October 2023]

NHS Digital (2022a) Adult Social Care Activity and Finance Report, England, 2021-22. Available from: <https://digital.nhs.uk/data-and-information/publications/statistical/adult-social-care-activity-and-finance-report/2021-22> [Accessed 19 October 2023]

NHS Digital (2022b) Mental Health of Children and Young People in England 2022 - wave 3 follow up to the 2017 survey. Available from: <https://digital.nhs.uk/data-and-information/publications/statistical/mental-health-of-children-and-young-people-in-england/2022-follow-up-to-the-2017-survey> [Accessed 17 October 2023]

NHS England (2017) Primary care. Available from: <https://www.england.nhs.uk/five-year-forward-view/next-steps-on-the-nhs-five-year-forward-view/primary-care/#:~:text=General%20practice%20provides%20over%20300,practice%20than%20on%20hospital%20outfromints> [Accessed 17 October 2023]

NHS England (n.d.) Community mental health services. Available from: <https://www.england.nhs.uk/mental-health/adults/cmhs/> [Accessed 19 October 2023]

NHS England (2022) Our funding. Available from: <https://www.england.nhs.uk/publications/business-plan/our-2022-23-business-plan/our-funding/> [Accessed 20 March 2024]



- Office for National Statistics (2023c) Rising ill-health and economic inactivity because of long-term sickness, UK: 2019 to 2023. Available from: [https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/economicinactivity/articles/risingillhealthandeconomicinactivitybecauseoflongtermsicknessuk/2019to2023#:~:text=Over%201.35%20million%20\(53%25\),rfromher%20than%20their%20main%20one](https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/economicinactivity/articles/risingillhealthandeconomicinactivitybecauseoflongtermsicknessuk/2019to2023#:~:text=Over%201.35%20million%20(53%25),rfromher%20than%20their%20main%20one) [Accessed 17 October 2023]
- Office for National Statistics (2023d) Sickness absence in the UK labour market: 2022. Available from: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/articles/sicknessabsenceinthelabourmarket/2022> [Accessed 17 October 2023]
- Office for National Statistics (2023e) Unpaid care by age, sex and deprivation, England and Wales: Census 2021. Available from: <https://www.ons.gov.uk/peoplepopulfromionandcommunity/healthandsocialcare/socialcare/articles/unpaidcarebyagesexanddeprivfromionenglandandwales/census2021#:~:text=1.-,Main%20points,over%2C%20in%20each%20country%20respectively> [Accessed 17 October 2023]
- Office for National Statistics (2023f) Employee earnings in the UK: 2023 Available from: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/annualsurveyofhoursandearnings/2023#cite-this-statistical-bulletin> [Accessed 25 March 2024]
- O'Shea, N. and Bell, A. (2020) *A spending review for wellbeing*. London: Centre for Mental Health. Available from: <https://www.centreformentalhealth.org.uk/publications/spending-review-wellbeing> [Accessed 19 October 2023]
- Oxford Economics (2014) *The cost of brain drain: Understanding the financial impact of staff turnover*. London: Oxford Economics. Available from: <https://www.oxfordeconomics.com/wp-content/uploads/2023/05/cost-brain-drain-report.pdf> [Accessed 19 October 2023]
- Papagapitos, A., & Riley, S. (2009) Social trust and human capital formation. *Economics Letters*, 102 (3) 158–160. DOI: <https://doi.org/10.1016/j.econlet.2008.12.006>
- Petrillo, M. and Bennett, M. (2021) *Valuing carers 2021: England and Wales*. London: Carers UK. Available from: [https://centreforcure.ac.uk/wp-content/uploads/2023/05/Valuing\\_Carers\\_WEB2.pdf](https://centreforcure.ac.uk/wp-content/uploads/2023/05/Valuing_Carers_WEB2.pdf) [Accessed 17 October 2023]
- Pollard, A. and Bell, A. (2022) *No wrong door: A vision for mental health, learning disabilities and autism services in 2032*. London: Centre for Mental Health. Available from: <https://www.centreformentalhealth.org.uk/publications/no-wrong-door/> [Accessed 7 March 2024]
- Putnam, R. D. (1993) Bowling alone: American's declining social capital. *Journal of Democracy*, 6 (1) 65-78. DOI: <https://doi.org/10.1353/jod.1995.0002>
- PWC Australia (2016) The secret link between innovation and wellbeing. Available from: <https://www.pwc.com.au/digitalpulse/mental-health-innovation.html> [Accessed 30 October 2023]
- Qualtrics (2020) The other COVID-19 crisis: Mental health. April 14, 2020. Available from: <https://www.qualtrics.com/blog/confronting-mental-health/> [Accessed 30 October 2023]
- Rajkovic, M. (2023) The role of mental health in a future of innovation. LinkedIn. Available from: <https://www.linkedin.com/pulse/role-mental-health-future-innovation-milan-rajkovic#:~:text=Innovation%20often%20involves%20solving%20complex,%2C%20emotional%20intelligence%2C%20and%20resilience> [Accessed 30 October 2023]
- RAND Europe (2020) Managing the Challenge of Workforce Presenteeism in the COVID-19 Crisis. Available from: <https://www.rand.org/blog/2020/09/managing-the-challenge-of-workforce-presenteeism-in.html> [Accessed 19 October 2023]

