

# The Economic Case for Prioritising Autism in Policy and Reform

Martin Knapp, Eva Cyhlarova, Nazak Salehi, Edmund Stubbs, Magdalena Walbaum, Shari Jadoolal and Mashal Murad Shah

Care Policy and Evaluation Centre (CPEC)  
London School of Economics and Political Science (LSE)

December 2024 | **Report**



## Acknowledgements

The research described in this report was funded by the Autism Alliance UK, Autistica and the Care Policy and Evaluation Centre at the London School of Economics and Political Science.

The research team are enormously grateful to members of the Alliance for their support and advice, with particular thanks to Adam Micklethwaite, Jolanta Lasota and James Cusack. We are also grateful to numerous researchers who advised on specific parts of our work, including: Gyles Glover, Nick Gore, Jonathan Green, Angela Hassiotis, Richard Hastings, Chris Hatton, Lorcan Kenny, Geraldine Macdonald, Sara MacLennan, William Mandy, Liz O’Nions, Vicky Slonims, Joshua Stott, Dinithi Wijedasa. All views expressed in this report are those of the authors and not necessarily those of the funding bodies or of people that we consulted.

---

## Authors

**Professor Martin Knapp**, Professor of Health and Social Care Policy, Professorial Research Fellow (CPEC)

**Dr Eva Cyhlarova**, Senior Research Fellow, Care Policy and Evaluation Centre (CPEC)

**Nazak Salehi**, Research Assistant, Care Policy and Evaluation Centre (CPEC)

**Edmund Stubbs**, Research Officer, Care Policy and Evaluation Centre (CPEC)

**Dr Magdalena Walbaum**, Research Officer, Care Policy and Evaluation Centre (CPEC)

**Shari Jadoolal**, Research Assistant, Care Policy and Evaluation Centre (CPEC)

**Mashal Murad Shah**, Research Associate, Care Policy and Evaluation Centre (CPEC)

## Contact Details

Professor Martin Knapp  
m.knapp@lse.ac.uk

© Care Policy and Evaluation Centre, London School of Economics and Political Science 2024

# Contents

<b>Acknowledgements</b>	2
<b>Executive Summary</b>	4
<b>1. Introduction</b>	8
Aims: making an economic case	9
<b>2. Methods</b>	10
<b>3. The economic case</b>	12
Paediatric Autism Communication Therapy (PACT)	13
Positive Parenting Programme	14
Advocacy for parents with a learning disability	15
Anti-bullying programme in schools	18
Individual Placement and Support (IPS) for employment	19
Specialist autism teams	20
Innovative pathway for eating disorders and autism	22
Mindfulness-based therapy	23
Health checks	24
<b>4. Conclusions</b>	26
<b>5. Recommendations</b>	29
<b>References</b>	30

## Executive Summary

Autism affects how people communicate and interact. Current societal structures and service arrangements have significant consequences for many autistic individuals, their families and the wider society. These include impacts on health and quality of life, as well as economic consequences such as lost income, reduced productivity and public sector spending on health, social care, education, and other services. With the overall economic impact estimated at over £32 billion annually in the UK (at 2011 price levels), it remains unclear whether this spending delivers the best possible outcomes for autistic people, their families and the wider community or if better outcomes could be achieved with a more supportive system. Currently available services and other supports do not effectively meet the needs of autistic people, leading to unnecessarily high and poorly allocated economic impacts.

This study examines the economic case for services, therapies and supports (hereafter ‘services’, ‘service models’ or ‘supports’) for autistic individuals and their families, and highlights the implications for national policy and spending decisions. Improving health, education, employment and wellbeing may generate savings through reduced costs of other services or increased employment, and hence contributions to the economy. But these services can also be economically justified when outcomes achieved for autistic people and/or families are considered sufficient to justify the higher costs.

We reviewed research evidence on the economic impacts of effective service models for autistic individuals and their families, and we consulted with autism charities and autistic individuals. We selected service models with evidence of effectiveness – for example, improved health, education, employment and quality of life – and with clear economic benefits. Services had to be relevant for implementation in the UK. We included services and supports for individuals with a learning disability (about a third of autistic individuals may also have a learning disability) and for the general population that address issues commonly experienced by autistic individuals, such as anxiety and being bullied. Our search process identified ten service models across various settings, including early years provision, schools, workplaces, and the NHS and social care.

- Many autistic children have difficulties (sometimes considerable) with communication and language skills, leading to lifelong challenges. The Paediatric Autism Communication Therapy (PACT) study showed improvements in parent-child interaction and social communication, and other outcomes for children aged 2-4 years. Although initially not cost-effective, after 6 years, PACT showed societal savings of £43,050 per person.
- Between 10% and 45% of children with developmental disabilities experience distressed behaviour (often referred to as ‘behaviours that challenge’), with rates even higher among autistic children (56% to 94%). A lack of support for carers and parents results in reduced employment opportunities, costing them around £5,800 annually each, totalling an estimated productivity loss of £560 million. The Stepping

Stones Positive Parenting Programme helps parents of children aged 30-59 months improve skills and confidence. While overall effectiveness evidence is mixed, the Programme significantly reduced behaviours that challenge in a group of engaged participants, and it was cost-effective.

- Studies estimate that between 70% and 95% of autistic children have a mental health condition, but only a fraction receive helpful support. Mental health issues increase annual service costs to £1,734 per child and increase the risk of unemployment among young adults. Mental Health Support Teams in schools provide effective interventions, with recovery rates of 59% for anxiety and 49% for depression among the general population. These teams are cost-effective, yielding a benefit-to-cost ratio of 22. Mental Health Support Teams could effectively support autistic children and reduce public sector costs.
- A high proportion of autistic children experience bullying at school. It can have profound and lasting mental health, social and economic impacts. The KiVa anti-bullying intervention has been shown to reduce bullying and victimisation in schools in multiple countries. It is cost-effective, generating a return on investment of up to £7.52 for every £1 spent in the UK by reducing the lifelong consequences of bullying on both victims and perpetrators. It is also likely to be effective and cost-effective for autistic children.
- In the UK, only 30% of autistic adults are employed, despite 77% wanting to work. Supported employment programmes, such as Individual Placement and Support, help autistic individuals secure employment and lead to significant long-term benefits, including increased independence and reduced reliance on benefits. Doubling the employment rate for autistic adults would generate potential societal savings of £900 million to £1.5 billion annually.
- Autistic adults without a learning disability often experience poor outcomes and unmet needs but many have no access to support services. Specialist autism teams are multidisciplinary, community-based teams that provide comprehensive support, and lead to improved mental health and daily life management. While some improvements may be achieved at higher costs, one-to-one support for mental health needs is cost-effective. Also, an episodic approach to delivering care plans is more cost-effective than managed care.
- Autistic individuals with eating disorders experience poorer outcomes, including longer hospital stays, compared to non-autistic people. The Pathway for Eating disorders and Autism developed from Clinical Experience (PEACE) includes autism-focused training for healthcare staff and adapted ward environments. Its implementation led to shorter hospital stays and substantial NHS savings.
- Autistic individuals often experience high rates of anxiety and depression, with up to 70% experiencing both, yet they face significant systemic barriers that make

accessing mental health support very difficult. Mindfulness-based therapies (MBTs) can reduce anxiety, depression, stress and improve quality of life experienced by autistic people. Mindfulness interventions are cost-effective, although there is no evidence specifically for autistic people. In addition, online formats can provide accessible and cost-effective options.

- Autistic individuals experience poor health outcomes and have a shorter life expectancy than non-autistic people, but they often receive lower-quality healthcare and face barriers when accessing services. Annual health checks are effective in identifying and addressing unmet health needs and are cost-effective. They lead to better health outcomes and improved life expectancy, while improving quality of life and potentially reducing future healthcare costs.
- Parents with a learning disability are over-represented in care proceedings, with around 40% losing custody of their children. Advocacy support is essential in prevention and early intervention in safeguarding processes. Advocacy can lead to savings by reducing the need for safeguarding measures, care proceedings, and provision. Improvements in quality of life and employment opportunities would generate additional returns.

Addressing the barriers that autistic individuals face in the education, employment, health, social care and other sectors – and across society more generally – is essential for improving outcomes. Services, therapies and supports to tackle these barriers need the commitment of public and private resources, which immediately raises questions about whether those resources are used optimally. While evidence from economic studies reinforces the case for services such as PACT, IPS, health checks and others that we have summarised here, there is a pressing need to scale up these services to achieve a broader impact. There are also some service models for people with a learning disability or for the general population that are effective and cost-effective in addressing issues that are commonly experienced by autistic people; commissioning research to examine the impacts specifically for autistic people could provide evidence for scaling them up too. Early and timely interventions offer substantial benefits for individuals, families and society.

However, the evidence currently available to guide better policy and support remains sparse relative to the many challenges that autistic people face in their lives. In broadening and strengthening the evidence base, autism-specific economic evaluations are needed across all sectors where such support is provided and where action is needed. Expanding this evidence base will enable more efficient allocation of scarce public and private resources, improve outcomes for autistic people and pave the way for a more inclusive, equitable society.

Prioritising autism in policy is both a social responsibility and an economic opportunity, as it can lead to significant economic benefits and improve the lives of autistic individuals and their families. There is strong evidence for some service models, but

significant gaps remain. This emphasises the urgent need for government investment in rigorous research to build a foundation for inclusive, supportive and equitable systems, benefiting both individuals and society. This research must be shaped by the voices and insights of autistic people and their families. Crucially, these efforts should be embedded in coordinated, integrated, system-wide reform designed to improve the lives of autistic people.

From this platform of economic evidence, we recommend that government should:

- use the National Autism Strategy to prioritise autism in policy and funding decisions, to address the evidence gaps through targeted investment, and to embed autism priorities into broader reforms, including Special Educational Needs and Disabilities (SEND) and adult social care;
- invest in coordinated, evidence-based services that improve lives and deliver both short-term and longer-term economic benefits;
- work with autistic individuals and their families to ensure that their experiences and insights shape research, policy and service development;
- scale up effective and cost-effective services, such as paediatric autism communication therapy (PACT), positive parenting, individual placement and support (IPS) for employment and mindfulness-based therapy for anxiety or depression, to better support autistic individuals across the life-course;
- explore ways in which specialist autism teams can help coordinate and deliver responses to the needs and preferences of autistic people;
- ensure that healthcare staff are appropriately trained and service arrangements appropriately adapted to deliver effective health checks for autistic people, helping to counter their lower life expectancy;
- adapt services that are effective and cost-effective in the general population, such as mental health support and anti-bullying programmes in schools, and evaluate their impacts specifically for autistic individuals;
- invest in research to address gaps in existing evidence, including evidence for autism-specific services, focusing on both short- and long-term outcomes and the full breadth of potential economic benefits.