- Rao, M., & Powell, R. A. (2021) The climate crisis and the rise of eco-anxiety. *The BMJ*. Available from: <https://doi.org/10.1136/bmj.n2247> [Accessed 30 October 2023]
- Revicki, D. A., Matza, L. S., Flood, E., & Lloyd, A. (2005) Bipolar Disorder and Health-Related Quality of Life: Review of Burden of Disease and Clinical Trials. *Pharmacoeconomics*, 23(6), 583-594. DOI: <https://doi.org/10.2165/00019053-200523060-00005>
- Richards, R. (2022) *2022 UK care homes*. London: Knight Frank. Available from: <https://content.knightfrank.com/research/548/documents/en/care-homes-trading-performance-review-2022-9616.pdf> [Accessed 17 October 2023]
- Royal College of Psychiatrists (2021) Thousands of people with a mental disorder sent to prison when they need treatment. Available from: [https://www.rcpsych.ac.uk/news-and-features/latest-news/detail/2021/06/07/thousands-of-people-with-a-mental-disorder-sent-to-prison-when-they-need-treatment#:~:text=Latest%20news-,Thousands%20of%20people%20with%20a%20mental%20disorder,prison%20when%20they%20need%20treatment&text=Up%20to%208%2C000%20prisoners%20in,Health%20Treatment%20Requirement%20\(MHTR\)](https://www.rcpsych.ac.uk/news-and-features/latest-news/detail/2021/06/07/thousands-of-people-with-a-mental-disorder-sent-to-prison-when-they-need-treatment#:~:text=Latest%20news-,Thousands%20of%20people%20with%20a%20mental%20disorder,prison%20when%20they%20need%20treatment&text=Up%20to%208%2C000%20prisoners%20in,Health%20Treatment%20Requirement%20(MHTR)) [Accessed 17 October 2023]
- Royal Society of Edinburgh (2024) *The impact of the cost of living on gender inequality*. Available from: <https://rse.org.uk/expert-advice/advice-paper/the-impact-of-the-cost-of-living-on-gender-inequality/> [Accessed 17 October 2023]
- Roychowdhury, P. (2021) Too unwell to trust? The effect of mental health on social trust in Europe. *Economics and Human Biology*, 42 101021. DOI: <https://doi.org/10.1016/j.ehb.2021.101021>
- Schultz, A. B., & Edington, D. W. (2007) Employee Health and Presenteeism: A Systematic Review. *Journal of Occupational Rehabilitation*, 17, 547-579.
- Runnymede Trust (2022) *Falling Faster amidst a Cost-of-Living Crisis: Poverty, Inequality and Ethnicity in the UK*. Available from: [https://assets-global.website-files.com/61488f992b58e687f1108c7c/633d8007a3bfa49bd4cd0fa8\\_Runnymede%20Briefing%20Cost%20of%20Living%20FINAL.pdf](https://assets-global.website-files.com/61488f992b58e687f1108c7c/633d8007a3bfa49bd4cd0fa8_Runnymede%20Briefing%20Cost%20of%20Living%20FINAL.pdf) [Accessed 17 October 2023]
- Saarni, S. I., Suvisaari, J., Sintonen, H., Pirkola, S., Koskinen, S., Aromaa, A., & Lönnqvist, J. (2007) Impact of psychiatric disorders on health-related quality of life: general population survey. *British Journal of Psychiatry*, 190, 326-332. DOI: <https://doi.org/10.1192/bjp.bp.106.025106>
- Saarni, S. I., Viertiö, S., Perälä, J., Koskinen, S., Lönnqvist, J., & Suvisaari, J. (2010) Quality of life of people with schizophrenia, bipolar disorder and other psychotic disorders. *The British Journal of Psychiatry*, 197, 386-394. DOI: <https://doi.org/10.1192/bjp.bp.109.076489>
- Self, P. J., Gallop, C. A., Cavanna, A. R., Laidlaw, K. and Partridge, S. (2021) *The psychological professions in the South West: Workforce report*. South West England: Psychological Professions Network. Available from: <https://www.ppn.nhs.uk/all-ppn-resources/42-ppn-south-west-workforce-report-final/file> [Accessed 17 October 2023]
- Shilyansky, C., Williams, L. M., Gyurak, A., Harris, A., Usherwood, T., and Etkin, A. (2016). Effect of antidepressant treatment on cognitive impairments associated with depression: A randomised longitudinal study. *The Lancet Psychiatry*, 3 (5) 425-435. DOI: [https://doi.org/10.1016/S2215-0366\(16\)00012-2](https://doi.org/10.1016/S2215-0366(16)00012-2)
- Singleton, N., Meltzer, H. and Gatward, R. (1998) *Psychiatric Morbidity among Prisoners in England and Wales*. London: Office for National Statistics. Available from: <https://www.cambridge.org/core/journals/the-british-journal-of-psychiatry/article/psychiatric-morbidity-among-prisoners-in-england-and-wales-by-n-singleton-h-meltzer-r-gatward-london-office-for-national-statistics-372-pp-4500-pb-isbn-0116210451/7D3EDA9E30693E36A06E1200132541DC> [Accessed 17 October 2023]