By implementing these recommendations, the government can reduce the systemic barriers faced by autistic individuals and improve their quality of life. Building a more inclusive and effective support system across education, employment, healthcare, social care and other sectors would undoubtedly generate significant economic benefits and provide a more cost-effective use of public funds.



# 1. Introduction

Autism is ‘a lifelong developmental disability which affects how people communicate and interact with the world’.<sup>1</sup> Challenges faced by autistic individuals are compounded by societal barriers and a lack of appropriate support services, resulting in many impacts on autistic people, their families and the wider society. Some of these impacts are economic, including lost income to individuals and lost productivity to the economy because many autistic people are not able to find employment, spending by public sector bodies on health, social care, education, housing and other services, and spending by families on services and treatments to meet needs where public services are unable to do so (Figure 1).

**Figure 1: Some impacts of services and society on autistic people**

Autistic children, young people and adults in the UK face a range of negative outcomes resulting from a failure in services and society to recognise and meet their needs – needs which the services, therapies and supports in this report seek to address. These negative outcomes include:

- 79% of autistic people will experience poor mental health in their lives.<sup>2</sup>
- Only 26% of autistic children are happy at school,<sup>3</sup> and autistic children are 28 times more likely to consider or attempt suicide than non-autistic children.<sup>4</sup>
- Only 3 in 10 autistic adults are in paid employment, one of the lowest employment rates of all disability groups.<sup>5</sup>
- 77% of autistic adults reach crisis before community support is provided, often leading to family breakdown and confinement in mental health hospitals, where the average stay is 5 years.<sup>6</sup> While there has been some progress in reducing the number of people with a learning disability detained, the number of autistic adults in locked inpatient settings has increased by 117% since 2015.<sup>7</sup>
- There continue to be cases of abuse of autistic people in care, almost 15 years after the scandal at Winterbourne View hospital was exposed by BBC Panorama.<sup>8</sup> The most recent case was brought to light in 2024, at Life Wirral in Wallasey.<sup>9</sup>
- 91% of autistic people feel society does not accept or only sometimes accepts them;<sup>10</sup> and over a third of people in the UK still believe autism is a learning disability, and 30% are unsure if autism can be cured.<sup>11</sup>
- 3 in 4 parents of children with special educational needs and disability (SEND) have had to give up work or cut their hours because of failure to meet their children’s needs in the education system.<sup>12</sup>

A study from more than 10 years ago estimated that the overall economic impact of autism in the UK was more than £32 billion at that time.<sup>13</sup> What is not known, however, is whether those expenditures are achieving the best outcomes for autistic people, their families and others.



## Aims: making an economic case

The purpose of the study summarised here is to examine the economic case for services and therapies (hereafter ‘services’, ‘service models’ or ‘supports’) for autistic people and/or their families by drawing on evidence from previous UK and other research, and to highlight the implications for national policy and spending decisions. By ‘economic case’ we mean that a service achieves outcomes for autistic people and families – such as meeting health needs, supporting education, helping with employment, improving general wellbeing – in ways that are considered economically attractive. As we describe further below, a service is considered cost-effective when the benefits gained are substantial enough to justify the resources required to achieve them.

In achieving those outcomes, the service might also lead to cost savings, perhaps through reductions in expenditure on other services because autistic people and families now need less support, or because individuals are able to move into paid employment, thus reducing public spending on welfare benefits and increasing tax revenues.

However, a service can also be seen as economically attractive even if it does not lead to savings. This would be the case if the outcome gains are sufficient to justify the higher costs. This latter is a situation often faced by the National Institute for Health and Care Excellence (NICE) when, in assessing a new healthcare treatment, it finds the new treatment to be more expensive than the more established treatment it could replace, but still worth recommending for use in the National Health Service (NHS) because it leads to substantial health improvements.

NICE commonly considers cost-effectiveness by looking at the cost implications of introducing a service or treatment compared to what it achieves in improving health. It often measures health gains in terms of quality-adjusted life years (QALYs) – a generic measure that is used to capture improvements across all clinical areas. NICE will usually recommend a service or treatment to the NHS if the cost of achieving one additional QALY is less than £30,000 per QALY. Some of the service models discussed later are delivered in the health sector and so may have been assessed by NICE. It needs to be emphasised that NICE makes recommendations rather than funding decisions, and not all treatments or other service models can be assessed in terms of what QALY gains they generate. Decision-makers, whether national or local, public sector or private, must weigh up whether the effectiveness gains – such as improvement in quality of life, reduction in medical symptoms, greater independence in everyday living – are large enough to justify the costs of achieving them. This is inevitably and rightly a value judgement; the aim of an economic evaluation is to use robust scientific methods to measure and compare the outcomes and costs and so inform such judgements.

Our aim in this report is to explore the economic potential of supporting autistic individuals and thereby highlight what the tangible benefits could be for both

autistic people and society of investing in a range of service models. Decision-makers will inevitably utilise economic data to guide resource allocation – alongside other information, of course – which makes it essential to present a compelling case for investing in support services.

By presenting the economic evidence in what is inevitably a summary way, we are conscious that we are reducing a huge range of individual experiences to a few numbers. The wealth of experiences that lie behind the findings must not be forgotten. These include:

- Over 200,000 children, young people and adults are left waiting for an autism diagnosis, often with damaging impacts on their lives, due to a lack of capacity in assessment services.
- In education, the lack of understanding and adaptation of environment and practice in education contributes to declining mental health, lower educational outcomes, and high exclusion rates of autistic individuals.
- The absence of specialist community-based support for autistic adults results in escalating mental health issues, family breakdowns and, in some cases, long-term confinement in locked inpatient settings.
- Autistic individuals without a learning disability often cannot access mental health support, as they are frequently passed between services with unclear responsibility.

## 2. Methods

In assembling the economic case, we first looked for previous research evidence on the economic consequences of services that are intended for autistic people or their families, making sure those services had already been shown to be effective in meeting needs, responding to preferences or in other ways improving quality of life.

We also needed to assess whether the evidence was relevant. Following discussion with representatives from a range of autism charities and some autistic people, we employed the following criteria to select services for inclusion:

- There is evidence from well-conducted research that the service is effective for autistic people and/or their families. (By ‘well-conducted’, we mean that the study design was appropriate for the research question and that the study was carried out satisfactorily.) Effectiveness could be gauged in terms of better health, better educational or employment outcomes, improved quality of life or other areas that are important for autistic people.
- There is evidence on the economic implications of the service, both in terms of the costs of delivery and the consequences for patterns of utilisation of other services, employment rates and so on.

- The service must be relevant and deliverable in the UK – particularly, in relation to the availability of professionals to deliver it, the likelihood of it being commissioned in the UK context, and acceptability to the autistic community.
- We also looked at services for people with learning disabilities – as approximately one third of autistic people also have a learning disability – based on the assumption (discussed with experts in the field) that the service would have similar outcomes and costs for people who are autistic as well as learning disabled (likely with some adaptation).
- We also considered services for the general population that address needs or experiences that are particularly common for autistic people (such as anxiety and being bullied at school), but again so long as it would be valid to assume that the service would have similar outcomes and costs for autistic people as for the general population (again, likely with adaptation).

We searched PubMed for peer-reviewed economic evaluations specifically related to services, therapies and supports for autistic people or people with a learning disability (or ‘intellectual disability’), published in English. The search was then expanded to include studies of service models for the general population potentially relevant to issues commonly experienced by autistic individuals. Five service models were found to have some level of evidence for their use in autistic people, three in people with a learning disability (one of which included both), and two in the general population, which could be relevant to, or adapted for autistic people. We looked for systematic reviews, meta-analyses and randomised controlled trials but, given the limited evidence, we also considered well-conducted comparative, observational and qualitative studies. We consulted numerous researchers about specific parts of our review, including seeking their advice on the quality and relevance of evidence on specific service models.

In the next section, we summarise the economic case for ten services and support arrangements. Together, these ten do not address all the needs of autistic people in the UK. Indeed, there are some common negative experiences for autistic people and families where we could find no economic evidence, such as the delay in getting a diagnosis. However, the lack of economic evidence does not imply a lack of need; it highlights the critical importance of government action to address these gaps.

### 3. The economic case

The process of searching described above led us to ten services and supports spread across a variety of settings: early years provision, schools, workplaces, the NHS, the social care sector (see Figure 2).

In the summaries that follow, we employ a common structure to present the economic case:

- the issue (such as the prevalence of a condition or need) and any evidence on the current economic impacts that follow from it (where it is known);
- the service model to address it (what it is, where it is delivered and by whom);
- evidence on effectiveness;
- economic evidence; and
- potential implications of making the service more widely available.

**Figure 2: Service models**



We provide references to the source material for the summaries. We do not include an assessment of the quality of those studies, but we only selected studies that were of sufficiently high quality to examine the economic case.

It is not possible to aggregate the economic implications across the ten services. This is because the nature of the evidence differs from one to another, for example in terms of span of coverage, duration of impact and so on. However, the combined economic impact would undoubtedly be significant and represent both a more effective and more cost-effective use of public funds.

## Paediatric Autism Communication Therapy (PACT)

### Issue

Many autistic children struggle to develop communication and language skills, which can lead to life-long challenges and significant economic consequences for families and society. However, effective early intervention could improve social communication and other long-term outcomes,<sup>14</sup> including supporting parents to work and contributing to productivity gains.<sup>15</sup> Our estimates show that reduced employment opportunities cost carers around £5,800 annually each, resulting in a productivity loss of around £560 million for parents of autistic children aged under 6 years (based on numbers of carers estimated from Census data).

### Service model

Paediatric autism communication therapy (PACT) is a service for young autistic children, aiming to enhance parent-child communication. PACT involves twelve 1.5-hour fortnightly sessions over 6 months, with optional monthly sessions for an additional 6 months. Parents learn to adapt their communication style and practice PACT strategies for 30 minutes daily.<sup>16</sup>

### Effectiveness

PACT has been shown to improve parent-child two-way play and communication, both at the 13-month follow-up point and after 6 years.<sup>14 17</sup> Children aged 2-4 years who received PACT showed greater improvement – compared to usual care – in social communication and reduction in what the research team described as repetitive restricted behaviour. After 6 months, parents reported improvements in social interaction, social communication, repetitive behaviours and restricted interests, and everyday language in the PACT group compared to usual care (again using the terms employed by the study authors). These improvements in outcomes were maintained after 6 years.<sup>17</sup>

### Economic evidence

It was concluded that PACT was not cost-effective at 13-month follow-up because of the high costs relative to usual support arrangements.<sup>18</sup> However, after 6 years, PACT was cost-saving from a societal perspective – once the impacts on family carers had

been taken into account – despite the initial difference in intervention costs compared with usual support.<sup>15</sup> At this long-term follow-up, PACT was associated with lower costs in terms of unpaid parental care and out-of-pocket expenses, translated into savings of £43,050 per person (at 2024 price levels).

## Implications

The cost-saving potential of PACT provides a compelling economic argument for adopting evidence-based early interventions for families with autistic children. PACT is considered a low-intensity service compared to other programmes, which could make it more affordable for the healthcare sector and cost-saving from a societal perspective.<sup>15</sup>

## Positive Parenting Programme

### Issue

Children with a developmental disability are three to four times more likely to experience distressed behaviour than their non-disabled peers, with estimates ranging from 10% to 45%.<sup>19, 20</sup> In England, around 41,500 children with a learning disability experience these behaviours.<sup>21</sup> The prevalence may be even higher among autistic children, with estimates between 56% and 94%.<sup>22</sup>

Studies indicate that providing specialised support for young autistic children can improve parents' ability to work and reduce productivity losses.<sup>15</sup> Our estimates show that reduced employment opportunities cost carers around £5,800 annually each, resulting in a productivity loss of around £560 million for parents of autistic children aged under 6 years (as reported by the Census data).

### Service model

Stepping Stones Positive Parenting Programme (or Triple P) (SSTP) is an adapted 9-week service for parents of children aged 2-8 years with developmental disabilities (including autism) and distressed behaviour.<sup>23</sup> It includes group and individual sessions with psycho-educational and behavioural components to improve parental confidence, skills and parent-child relationships. It also teaches positive child management strategies for everyday situations. The programme can be delivered by a range of practitioners who have completed an approved training programme.

### Effectiveness evidence

A recent UK RCT found that Stepping Stones Triple P did not significantly reduce distressed behaviour in children aged 30-59 months compared to standard treatment after 12 months, but it was effective for a subgroup of participants (50 out of 155) who engaged fully with the service (defined as attending four out of six groups and two out of three individual sessions).<sup>24</sup> Parents reported increased confidence and skills, benefiting most from face-to-face peer-support compared to online interactions.

## Economic evidence

Data from a 10-month study showed that Stepping Stones Triple P outperformed standard services, resulting in a mean cost saving of £1,058. There was a high probability (89%) that the programme would be seen as cost-effective by the criteria employed by the National Institute for Health and Care Excellence (NICE) when it considers what to recommend for use in the NHS and social care system.<sup>24</sup> In fact, the study did not measure the impacts on unpaid family care or employment, and so probably underestimated the true economic benefits of Stepping Stones Triple P.

## Implications

Stepping Stones Triple P can benefit children with distressed behaviour and parental confidence and skills, especially when delivered in a way that maximises engagement. It generates small savings in service costs and appears to be cost-effective by NICE criteria. The study team recommend further investigation of programme implementation and the best way to deliver it to achieve the best outcomes.

## Advocacy for parents with a learning disability

### Issue

In the UK today, around 1.5 million adults live with a learning disability.<sup>25</sup> How many of those people are parents is unknown, but a survey 20 years ago concluded that 1 in 15 adults with a learning disability had a child and around 60% of mothers with a learning disability did not have their children living with them.<sup>26</sup> More recently, it was estimated from the Oxford record linkage study that 0.9 out of every 1,000 births are to women with ‘intellectual disabilities’.<sup>27</sup>

Parents with a learning disability – including those who are also autistic – are over-represented in care proceedings, facing much higher risk of losing custody, and often struggle to navigate the complex legal processes.<sup>28</sup> Many avoid seeking help for fear of having their child removed.<sup>29</sup> Around 40% of parents with a learning disability lose custody due to concerns over their parenting abilities.<sup>30</sup> Children of parents with a learning disability were nearly three times more likely to be removed from their parents than to receive support at home.<sup>31</sup>

The economic impact of inadequate support for parents with a learning disability is unknown. However, based on the above evidence, the societal impact is likely to be substantial.

### Service model

Advocacy support can enable parents with a learning disability to participate successfully in safeguarding processes. On average, advocacy support lasted around 9 months, involved 95 hours of client-related work, and cost £3,040 (2010 prices).<sup>32</sup>



## Effectiveness

Advocacy is essential in prevention and early intervention in safeguarding processes. For parents with a learning disability, advocacy services are invaluable, providing crucial support that helps them navigate complex issues and understand their rights and choices.<sup>32</sup>

## Economic evidence

A small study, comprising 17 case studies across four advocacy services, demonstrated that advocacy services can lead to savings by reducing the need for safeguarding measures, care proceedings and provision.<sup>32</sup> Advocacy resulted in potential savings of £720 just for children's social services alone, with a return on investment of 1.2 for child safeguarding activities. Access to early intervention services (such as parenting programmes, debt advice, counselling, support for alcohol problems and victim support) could yield greater long-term net benefits (equivalent to a return on investment of 2.0). In addition, estimated improvements in quality of life and earnings strengthened the economic case even further (return on investment of 2.4).<sup>32</sup>

## Implications

Investing in advocacy for parents with a learning disability who are at risk of losing their children to care offers economic benefits. The costs of advocacy support could be recovered in the short to medium term, resulting in positive returns from a public sector perspective. Furthermore, improvements in quality of life and employment opportunities – which would be highly valued by these parents – would generate additional returns. Although valid, these findings come from a small study conducted a decade ago; evaluating advocacy support with a larger sample and over a longer period of time should be the next step.

## Mental health support teams in schools

### Issue

Research estimates that between 70% and 95% of autistic children have at least one mental health condition, and between 41% and 60% have two or more.<sup>33, 34</sup> (Estimates can vary between studies depending on how samples are recruited and how mental health is assessed.) Common diagnoses include anxiety (between 29% and 39%),<sup>35</sup> ADHD (28%), and oppositional defiant disorder (28%).<sup>34</sup> The higher incidence of mental health issues amongst autistic children compared to the general population, and lack of effective support, means that costs are higher than they need to be.

A survey found that 81% of young autistic people reported mental health issues; 90% sought help from healthcare professionals and almost 70% from education professionals, but few found this support helpful (23% and 14%, respectively).<sup>36</sup> Many autistic children face arbitrary barriers; for example, their mental health problems can be mistaken for autistic traits and dismissed as untreatable, or they are refused support by Child and Adolescent Mental Health Services (CAMHS) due to lack of expertise or funding, leaving many without professional mental health support.<sup>36, 37</sup>

Children with ‘emotional disorders’ generate higher costs for NHS, social care and special education services of £1,734 per person annually (2024 price levels).<sup>38, 39</sup> In addition, young adults (16-25 years old) who had experienced mental health problems 18 months earlier were 11% more likely to be not in employment, education or training, resulting in further societal costs of £5,815 per person annually.<sup>38</sup>

### Service model

Mental health support teams in schools (MHSTs) provide evidence-based support for school students with mild-to-moderate mental health issues. They are delivered by education mental health practitioners supervised by NHS staff. These practitioners provide early support for children and young people aged 5 to 18 with emerging mental health needs, for example through cognitive therapy-based interventions. They also support schools and colleges with ‘whole organisation’ approaches to mental health and wellbeing. By 2023, 398 MHSTs were operational, covering 6,800 schools and colleges (35% of pupils and learners).<sup>40</sup>

### Effectiveness evidence

Outcomes data from over 12,500 children and young people supported by MHSTs show comparable or better results than those from randomised trials for similar conditions.<sup>41</sup> For example, a recovery rate of 59% was reported for anxiety disorders, and 49% for depression.<sup>41</sup>

Mental health therapies can also benefit autistic children but may require adaptation to suit their needs.<sup>42, 43, 44</sup> When cognitive behavioural therapy (CBT) was adapted for autistic children, it was effective in the long-term, although the gains may be slightly less than those seen in neurotypical children.<sup>45, 46</sup>

### Economic evidence

Over ten years, the cost saving for individuals treated for anxiety was estimated at £2,069 per person, and for those treated for depression the saving was £317 within two years.<sup>38</sup> For the average young person receiving care from MHSTs, cumulative savings would exceed treatment costs within just two years. Even when excluding all cost savings, the benefit-to-cost ratio was 22.<sup>39</sup>

### Implications

Implementing MHSTs across the UK would provide significant public benefits. It would also be cost-saving, with government savings exceeding the initial investment within 2 years.<sup>39</sup> Although the available economic evidence on MHSTs is not specific to autistic children or adolescents, evidence from studies of the interventions delivered by these teams implies that the outcomes and economic consequences would be similar. Given the above-average prevalence of mental health problems experienced by autistic children, MHSTs in schools could be important in health, wellbeing and economic terms.

## Anti-bullying programme in schools

### Issue

Persistent bullying and victimisation have profound and lasting impacts on mental health at all ages. Children and adolescents subjected to frequent bullying are over 2.5 times more likely to use mental health services than other young people<sup>47</sup> and experience ongoing issues long into adulthood, including depression, anxiety, self-harm, suicidality and poorer cognitive health.<sup>48</sup> The effects extend into poor social and economic outcomes, lasting decades beyond the bullying.<sup>49</sup>

Autistic children and adolescents are more likely to be bullied than their peers without special educational needs and disabilities (SEND), with estimates ranging from 40% to 94%.<sup>50</sup> Telling adults can make the bullying experience worse, leading to more than half of those affected to avoid school as a coping strategy,<sup>51</sup> with likely impacts on educational attainment.

Among the general population, individuals bullied in childhood are more likely to be unemployed or economically inactive in adulthood due to sickness or disability compared to people who were never bullied.<sup>49</sup> Frequent bullying in childhood is associated with lower adulthood earnings, reduced property ownership and lower savings almost 40 years later. The economic impact of childhood bullying has been estimated at £428 per person annually, costing society £28 million annually.<sup>49</sup>

### Service model

KiVa is an evidence-based anti-bullying programme developed in Finland for children aged 7 to 16 years.<sup>52</sup> It includes a whole-school programme to prevent bullying, as well as targeted strategies to intervene when bullying is identified. KiVa has been adopted in numerous countries and in over 90% of schools in Finland.

### Effectiveness evidence

KiVa has been found to reduce victimisation and bullying in mainstream schools in Finland, Italy, Netherlands and the UK,<sup>52, 53, 54, 55</sup> although with mixed results in Wales.<sup>56</sup> A large study in Finland with over 150,000 students found that those not participating in KiVa were 22% more likely to be victims and 18% more likely to be perpetrators of bullying in the first 9 months.<sup>52</sup> In the Netherlands, the odds of being a victim of bullying were 1.29 to 1.63 higher for students in schools that did not introduce KiVa, while the odds of being a bully were 1.19 to 1.66 higher when compared to schools that introduced the service.<sup>54</sup>

### Economic evidence

In the Netherlands, investment in KiVa yielded a return on investment between €4.04 to €6.72 per euro spent.<sup>57</sup> In Sweden, implementing KiVa cost €829 per student but provided an additional 0.47 victim-free years. Cost per quality-adjusted life-year (a generic outcome measure) was well below the threshold used in Sweden to recommend services and treatments nationally.<sup>58</sup>

An economic model of implementing KiVa in the UK estimated a potential short-term return on investment of £1.58 for every £1 invested. When factoring in lost adult earnings and mental health service use up to age 50, the longer-term return on investment was as high as £7.52.<sup>59</sup>

## Implications

Both observational and modelling studies from various countries indicate that KiVa is cost-effective, generating economic benefits considerably greater than the cost of delivery, due to its success in reducing lifelong consequences of bullying on both victims and perpetrators.<sup>60</sup> Autistic children are at a much higher risk of being bullied in schools compared to their non-autistic peers, and so implementing KiVa as a whole-school programme could have significant personal and economic benefits.