Sobocki, P., Ekman, M., Ågren, H., Krakau, I., Runeson, B., Mårtensson, B., & Jönsson, B. (2007) Health-Related Quality of Life Measured with EQ-5D in Patients Treated for Depression in Primary Care, *Value in Health*, 10(2), 2007, 111-118. DOI: <https://doi.org/10.1111/j.1524-4733.2006.00162.x>

Statista (2023) Average annual overall resource expenditure per prison place in England and Wales from 2015 to 2022. Available from: <https://www.statista.com/statistics/1202172/cost-per-prisoner-england-and-wales/> [Accessed 17 October 2023]

Stevenson, D. and Farmer, P. (2017) Thriving at work: The Stevenson / Farmer review of mental health and employers. London: Department for Work and Pensions. Available from: <https://assets.publishing.service.gov.uk/media/5a82180e40f0b6230269acdb/thriving-at-work-stevenson-farmer-review.pdf> [Accessed 17 October 2023]

TalkSpace (2023) How Many Clients Do Therapists Have for a Typical Caseload? Available from: <https://www.talkspace.com/blog/how-many-clients-do-therapists-have/> [Accessed 17 October 2023]

ten Hoopen, L. W., de Nijs, P. F. A., Duvekot, J., Greaves-Lord, K., Hillegers, M. H. J., Brouwer, W. B. F., & Hakkaart-van Roijen, L. (2020) Children with an Autism Spectrum Disorder and Their Caregivers: Capturing Health-Related and Care-Related Quality of Life, *Journal of Autism and Developmental Disorders*, 50(1), 263–277. DOI: <https://doi.org/10.1177/13623613231151784>

The Sainsbury Centre for Mental Health (2003) *The economic and social costs of mental illness*. London: Centre for Mental Health. Available from: <https://www.centreformentalhealth.org.uk/publications/economic-and-social-costs-mental-illness-england> [Accessed 19 October 2023]

Torsvik, G. (2000) Social capital and economic development: A plea for the mechanisms. *Rationality and Society*, 12 (4) 451–476. DOI: <https://doi.org/10.1177/104346300012004005>

Totaljobs (2022) The Great Relocation: 4.5 million Brits consider moving abroad for work. Available from: [https://www.totaljobs.com/media-centre/?p=11366#:~:text=July%2014%2C%202022%20\(London\),both%20at%20home%20and%20abroad](https://www.totaljobs.com/media-centre/?p=11366#:~:text=July%2014%2C%202022%20(London),both%20at%20home%20and%20abroad) [Accessed 30 October 2023]

UNCTAD (2019) How the creative economy can help power development. Available from: <https://unctad.org/news/how-creative-economy-can-help-power-development> [Accessed 30 October 2023]

University of Essex, Institute for Social and Economic Research (2023) Understanding Society: Waves 1-13, 2009-2022 and Harmonised BHPS: Waves 1-18, 1991-2009. [data collection]. 18th Edition. UK Data Service. SN: 6614. Available from: <http://doi.org/10.5255/UKDA-SN-6614-19> [Accessed 19 March 2024]

Whiteley, P. (1999) The origins of social capital. In: van Deth, J., Maraffi, M., Newton, K., Whiteley, P. (Eds.), *Social Capital and European Democracy*. London: Routledge.

Williamson, O. E., & Mathers, R. L. (2011) Economic freedom, culture, and growth. *Public Choice*, 148 (3/4) 313–335. Available from: <https://www.jstor.org/stable/41483699> [Accessed 30 October 2023]

Wilson, W. (2022) Households in temporary accommodation (England). London: House of Commons Library. Available from: <https://researchbriefings.files.parliament.uk/documents/SN02110/SN02110.pdf> [Accessed 17 October 2023]

WorkNest (2022) HSE statistics 2022 reveal a sharp rise in worker injuries. Available from: <https://worknest.com/blog/hse-statistics-2022-reveal-a-sharp-rise-in-worker-injuries/> [Accessed 17 October 2023]

World Bank (2023) GDP per capita (current US\$) - United Kingdom. Available from: <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=GB> [Accessed 19 March 2024]

World Health Organisation (2022) Mental health and substance use. Available from: <https://www.who.int/teams/mental-health-and-substance-use/promotion-prevention/mental-health-in-the-workplace> [Accessed 20 October 2023]

Zak, P. J., & Knack, S. (2001) Trust and Growth. *The Economic Journal*, 111 (470) 295-321. DOI: <https://doi.org/10.1111/1468-0297.00609>



# **CENTRE FOR MENTAL HEALTH**



## **THE ECONOMIC AND SOCIAL COSTS OF MENTAL ILL HEALTH**

### **REVIEW OF METHODOLOGY AND UPDATE OF CALCULATIONS**

Published March 2024

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