## Individual Placement and Support (IPS) for employment

### Issue

In the UK, only around 30% of autistic adults are employed, compared with 54% of all people with disabilities and 82% of non-disabled people,<sup>61</sup> despite 77% wanting to be employed.<sup>62</sup> Research shows that supported employment programmes can help autistic people secure and sustain paid employment in regular work environments, contributing to their quality of life and mental health.<sup>63</sup> These programmes offer a potentially cost-effective solution that benefits both individuals and society.<sup>64</sup>

### Service model

Individual Placement and Support (IPS) is an evidence-based model designed to help individuals with disabilities to secure and retain paid employment.<sup>65</sup> By combining job search assistance with integrated mental health and employment services, IPS offers personalised support tailored to each individual. Originally developed for adults with mental health problems, IPS has since been successfully adapted for various populations.<sup>66</sup>

### Effectiveness

There is strong evidence supporting the effectiveness and cost-effectiveness of IPS in helping people with mental health issues to move into open employment,<sup>67,68</sup> with promising results for autistic adults.<sup>69</sup>

An 8-year follow-up study of the National Autistic Society (NAS) Prospects showed that 68% of adults found and retained employment, a majority with permanent contracts.<sup>70</sup> These individuals not only earned higher salaries and paid more taxes but also claimed fewer welfare payments compared to their situation before the service. Satisfaction with the support was high among autistic people who used the service, employers and support workers.<sup>71</sup>

In a small study of five young autistic adults without a learning disability after one year of IPS, participants had secured employment in their chosen fields, increased their independence, pay and work hours. They reported more social opportunities, while their parents noted greater autonomy and reduced psychiatric symptoms. Their employers valued their contributions.<sup>69</sup>

## Economic evidence

The NAS Prospects supported employment delivered better outcomes compared to standard arrangements, including more weeks of employment and quality-of-life years. However, it was more expensive than standard care, costing an additional £25 per week of employment or £7,840 per quality-adjusted life year (QALY) (at 2024 price levels). Secondary analyses indicated potential cost-savings, with better outcomes at a lower total cost.<sup>72</sup>

An extension to that study found that productivity nearly doubled with supported employment compared to standard arrangements, which further strengthened the economic case for the IPS approach.<sup>73</sup>

## Implications

Supported employment for autistic adults in the UK is a cost-effective service that creates economic benefits for health and social care, with the potential for broader cost savings and productivity gains. Although initial costs are higher than standard arrangements, they decrease over time and provide significant benefits in terms of social integration and wellbeing.<sup>68, 72-74</sup>

Recent analyses by Pro Bono Economics suggest that each previously unemployed autistic adult (receiving state benefits) who moves into employment would be £9,200 better off each year (at 2021 price levels), whilst the government and taxpayers would also benefit, leading to total societal benefits of £15,400 per person per year.<sup>75</sup> Doubling the employment rate of autistic individuals from the current 30% could bring 100,000 more people into the workforce, generating societal benefits of between £900 million and £1.5 billion annually, representing a transformative shift for both individuals and the national economy.

## Specialist autism teams

### Issue

Autistic adults without a learning disability experience poorer outcomes in various aspects of life, for example, in life expectancy, mental health and employment, compared to the general population, yet they face difficulties accessing services, which results in significant unmet needs.<sup>76</sup> For example, in a survey of 109 young autistic people, 81% reported mental health issues, 90% sought help from healthcare professionals, but only 23% found support effective.<sup>36</sup>

The lack of adequate support for autistic people without a learning disability has substantial economic, as well as social and individual implications. Indeed, without long-term, holistic support, costs increase for both individuals and society.<sup>77</sup> In response, the Autism Act 2009<sup>78</sup> and NICE guidance 2012<sup>79</sup> called for ‘specialist autism teams’ to improve care and support for autistic individuals.

### Service model

Specialist autism teams are multi-disciplinary, community-based teams designed to develop, coordinate, and deliver comprehensive care and support for autistic individuals, addressing their needs more effectively.

### Effectiveness

The first study of the implementation of this model identified 18 specialist teams for autistic adults without a learning disability. Specialist teams resulted in improved mental health and daily life management sustained after one year.<sup>80</sup> Services which employed a wider range of professions – and a broader skill mix more generally – achieved better outcomes, and various integrated health and social care structures were effective. Extended post-diagnosis psychotherapeutic and educational support was argued to be key to the success of these teams.<sup>80</sup>

### Economic evidence

Although some of the improvements came at higher costs, one-to-one support by specialist teams for the mental health needs of autistic people was cost-effective. Also, an episodic approach to delivering care plans (where specific services or therapies are offered as they become available to those on waiting lists) was more cost-effective than managed care,<sup>80</sup> with lower costs, but similar gains in health-related quality of life.

An earlier modelling study estimated that there is over an 80% chance that providing a specialist service for autistic adults will be cost-saving, and this probability could be higher if the rate of identification of autism was higher.<sup>77</sup>

### Implications

The first evaluation of specialist autism teams showed that, with adequate resourcing, this model can deliver positive outcomes for autistic adults. Effectiveness depends in part on the organisational structure integrating health and social care and is linked to the inclusion of autism-specific expertise, targeted interventions and extended post-diagnosis support. Evidence from a National Audit Office study<sup>77</sup> is now quite old, with service arrangements and contexts having changed in the interim, but the simulation modelling suggested substantial benefits to the public purse if specialist services could increase identification rates.

## Innovative pathway for eating disorders and autism

### Issue

BEAT, the eating disorders charity, estimates that 1.25 million people in the UK have an eating disorder.<sup>81</sup> Between 20% and 37% of patients with anorexia nervosa have diagnosed or suspected autism.<sup>82</sup> Autistic people with eating disorders experience worse outcomes, including longer hospital stays, higher levels of depression and anxiety, and lower levels of work and social communication, compared to non-autistic people with eating disorders.<sup>83</sup> These disparities highlight the need for tailored support for autistic individuals with eating disorders.

In 2022-23, there were 14,416 hospital admissions involving a diagnosis of anorexia nervosa in England,<sup>84</sup> with an estimate of between 2,880 and 5,330 involving autistic individuals. The average cost of a specialist bed day for people with eating disorders is £775 per day at 2024 prices,<sup>85</sup> although Tchanturia et al report that actual hospital admission costs are higher for autistic people.<sup>86</sup>

### Service response

An innovative Pathway for Eating disorders and Autism developed from Clinical Experience (PEACE) was co-produced with both service users and clinicians.<sup>86</sup> This pathway includes autism-focused training for the multi-disciplinary health care team, an autism-friendly ward environment with tailored materials, and wellbeing groups for both autistic patients and the healthcare team.

### Effectiveness

The implementation of the innovative pathway led to shorter hospital stays and lower admission costs compared to the situation before these treatment innovations were introduced.

### Economic evidence

After implementing PEACE, average admission cost for autistic people with eating disorders was £15,000 lower (£61,070 per person; 2024 price levels) than for non-autistic individuals (£78,878 per person). This resulted in savings of about £22,837 per autistic person, and around £275,000 annually for the service (around £350,000 at 2024 price levels), based on an average of 12 annual admissions.<sup>86</sup>

### Implications

Modest investment in staff training, combined with adapting treatments and wards to meet the needs of autistic people with eating disorders, can reduce hospital stays and lead to substantial NHS savings. Further evaluation to measure clinical and quality of life outcomes would be helpful.



## Mindfulness-based therapy

### Issue

An estimated 40% to 50% of autistic people experience anxiety,<sup>87</sup> and they are four times more likely to have depression compared to the general population.<sup>88</sup> Furthermore, 50% to 70% of autistic adults have both anxiety and depression, which is associated with higher rates of suicide, social withdrawal and other issues.<sup>89</sup> (As noted earlier, estimates can vary between studies because of different sampling strategies and assessment methods.) Despite this higher susceptibility to stress, anxiety and depression than the general population, autistic adults are far less likely to receive mental health treatment.<sup>90</sup>

There is no evidence on the economic implications of depression and anxiety specifically for autistic people. However, a meta-analysis showed significantly higher costs for these conditions than in the general population.<sup>91</sup> Total direct healthcare costs for people with depression were 179% higher in adolescents, 158% higher in adults and 73% higher in older adults compared to costs for people without depression. Total indirect costs (productivity losses) were 128% higher in adults with depression.

### Service model

Mindfulness-based therapies (MBTs) focus on teaching meditation techniques that encourage acceptance of thoughts and feelings by shifting attention to the present moment, aiming to improve emotional regulation and self-awareness.<sup>92</sup> Mindfulness programmes are usually delivered weekly for 1.5 to 2.5 hours, over 9 to 12 weeks. For example, mindfulness-based stress reduction (MBSR) is an 8-week course with 2.5-hour weekly sessions and one all-day retreat, with 45 minutes of daily home practice.<sup>93</sup> The growing availability of apps and online tools makes mindfulness more accessible and convenient.

### Effectiveness

Systematic reviews of the international evidence show that mindfulness therapy effectively improves various outcomes for autistic individuals, including anxiety, depression, emotional regulation, rumination and autism-related disability, as well as quality of life, positive affect and psychological wellbeing.<sup>94, 95, 96, 97</sup>

A meta-analysis of ten studies showed that mindfulness improved subjective wellbeing in autistic children, adults, and their carers, an effect that was maintained after 3 months.<sup>96</sup> It also reduced stress and increased psychological wellbeing in parents of autistic children, while reducing distressed behaviour in children.<sup>98</sup>

Emerging evidence shows that online mindfulness therapy reduces anxiety in autistic adults, with benefits maintained after 3 and 6 months.<sup>99</sup>

## Economic evidence

A systematic review of 28 economic evaluations of mindfulness-based therapies in participants with various health conditions (including depression) and carers<sup>100</sup> found that these services were generally cost-effective or even cost-saving compared to other treatments, at least in the short term (up to 5 years after treatment). Standardised protocols of MBSR and mindfulness-based cognitive therapy (MBCT) consistently show cost-effectiveness across diverse population groups, although there is no evidence specifically for autistic people. Notably, MBCT for depression was both cost-effective<sup>101, 102</sup> and cost-saving.<sup>103</sup> However, a later study of MBCT with support to taper or discontinue antidepressant treatment among people with three or more major depressive episodes found no evidence of either greater effectiveness or cost-effectiveness compared to medication.<sup>104</sup>

## Implications

Mindfulness training is an effective, low-cost and scalable therapy for autistic people experiencing anxiety or depression. Standardised protocols such as MBSR and MBCT achieve better outcomes and cost-effectiveness than usual care. In addition, online MBIs may be a cost-effective treatment option for some autistic adults.

## Health checks

### Issue

Autistic individuals face higher risks of poor health outcomes and earlier death from a range of physical, mental and neurological conditions.<sup>105, 106, 107</sup> Compared to non-autistic people, life expectancy is reduced by 7.3 years for autistic men and by 14.6 years for autistic women with a learning disability.<sup>108</sup> Also, the risk of death by suicide has been estimated to be 7.6 times higher for autistic individuals than in the general population.<sup>109</sup> Despite this, autistic adults continue to receive lower quality healthcare than non-autistic adults,<sup>110</sup> and often encounter barriers to accessing services and difficulties interacting with healthcare providers; around 4% are completely excluded from healthcare.<sup>111</sup>

In 2022-23, 79.8% of registered people with a learning disability had a health check, a statistically significant increase from 71.8% in 2021-22,<sup>112</sup> but the number of autistic people who could benefit from health checks is unknown.

Health checks are associated with increased healthcare costs due to higher resource use and referrals, but they also reduce unplanned healthcare use. Individuals with a learning disability who did not receive health checks had more unplanned hospital admissions (0.06 difference) and outpatient contacts (0.59 difference)<sup>113</sup> whereas annual health checks reduced preventable emergency admissions.<sup>114</sup>

## Service model

The aim of annual health checks for autistic people is to review their conditions and medications, identify and address unmet health needs, and improve coordination with specialist care. They are conducted by a doctor or nurse at a person's GP practice. Health checks can help overcome healthcare access barriers and improve the disproportionately poor health outcomes of people with a learning disability.<sup>115</sup>

## Effectiveness evidence

A systematic review of available evidence showed that health checks for people with a learning disability result in a significantly greater number of health needs being addressed compared to standard care. They also increase healthcare professionals' awareness of the health needs of people with a learning disability and gaps in services.<sup>115, 116</sup> Health checks have been linked with better health outcomes, including a reduced risk of early death for people with a learning disability and autistic people with a learning disability.<sup>117, 118</sup> A study of medical records in Wales showed that autistic individuals who received health checks had a significantly higher chance of living longer.<sup>117</sup> In addition, timely treatment can reduce distressed behaviours, improve quality of life, and prevent costly treatments later.<sup>119</sup> However, effective implementation of health checks depends on overcoming barriers such as insufficient GP experience and training in supporting patients with a learning disability, time constraints, patient mistrust, limited support, and collaboration across the healthcare system.<sup>120</sup>

## Economic evidence

A study in Scotland showed that health checks were more effective in terms of gains in health-related quality of life, did not increase healthcare costs, and would be seen as cost-effective by conventional criteria.<sup>121</sup>

In Australia, the costs for adults with a learning disability receiving health checks were similar to those receiving usual care over a 12-month period, with no significant increase in costs compared to the pre-health check period.<sup>122</sup>

## Implications

Health checks are cheap and affordable, have the potential to reduce future costs through early diagnosis and treatment, and improve quality of life for autistic individuals. However, for health checks to be effective, the way they are planned and provided must be tailored to meet the specific needs of the autistic population.<sup>120</sup>

## 4. Conclusions

There are many system-level barriers that autistic individuals face across various life domains, particularly in education, employment, health care and social care. These barriers include long waiting times for assessment and diagnosis, poor educational experiences and outcomes, significant inequities in employment, inappropriate accommodation settings and restricted access to health and social care services. These challenges arise for many reasons, including limited and uncoordinated accountability for autistic people's outcomes, insufficient funding for support and limited understanding of autism, contributing to an unsupportive culture within services and across society. As a result, autistic people experience low employment rates, disproportionately high levels of mental illness and poor physical health, and limited access to effective treatment and support in the health and social care sectors.

In this study, we sought to identify, appraise and summarise evidence on the economic case for services, therapies and support for autistic individuals and their families that address some of these barriers, and highlight the implications for national policy and spending decisions. From our review of UK and international research and our consultations with individuals and organisations, we identified ten effective and economically beneficial service models that are or could be implemented in the UK (see Figure 3).

These services have the potential to address many of the needs of people in the autistic community, including those with and without a learning disability. The economic evidence that we found indicates that early, targeted services and support arrangements – whether early in life or as soon as an individual's needs arise – can deliver significant benefits for individuals, families and society whilst being attractive from an economic perspective.

Evidence from economic studies reinforces the case for services such as PACT, IPS, positive parenting, mindfulness-based therapy and health checks, and there is a pressing need to scale up these services to achieve a broader impact. There are also some service models for people with a learning disability or for the general population that are effective and cost-effective in addressing issues commonly experienced by autistic people (such as mental illness and bullying); commissioning research to examine the impacts specifically for autistic people could provide evidence for scaling them up too. There are other service models where the effectiveness and economic evidence is supportive, but where further research could further strengthen the case for scaling up. Overall, early and timely interventions can offer substantial benefits for individuals, families and society.

**Figure 3: Summary of evidence on identified services**

Service	Population	Effectiveness	Economic case	Action now
Paediatric autism communication therapy	Autistic	Yes - strongly	Cost-effective	Scale up now
Positive parenting (Stepping Stones)	Learning disability, autistic	Yes - for subgroup	Cost-effective	Scale up, but also explore implementation and delivery models
Advocacy for parents	Learning disability	Yes - qualitative	Cost-saving	Evaluate in a larger sample
Mental health support teams in schools	General population	Yes - quite strong	Cost-saving	Evaluate impacts specifically for autistic students
Anti-bullying programme in schools	General population	Yes - strongly	Cost-saving	Evaluate impacts specifically for autistic students
Individual placement and support for employment	Autistic	Yes - strongly	Cost-saving	Scale up now
Specialist autism teams	Autistic	Yes - some	Potentially cost-saving	Evaluate developments in team approaches
Innovative pathway for eating disorders	Autistic	Probably	Cost-saving	Further evaluate clinical and quality of life outcomes
Mindfulness-based therapy	Autistic	Yes - strongly	Cost-effective	Scale up now
Health checks	Learning disability	Yes - strongly	Cost-effective	Address barriers to effective health checks

**Learning disability:** a significantly reduced ability to understand new or complex information, to learn new skills (impaired intelligence), with a reduced ability to cope independently (impaired social functioning), which started before adulthood (Department of Health and Social Care).

**Cost-effective services:** provide benefits substantial enough to justify the costs.

**Cost-saving services:** reduce overall healthcare expenditures without negative impacts on the quality of care.

However, most of these services are not widely available across the country, denying autistic individuals the opportunity for help in schools, in the labour market, in addressing mental health issues and in accessing help for other health and social care needs. Scaling up these services would improve the lives of autistic people while making more efficient use of scarce public and private resources.

Moreover, those ten services – even though they are delivered across a range of settings, including early years provision, schools, workplaces and the health and social care sectors – do not come close to addressing the full span of needs and challenges faced by autistic individuals in the UK today. They address only a subset of the needs and preferences of autistic individuals and their families. There are major gaps in the available economic evidence, especially around autism-specific services in education, mental health and social care, and around diagnosis. However, the absence of economic evidence does not suggest a lack of need; rather, it calls for government action to address these critical gaps.

The evidence we have summarised in this report is helpful for decision making but it is not perfect. Most studies are quite short in duration and do not measure longer-term outcomes or costs. It is probable that most are under-estimating the true personal, familial and economic benefits, since recognising and addressing needs will often prevent crises and reduce long-term costs across multiple sectors. Some studies only measure savings in service-related costs and miss the economic impacts on families and the potential for productivity improvements: again, this is likely to mean that the available findings underplay the benefits to the wider economy. This probable underestimation of economic benefits further strengthens the case for government to take charge of the autism research agenda, address existing gaps, and improve the evidence base. For some services, the available evidence was either mixed or modest. For example, advocacy services for parents with a learning disability appear to be both effective and cost-saving, but the evidence comes from a small sample.

Another need for further evaluation is to understand how well general population services can be adapted and implemented for autistic people. Some of the services and support arrangements we described earlier have only been evaluated for the general population even though they address needs or experiences that are more prevalent in the autistic community (such as anxiety and bullying and victimisation). We included these service models because our interpretation of the evidence (supported by consultations) is that the broad findings are valid for autistic people, but focussed evaluation would obviously help to identify resource priorities.

There is an urgent need to expand both the quantity and quality of evidence to inform strategic decision-making and resource allocation, building a foundation for more inclusive, supportive and equitable systems, benefiting both individuals and society. Although strong evidence supports some service models, substantial gaps remain, which highlight the need for public investment in rigorous, focussed research. This research must be shaped by the voices and insights of autistic people and their families.

Prioritising autism in policy is not only a social and moral responsibility, but also a strategic economic opportunity. Supporting autistic individuals with evidence-based service models can improve their lives and those of their families. We have shown that there are many service models which will also lead to significant economic benefits. Efforts are needed to deliver support in a coordinated, integrated, system-level programme designed to improve outcomes for autistic people across all life domains.

## 5. Recommendations

From the effectiveness and economic evidence summarised, we recommend that government should:

- use the National Autism Strategy to prioritise autism in policy and funding decisions, to address the evidence gaps through targeted investment, and to embed autism priorities into broader reforms, including Special Educational Needs and Disabilities (SEND) and adult social care;
- invest in coordinated, evidence-based services that improve lives and deliver both short-term and longer-term economic benefits;
- work with autistic individuals and their families to ensure that their experiences and insights shape research, policy and service development;
- scale up effective and cost-effective services, such as paediatric autism communication therapy (PACT), positive parenting, individual placement and support (IPS) for employment and mindfulness-based therapy for anxiety or depression, to better support autistic individuals across the life-course;
- explore ways in which specialist autism teams can help coordinate and deliver responses to the needs and preferences of autistic people;
- ensure that healthcare staff are appropriately trained and service arrangements appropriately adapted to deliver effective health checks for autistic people, helping to counter their lower life expectancy;
- adapt services that are effective and cost-effective in the general population, such as mental health support and anti-bullying programmes in schools, and evaluate their impacts specifically for autistic individuals;
- invest in research to address gaps in existing evidence, including evidence for autism-specific services, focusing on both short- and long-term outcomes and the full breadth of potential economic benefits.

By implementing these recommendations, the government can reduce the systemic barriers faced by autistic individuals and improve their quality of life. Building a more inclusive and effective support system across education, employment, healthcare, social care and other sectors would undoubtedly generate significant economic benefits and provide a more cost-effective use of public funds.



## References

- 1 National Autistic Society. *What is autism?* <https://www.autism.org.uk/advice-and-guidance/what-is-autism> [Accessed 1 November 2024]
- 2 Lever AG, Geurts HM (2016) Psychiatric Co-occurring Symptoms and Disorders in Young, Middle-Aged, and Older Adults with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*, 46(6): 1916-1930. 10.1007/s10803-016-2722-8.
- 3 National Autistic Society (2023) *Education Report 2023*. <https://www.autism.org.uk/what-we-do/news/education-report-2023> [Accessed 12 November 2024]
- 4 Mayes SD (2013) Suicide ideation and attempts in children with autism. *Research in Autism Spectrum Disorders*, 7 (1): 109-119. 10.1016/j.rasd.2012.07.009.
- 5 Department for Work & Pensions (2023). *Official Statistics: Employment of disabled people 2023*. [gov.uk/government/statistics/the-employment-of-disabled-people-2023/employment-of-disabled-people-2023](https://gov.uk/government/statistics/the-employment-of-disabled-people-2023/employment-of-disabled-people-2023) [Accessed 1 November 2024]
- 6 Autism Alliance (2023) *Breaking Point: Closing the gap in care and support for autistic adults in England*. <https://static1.squarespace.com/static/63776e015de0f42168d2a2a6/t/655c95cd99e36e5710b6eb60/1700566484470/Breaking+Point+Campaign+Report+%28Autism+Alliance%2C+November+2023%29.pdf> [Accessed 12 November 2024]
- 7 NHS England (2024) *Learning Disability Services Statistics Monthly Statistics*, AT: September 2024, MHSDS: August 2024 <https://digital.nhs.uk/data-and-information/publications/statistical/learning-disability-services-statistics/at-september-2024-mhds-august-2024> [Accessed 30 October 2024]
- 8 BBC News (2012) *Timeline: Winterbourne View abuse scandal*. [bbc.co.uk/news/uk-england-bristol-20078999](https://bbc.co.uk/news/uk-england-bristol-20078999) [Accessed 12 November 2024]
- 9 BBC News (2024) *Pupils mocked and put in headlocks by school staff*. [bbc.co.uk/news/articles/cp6643jd8nwo](https://bbc.co.uk/news/articles/cp6643jd8nwo) [Accessed 12 November 2024]
- 10 Keating CT, Hickman L, Geelhand P et al (2021) Global perspectives on autism acceptance, camouflaging behaviours and mental health in autism spectrum disorder: A registered report protocol. *PLoS One*, 30;16(12): e0261774. 10.1371/journal.pone.0261774.
- 11 Autistica (2022) *Awareness isn't enough: understanding is critical to acceptance*. [autistica.org.uk/news/attitudes-index-news](https://autistica.org.uk/news/attitudes-index-news) [Accessed 12 November 2024]
- 12 Sky News (2014) *Three out of four parents of children with special educational needs and disabilities forced to give up work or cut hours*. 7 September 2024. <https://news.sky.com/story/amp/three-out-of-four-parents-of-children-with-special-educational-needs-and-disabilities-forced-to-give-up-work-or-cut-hours-sky-news-learns-13210125> [Accessed 12 November 2024]
- 13 Buescher AVS, Cidav Z, Knapp M, Mandell DS (2014) Costs of autism spectrum disorders in the United Kingdom and the United States. *JAMA Pediatrics*, 168(8): 721. 10.1001/jamapediatrics.2014.210.
- 14 Sandbank M, Bottema-Beutel K, Crowley LaPoint S et al (2023) Autism intervention meta-analysis of early childhood studies (Project AIM): updated systematic review and secondary analysis. *British Medical Journal*, 383: e076733. 10.1136/bmj-2023-076733.
- 15 Tinelli M, Roddy A, Knapp M, et al (2023) Economic analysis of early intervention for autistic children: findings from four case studies in England, Ireland, Italy, and Spain. *European Psychiatry*, 66(1): e76. 10.1192/j.eurpsy.2023.2449.
- 16 Green J, Charman T, McConachie H et al PACT Consortium (2010) Parent-mediated communication-focused treatment in children with autism (PACT): a randomised controlled trial. *Lancet*, 19;375(9732):2152-2160. 10.1016/S0140-6736(10)60587-9
- 17 Pickles A, Le Couteur A, Leadbitter K et al (2016) Parent-mediated social communication therapy for young children with autism (PACT): long-term follow-up of a randomised controlled trial. *Lancet*, 19;388(10059): 2501-2509. 10.1016/S0140-6736(16)31229-6.
- 18 Byford S, Cary M, Barrett B et al PACT Consortium (2015) Cost-effectiveness analysis of a communication-focused therapy for pre-school children with autism: results from a randomised controlled trial. *BMC Psychiatry*, 15: 1-13. 10.1186/s12888-015-0700-x

- 19 de Ruiter KP, Dekker MC, Verhulst FC, Koot HM (2007) Developmental course of psychopathology in youths with and without intellectual disabilities. *Journal of Child Psychology and Psychiatry*, 48(5): 498-507. 10.1111/j.1469-7610.2006.01712.
- 20 McClintock K, Hall S, Oliver C (2003) Risk markers associated with challenging behaviours in people with intellectual disabilities: a meta-analytic study. *Journal of Intellectual Disability Research*, 47(6): 405-416. 10.1046/j.1365-2788.2003.00517.x
- 21 Emerson E, Hastings RP, McGill P et al (2014) *Estimating the number of children in England with learning disabilities and whose behaviours challenge*. Working paper. Challenging Behaviour Foundation. [https://kar.kent.ac.uk/50030/1/CBF\\_numbers.pdf](https://kar.kent.ac.uk/50030/1/CBF_numbers.pdf) [Accessed 13 October 2024]
- 22 Rattaz C, Michelon C, Munir K, Baghdadli A (2018) Challenging behaviours at early adulthood in autism spectrum disorders: topography, risk factors and evolution. *Journal of Intellectual Disability Research*, 62(7): 637-649. 10.1111/jir.12503
- 23 Triple P Positive Parenting Programme. *Triple P in a nutshell*. <https://www.triplep.uk.net/uk/en/home/> [Accessed 1 November 2024]
- 24 Ondruskova T, Royston R, Absoud M et al (2024) Clinical and cost-effectiveness of an adapted intervention for preschoolers with moderate to severe intellectual disabilities displaying behaviours that challenge: the EPICC-ID RCT. *Health Technology Assessment* 28(6). 10.3310/JKTY6144
- 25 MENCAP. *How common is learning disability in the UK?* <https://www.mencap.org.uk/learning-disability-explained/research-and-statistics/how-common-learning-disability> [Accessed 23 October 2024]
- 26 Emerson E, Malam S, Davies I, Spencer K (2005) *Adults with learning difficulties in England 2003/4*. <https://eprints.lancs.ac.uk/id/eprint/3310/> [Accessed 15 September 2024]
- 27 Goldacre AD, Gray R, Goldacre MJ (2015) Childbirth in women with intellectual disability: characteristics of their pregnancies and outcomes in an archived epidemiological dataset. *Journal of Intellectual Disability Research*, 59(7): 653-663. 10.1111/jir.12169
- 28 Wilson S, McKenzie K, Quayle E, Murray G (2014) A systematic review of interventions to promote social support and parenting skills in parents with an intellectual disability. *Child: Care, Health and Development*, 40(1): 7-19. 10.1111/cch.12023
- 29 Burch K, Simpson A, Taylor V et al (2024). *Babies in care proceedings: What do we know about parents with learning disabilities or difficulties?* Nuffield Family Justice Observatory. <https://www.nuffieldfjo.org.uk/resource/babies-in-care-proceedings-what-do-we-know-about-parents-with-learning-disabilities-or-difficulties> [Accessed 15 September 2024]
- 30 Working Together with Parents Network (2021) *Good practice guidance on working with parents with a learning disability*. Norah Fry Centre for Disability Studies, School for Policy Studies, University of Bristol. <https://www.anncrafttrust.org/wp-content/uploads/2021/08/FINAL-2021-WTPN-UPDATE-OF-THE-GPG.pdf> [Accessed 15 September 2024]
- 31 Hodges H, Bristow D (2019) *Analysis of the factors contributing to the high rates of care in Wales*. The Wales Centre for Public Policy. <https://www.wcpp.org.uk/wp-content/uploads/2019/05/190715-Analysis-of-Factors-Contributing-to-High-Rates-of-Care-REVISED.pdf> [Accessed 5 September 2024]
- 32 Bauer A, Wistow G, Dixon J et al (2014) Investing in advocacy for parents with learning disabilities: What is the economic argument? *British Journal of Learning Disability*, 43: 66-74. 10.1111/bld.12089
- 33 Mosner MG, Kinard JL, Shah JS et al (2019) Rates of co-occurring psychiatric disorders in autism spectrum disorder using the Mini International Neuropsychiatric Interview. *Journal of Autism and Developmental Disorders*, 49(9): 3819-3832. 10.1007/s10803-019-04090-1
- 34 Simonoff E, Pickles A, Charman T et al (2008) Psychiatric disorders in children with autism spectrum disorders: prevalence, comorbidity, and associated factors in a population-derived sample. *Journal of the American Academy of Child & Adolescent Psychiatry*, 47(8): 921-929. 10.1097/CHI.0b013e318179964f
- 35 van Steensel FJ, Bögels SM, Perrin S (2011) Anxiety disorders in children and adolescents with autistic spectrum disorders: a meta-analysis. *Clinical Child and Family Psychology Review*, 14(3): 302-317. 10.1007/s10567-011-0097-0
- 36 Crane L, Adams F, Harpe G et al (2019) 'Something needs to change': Mental health experiences of

young autistic adults in England. *Autism*, 23(2): 477-493. 10.1177/1362361318757048

- 37 Autistica (2019) *Building Happier Healthier Longer Lives*. The Autistica Action Briefings: Children and Young People's Mental Health. <https://www.autistica.org.uk/downloads/files/Building-Happier-Healthier-Longer-Lives-The-Autistica-Action-Briefings-2019.pdf> [Accessed 1 November 2024]
- 38 MacLennan S (2024) *Mental health support teams in schools: Evidence and assumptions*. LSE Centre for Economic Performance. <https://cep.lse.ac.uk/pubs/download/occasional/op063.pdf> [Accessed 1 November 2024]
- 39 Frayman D, Krekel C, Layard R et al (2024) *Value for money: How to improve wellbeing and reduce misery*. LSE Centre for Economic Performance. <https://cep.lse.ac.uk/pubs/download/special/cepsp44.pdf> [Accessed 1 November 2024]
- 40 NHS England. *Mental health support in schools and colleges* <https://www.england.nhs.uk/mental-health/cyp/trailblazers/> [Accessed 1 November 2024]
- 41 Parker J, Payne S, Wood M et al (2024) *Clinical Outcomes Report for Children's Wellbeing Practitioners (CWP) and Education Mental Health Practitioners (EMHP): Summary prepared for the National Adviser on Child Mental Health on the Outcomes of Interventions* Delivered by Mental Health Support Teams. London: Workforce, Education and Training HEI Implementation Group. [Accessed 1 November 2024]
- 42 National Autistic Society (2021) *New research and free guide: how to adapt mental health talking therapies for autistic children and adults*. <https://www.autism.org.uk/what-we-do/news/adapt-mental-health-talking-therapies> [Accessed 13 October 2024]
- 43 Cooper K, Loades ME, Russell A (2018) Adapting psychological therapies for autism. *Research in Autism Spectrum Disorders*, 45: 43-50. 10.1016/j.rasd.2017.11.002
- 44 National Institute for Health and Care Excellence (NICE) (2018) *Autism spectrum disorder in under 19s: support and management*. Clinical Guideline 170. <https://www.nice.org.uk/guidance/cg170> [Accessed 13 October 2024]
- 45 van Steensel FJA and Bögels SM (2015) CBT for anxiety disorders in children with and without autism spectrum disorders. *Journal of Consulting and Clinical Psychology*, 83(3): 512-523. 10.1037/a0039108
- 46 Zaboski B, Storch E (2018) Comorbid autism spectrum disorder and anxiety disorders: a brief review. *Future Neurology*, 13(1). 10.2217/fnl-2017-0030
- 47 Evans-Lacko S, Takizawa R, Brimblecombe N et al (2017) Childhood bullying victimization is associated with use of mental health services over five decades: a longitudinal nationally representative cohort study. *Psychological Medicine*, 47(1): 127-135. 10.1017/S0033291716001719
- 48 Takizawa R, Maughan B, Arseneault L (2014) Adult health outcomes of childhood bullying victimization: evidence from a five-decade longitudinal British birth cohort. *American Journal of Psychiatry*, 171(7): 777-784. 10.1176/appi.ajp.2014.13101401
- 49 Brimblecombe N, Evans-Lacko S, Knapp M et al (2018) Long term economic impact associated with childhood bullying victimisation. *Social Science & Medicine*, 208: 134-141. 10.1016/j.socscimed.2018.05.014.
- 50 Humphrey N, Hebron J (2015) Bullying of children and adolescents with autism spectrum conditions: a 'state of the field' review. *International Journal of Inclusive Education*, 19(8): 845-862. 10.1080/13603116.2014.981602
- 51 Bitsika V, Sharpley CF (2014) Understanding, experiences, and reactions to bullying experiences in boys with an autism spectrum disorder. *Journal of Developmental and Physical Disabilities*, 26(6): 747-761. 10.1007/s10882-014-9393-1.
- 52 Karna A, Voeten M, Little TD et al (2011) Going to scale: a nonrandomized nationwide trial of the KiVa antibullying program for grades 1-9. *Journal of Consulting and Clinical Psychology*, 79(6): 796-805. 10.1037/a0025740.
- 53 Nocentini A, Menesini E (2016) KiVa anti-bullying program in Italy: Evidence of effectiveness in a randomized control trial. *Prevention Science*, 17(8): 1012-1023. 10.1007/s11212-016-0690-z.
- 54 Huitsing G, Lodder G, Browne WJ et al (2020a) A large-scale replication of the effectiveness of the KiVa antibullying program: A randomized controlled trial in the Netherlands. *Prevention Science*, 21:



627–638. 10.1007/s11121-020-01116-4.

- 55 Clarkson S, Charles JM, Saville CWN et al (2019) Introducing KiVa school-based antibullying programme to the UK: A preliminary examination of effectiveness and programme cost. *School Psychology International*, 40(4): 347-365. 10.1177/0143034319841099.
- 56 Axford N, Bjornstad G, Clarkson S et al (2020). The effectiveness of the KiVa bullying prevention program in Wales, UK: Results from a pragmatic cluster randomized controlled trial. *Prevention Science*, 21(5): 615-626. 10.1007/s11121-020-01103-9.
- 57 Huitsing G, Barends SI, Lokkerbol J. (2020b) Cost-benefit analysis of the KiVa anti-bullying program in the Netherlands. *International Journal of Bullying Prevention*, 2: 215–224. 10.1007/s42380-019-00030-w
- 58 Persson M, Wennberg L, Beckman L et al (2018) The cost-effectiveness of the KiVa antibullying program: Results from a decision-analytic model. *Prevention Science*, 19(6): 728-737. 10.1007/s11121-018-0893-6.
- 59 McDaid D, Park A, Knapp M (2017) *Commissioning Cost Effective Services for Promotion of Mental Health and Wellbeing and Prevention of Mental Ill-Health*. London: Public Health England. <https://www.lse.ac.uk/business/consulting/assets/documents/commissioning-cost-effective-services-for-promotion-of-mental-health-and-wellbeing-and-prevention-of-mental-ill-health.pdf> [Accessed 13 October 2024]
- 60 McDaid D, Park AL (2022) *The economic case for investing in the prevention of mental health conditions in the UK*. Mental Health Foundation. London. <https://www.mentalhealth.org.uk/sites/default/files/2022-06/MHF-Investing-in-Prevention-Full-Report.pdf> [Accessed 20 October 2024]
- 61 Department for Work & Pensions (2023) *Employment of disabled people, October 2023* <https://www.gov.uk/government/statistics/the-employment-of-disabled-people-2023/employment-of-disabled-people-2023> [Accessed 13 October 2024]
- 62 The National Autistic Society (2016) *The Autism Employment Gap - Too Much Information in the workplace*. London, UK. <https://www.autism.org.uk/what-we-do/news/new-data-on-the-autism-employment-gap> [Accessed 13 October 2024]
- 63 Mason D, McConachie H, Garland, D et al (2018) Predictors of quality of life for autistic adults. *Autism Research*, 11: 1138-1147. 10.1002/aur.1965.
- 64 Department for Work and Pensions (2024) *The Buckland Review of Autism Employment: Report and recommendations*. Published 28 February 2024. <https://www.gov.uk/government/publications/the-buckland-review-of-autism-employment-report-and-recommendations> [Accessed 13 October 2024]
- 65 Marshall T, Goldberg RW, Braude L, et al (2014) Supported employment: Assessing the evidence. *Psychiatric Services*, 65(1): 16–23. 10.1176/appi.ps.201300262.
- 66 Campbell K, Bond GR, Drake RE (2011) Who benefits from supported employment: A meta-analytic study. *Schizophrenia Bulletin*, 37(2): 370–380. 10.1093/schbul/sbp066.
- 67 Bond GR, Drake RE, Campbell K (2016) Effectiveness of individual placement and support supported employment for young adults. *Early Interv Psychiatry*, 10(4): 300-307. 10.1111/eip.12175.
- 68 Knapp M, Patel A, Curran C. et al (2013) Supported employment: cost-effectiveness across six European sites. *World Psychiatry*, 12(1): 60-68. 10.1002/wps.20017.
- 69 McLaren J, Lichtenstein JD, Lynch D et al (2017) Individual Placement and Support for People with Autism Spectrum Disorders: A Pilot Program. *Administration and policy in mental health*, 44(3): 365-373. 10.1007/s10488-017-0792-3.
- 70 Mawhood L, Howlin P (1999) The Outcome of a Supported Employment Scheme for High-Functioning Adults with Autism or Asperger Syndrome. *Autism*, 3(3): 229-254. 10.1177/1362361399003003003.
- 71 Howlin P, Alcock J, Burkin C (2005) An 8-year follow-up of a specialist supported employment service for high-ability adults with autism or Asperger syndrome. *Autism*, 9: 533–549. 10.1177/1362361305057871.
- 72 Mavranouzouli I, Megnin-Viggars O, Cheema N et al (2014) The cost-effectiveness of supported employment for adults with autism in the United Kingdom. *Autism*, 18(8): 975-984. 10.1177/1362361313505720.

- 73 Koh E, Knapp M, Iemmi V, King C (2018) *Cost-utility analysis of supported employment for adults with autism in the United Kingdom: A societal perspective*. Unpublished.
- 74 Jacob A, Scott J, Falkmer M, Falkmer T (2015) The costs and benefits of employing an adult with autism spectrum disorder: A systematic review. *PLoS One*, 10(10): e0139896. 10.1371/journal.pone.0139896.
- 75 Gomez R, Sheikh S (2023) Opening opportunities: Improving employment prospects for autistic people. Pro Bono Economics <https://www.probonoeconomics.com/Handlers/Download.ashx?IDMF=d21ced73-71e8-4690-aba8-6ce2c539f262> [Accessed 13 October 2024]
- 76 Camm-Crosbie L, Bradley L, Shaw R et al (2018). 'People like me don't get support': autistic adults' experiences of support and treatment for mental health difficulties, self-injury and suicidality. *Autism*, 23:1431–41. 10.1177/1362361318816053
- 77 Clark F, Scharasschkin A, Xu D (2009) *Supporting People with Autism Through Adulthood. Model to Assess the Financial Impacts of Providing Multi-disciplinary Support Services for Adults with High-functioning Autism/Asperger Syndrome*. London: National Audit Office. [https://www.nao.org.uk/wp-content/uploads/2009/06/Autism\\_Tech\\_Paper.pdf](https://www.nao.org.uk/wp-content/uploads/2009/06/Autism_Tech_Paper.pdf) [Accessed 13 October 2024]
- 78 *Autism Act 2009*. London: The Stationery Office; 2009. <https://www.legislation.gov.uk/ukpga/2009/15/contents> [Accessed 13 October 2024]
- 79 National Institute for Health and Care Excellence (NICE) (2012) *Autism Spectrum Disorder in Adults: Diagnosis and Management. Clinical Guideline 142*. London. [www.nice.org.uk/guidance/cg142](http://www.nice.org.uk/guidance/cg142) [Accessed 20 October 2024]
- 80 Beresford B, Mukherjee S, Mayhew E et al (2020) *Evaluating specialist autism teams' provision of care and support for autistic adults without learning disabilities: the SHAPE mixed-methods study*. Southampton (UK): NIHR Journals Library, 10.3310/hsdr08480.
- 81 Beat Eating disorders (2024) *How many people have an eating disorder in the UK?* <https://www.beateatingdisorders.org.uk/get-information-and-support/about-eating-disorders/how-many-people-eating-disorder-uk/> [Accessed 23 October 2024]
- 82 Westwood H, Tchanturia K (2017). Autism Spectrum Disorder in Anorexia Nervosa: An Updated Literature Review. *Current Psychiatry Reports*, 19(7): 41. 10.1007/s11920-017-0791-9.
- 83 Tchanturia K, Adamson J, Leppanen J, Westwood H (2019) Characteristics of autism spectrum disorder in anorexia nervosa: A naturalistic study in an inpatient treatment programme. *Autism*, 23(1): 123–130. 10.1177/1362361317722431.
- 84 NHS Digital (2023) *Hospital admissions involving a diagnosis of anorexia nervosa in England in 2022/23*. <https://www.statista.com/statistics/987224/england-anorexia-diagnoses-by-age/> [Accessed 23 October 2024]
- 85 Jones KC, Weatherly Helen, Birch S et al (2024) *Unit Costs of Health and Social Care 2023 Manual*. Technical report. Personal Social Services Research Unit (University of Kent) & Centre for Health Economics (University of York), Kent, UK. 10.22024/UniKent/01.02.105685. [Accessed 23 September 2024]
- 86 Tchanturia K, Dandil Y, Li Z, Smith K et al (2020) A novel approach for autism spectrum condition patients with eating disorders: Analysis of treatment cost-savings. *European Eating Disorders Review*, 29(3): 514-518. 10.1002/erv.2760.
- 87 Buck TR, Viskochil J, Farley M et al (2014) Psychiatric comorbidity and medication use in adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 44(12): 3063-3071. 10.1007/s10803-014-2170-2.
- 88 Hudson CC, Hall L, Harkness KL (2019) Prevalence of depressive disorders in individuals with Autism Spectrum Disorder: a meta-analysis. *Journal of Abnormal Child Psychology*, 47(1): 165-175. 10.1007/s10802-018-0402-1.
- 89 Pelton MK, Cassidy SA (2017) Are autistic traits associated with suicidality? A test of the interpersonal psychological theory of suicide in a non-clinical young adult sample. *Autism Research*, 10(11): 1891–1904. 10.1002/aur.1828.
- 90 Maddox BB, Kang-Yi CD, Brodtkin ES, Mandell DS (2028) Treatment Utilization by Adults with Autism and Co-Occurring Anxiety or Depression. *Research in Autism Spectrum Disorders*, 51: 32-37. 10.1016/j.rasd.2018.03.009.

- 91 König H, König HH, Konnopka A (2019) The excess costs of depression: a systematic review and meta-analysis. *Epidemiology and Psychiatric Sciences*, 5(29): e30. 10.1017/S2045796019000180.
- 92 Kabat-Zinn J (2003) Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology*, 10(2): 144–156.
- 93 Santorelli SF, Kabat-Zinn J, Blacker M et al (2017) *Mindfulness-based stress reduction (MBSR) authorized curriculum guide*. Center for Mindfulness in Medicine, Health Care, and Society (CFM) University of Massachusetts Medical School. <https://www.tarkustekool.ee/wp-content/uploads/2021/09/CFM-Teaching-UMass-MBSR-Curriculum-Teaching-Guide-2017.pdf>
- 94 Forbes ZNM, Miller K (2023) Mindfulness-Based Stress Reduction in the treatment of adults with Autism Spectrum Disorder: a systematic review of interventional studies. *Review Journal of Autism and Developmental Disorders*, 10.1007/s40489-023-00398-y.
- 95 Menezes M., Harkins C, Robinson MF, Mazurek MO (2020) Treatment of depression in individuals with autism spectrum disorder: A systematic review. *Research in Autism Spectrum Disorders*, 78, 101639. 10.1016/j.rasd.2020.101639.
- 96 Hartley M, Dorstyn D, Due C (2019) Mindfulness for children and adults with Autism Spectrum Disorder and their caregivers: a meta-analysis. *Journal of Autism and Developmental Disorders*, 49(10): 4306-4319. 10.1007/s10803-019-04145-3.
- 97 Cachia RL, Anderson A, Moore DW (2016a) Mindfulness in individuals with autism spectrum disorder: A systematic review and narrative analysis. *Journal of Autism and Developmental Disorders*, 3: 145-178. 10.1007/s40489-016-0074-0.
- 98 Cachia RL, Anderson A, Moore DW (2016b) Mindfulness, stress and well-being in parents of children with autism spectrum disorder: a systematic review. *Journal of Child and Family Studies*, 25(1): 1–14 10.1007/s10826-015-0193-8.
- 99 Gaigg SB, Flaxman PE, McLaven G et al (2020) Self-guided mindfulness and cognitive behavioural practices reduce anxiety in autistic adults: A pilot 8-month waitlist-controlled trial of widely available online tools. *Autism*, 24(4): 867-883. 10.1177/1362361320909184.
- 100 Zhang L, Lopes S, Lavelle T et al (2022) Economic evaluations of Mindfulness-Based Interventions: a systematic review. *Mindfulness*, 13(10): 2359-2378. 10.1007/s12671-022-01960-1. 10.1007/s12671-022-01960-1.
- 101 Pahlevan T, Ung C, Segal Z (2020) Cost-utility analysis of Mindfulness-Based Cognitive Therapy versus antidepressant pharmacotherapy for prevention of depressive relapse in a Canadian context. *Canadian Journal of Psychiatry*, 65(8): 568-576. 10.1177/0706743720904613.
- 102 Kuyken W, Byford S, Taylor RS (2008) Mindfulness-based cognitive therapy to prevent relapse in recurrent depression. *Journal of Consulting and Clinical Psychology*, 76(6): 966-978. 10.1037/a0013786.
- 103 Saha S, Jarl J, Gerdtham U-G, Sundquist K, Sundquist J (2020) Economic evaluation of mindfulness group therapy for patients with depression, anxiety, stress and adjustment disorders compared with treatment as usual. *British Journal of Psychiatry*, 216(4): 197-203. 10.1192/bjp.2018.247.
- 104 Kuyken W, Hayes R, Barrett B et al (2016) Effectiveness and cost-effectiveness of mindfulness-based cognitive therapy compared with maintenance antidepressant treatment in the prevention of depressive relapse or recurrence (PREVENT): a randomised controlled trial. *Lancet*, 4;386(9988): 63-73. 10.1016/S0140-6736(14)62222-4. Erratum for: *Lancet*, 388(10052): 1376. 10.1016/S0140-6736(16)31731-7.
- 105 Kinnear D, Rydzewska E, Dunn K et al (2019) Relative influence of intellectual disabilities and autism on mental and general health in Scotland: a cross-sectional study of a whole country of 5.3 million children and adults. *British Medical Journal Open*, 9: e029040. 10.1136/bmjopen-2019-029040.
- 106 Bishop-Fitzpatrick L, Movaghar A, Greenberg JS et al (2018) Using machine learning to identify patterns of lifetime health problems in decedents with autism spectrum disorder. *Autism Research*, 11(8): 1120-1128. 10.1002/aur.1960.
- 107 Croen LA, Zerbo O, Qian Y et al (2015) The health status of adults on the autism spectrum. *Autism*, 19(7): 814-23. 10.1177/1362361315577517.
- 108 O’Nions E, Lewer D, Petersen I et al (2023) Estimating life expectancy and years of life lost for autistic

people in the UK: a matched cohort study. *Lancet Regional Health Europe*, 36: 100776. 10.1016/j.lanepe.2023.100776.

- 109 Hirvikoski T, Mittendorfer-Rutz E, Boman M (2016) Premature mortality in autism spectrum disorder. *British Journal of Psychiatry*, 208(3): 232-238. 10.1192/bjp.bp.114.160192.
- 110 Weir E, Allison C, Baron-Cohen S (2022) Autistic adults have poorer quality healthcare and worse health based on self-report data. *Molecular Autism*, 13: 23. 10.1186/s13229-022-00501-w.
- 111 Doherty M, Neilson S, O'Sullivan J et al (2022), Barriers to healthcare and self-reported adverse outcomes for autistic adults: a cross-sectional study. *British Medical Journal Open*, 12(2): e056904 <https://bmjopen.bmj.com/content/12/2/e056904>
- 112 NHS Digital (2023) *Health and Care of People with Learning Disabilities. Experimental statistics, Other reports and statistics, Official statistics in development*. Dec 2023. <https://digital.nhs.uk/data-and-information/publications/statistical/health-and-care-of-people-with-learning-disabilities> [Accessed 23 October 2024]
- 113 Panca M, Buszewicz M, Strydom A et al (2019) Resource use and cost of annual health checks in primary care for people with intellectual disabilities. *Journal of Intellectual Disability Research*, 63(3): 233-243. 10.1111/jir.12569.
- 114 Carey IM, Hosking FJ, Harris T et al (2017a) Do health checks for adults with intellectual disability reduce emergency hospital admissions? Evaluation of a natural experiment. *Journal of Epidemiology & Community Health*, 71(1): 52-58. 10.1136/jech-2016-207557.
- 115 Robertson J, Hatton C, Emerson E et al (2014) The impact of health checks for people with intellectual disabilities: an updated systematic review of evidence. *Research In Developmental Disabilities*, 35:2450–62 10.1016/j.ridd.2014.06.007.
- 116 Carey IM, Hosking FJ, Harris T et al (2017b) An evaluation of the effectiveness of annual health checks and quality of health care for adults with intellectual disability: an observational study using a primary care database. *Health Services and Delivery Research*, 5(25). 10.3310/hsdr05250.
- 117 Kennedy N, Kennedy J, Kerr M et al (2022) Health checks for adults with intellectual disability and association with survival rates: a linked electronic records matched cohort study in Wales, UK. *British Medical Journal Open*, 12(4): e049441. 10.1136/bmjopen-2021-049441.
- 118 White, A, Sheehan, R, Ding, J et al (2022) *Learning from Lives and Deaths - People with a learning disability and autistic people (LeDeR) report for 2021*. London, UK <https://clock.uclan.ac.uk/43444/1/leder-main-report-hyperlinked.pdf> [Accessed 20 October 2024]
- 119 Autistica (2023) *Autistica Health Checks Plan: How to ensure every autistic adult is offered a yearly, tailored health check by 2030*. <https://www.autistica.org.uk/downloads/files/Health-Checks-Plan.pdf> [Accessed 23 October 2024]
- 120 Sonderlund AL, Baygi F, Søndergaard J, Thilsing T (2024). Advancing health equity for populations with intellectual disabilities: A systematic review of facilitators and barriers to implementation of health checks and screening. *SSM - Health Systems*, 2. 10.1016/j.ssmhs.2024.100009.
- 121 Cooper SA, Morrison J, Allan LM et al (2014) Practice nurse health checks for adults with intellectual disabilities: a cluster-design, randomised controlled trial. *Lancet Psychiatry*, 1(7): 511-521. 10.1016/S2215-0366(14)00078-9.
- 122 Gordon LG, Holden L, Ware RS et al (2012) Comprehensive health assessments for adults with intellectual disability living in the community - weighing up the costs and benefits. *Australian Family Physician*, 41(12): 969-972.



DOI: 10.21953/lse.qmmctio4css8

**Care Policy and Evaluation Centre (CPEC)**

**Telephone**

+44 (0) 20 7955 6238

**Email**

[cpec@lse.ac.uk](mailto:cpec@lse.ac.uk)

**Address**

London School of Economics and Political Science,  
Houghton Street,  
London,  
WC2A 2AE