

Autistica Inclusive Spaces Plan

autistica

How to make spaces more accessible
for neurodivergent people by 2030



Contents

Foreword	3
Shut out of everyday life	6
Improving access	8
The price of success	10
Changing environments—	11
AutSPACeS citizen science project	12
New BSI guidance	15
Restorative spaces	17
Adapting healthcare spaces	19
Adapting online materials	21
Identifying useful design features	23
Changing attitudes—	24
Public Space Profile	25
Attitudes to mitigations	28
Everyday Tips Hub	30
A call to action	31
References	32

Foreword

It's time to act



Why we chose this topic

When most people think of accessibility, they think of the ramps and level access features which are vital for wheelchair users and other physically disabled people. But as our understanding of disability and neurodiversity increases, we must also rethink our preconceptions about accessibility. The sensory and communication needs of neurodivergent people are often invisible, but consideration for these needs can be the difference in whether or not a person can access key services.

Inaccessible spaces lock neurodivergent people out of virtually all aspects of everyday life – from accessing basic supplies, healthcare, education and work through to seeing friends and family and enjoying their favourite hobbies and interests. Recent research suggests that as many as 1 in 7 people are neurodivergent¹ - and history shows that adjustments intended to benefit one group of people often also benefit many others. It is time we acted to make our built environments work for everyone.

Making public spaces more accessible is a crucial factor in all of Autistica's 2030 Goals.² To implement lifelong support and health checks for autistic people, healthcare spaces must be accessible for the 9 in 10 autistic people who experience sensory differences.³

To double the shockingly low employment rate for autistic people,⁴ workplaces must be accessible

- this includes the full range of spaces, services and venues that serve as workplaces for their staff. Tackling high rates of anxiety in autistic people^{5,6} means recognising the ties between anxiety and sensory differences,^{7,8} and adapting the spaces we create accordingly.

Making breakthroughs

Autistica helped identify changes to the environment as a top research priority for the autism community in 2016,⁹ and we've been working to create a more accessible world ever since. In 2018, we funded what would become AutSPACES: a citizen science platform enabling autistic people to directly share their own experiences and advice for navigating difficult environments.¹⁰ This plan outlines next steps for the AutSPACES project, alongside other commitments and recommendations for adapting the spaces we use every day.

In October 2022, the British Standards Institution published new guidance for designing spaces with the needs of neurodivergent people in mind.¹¹ The document is called PAS 6463 and covers a wide range of possibilities, from designing new spaces from scratch, to smaller adjustments that can be made today. This is another key opportunity to act, and ensure this guidance is as effective and as impactful as it can be.

In recent years, digital and remote technologies have changed the way we live, work and socialise. For some neurodivergent people, this has opened up new opportunities free from the barriers they face in physical spaces. For others, these platforms add yet another layer of inaccessibility. As the online world becomes increasingly important to our everyday lives, it is crucial that we also work to make digital spaces accessible to all.

It's time for the hard work

The environments we use every day have not been built to meet the needs of neurodivergent people, and can be difficult to change in retrospect; but there are still small-scale adjustments that can be made, such as designating a quiet space or providing sensory tools. In some cases, the biggest access barrier is stigma; too many neurodivergent people do not feel able to provide for their own sensory needs because doing so will mark them out as different.

Another of Autistica's 2030 Goals is that attitudes to autistic people will change, and this is also crucial to improving access to public spaces. This plan covers both changes to design and changes to the behaviour of others, aiming to set out the first steps to improve accessibility in a variety of spaces.

Creating inclusive spaces for neurodivergent people is complex, but necessary. We know more today than ever before about neurodiversity, sensory differences and the adjustments that need to be made - there is now no excuse not to consider these needs as part of wider inclusive design.¹²



How this plan was co-developed

Our work around inclusive spaces has been co-produced from the start. From the 2016 priority-setting partnership;⁹ to the subsequent 2018 research summit on autism-enabling environments; through to the ongoing development of AutSPACES.^{10,13} Autistic and other neurodivergent people have been at the heart of our decision-making processes.

This plan began with a workshop that brought together autistic people, researchers and professionals to discuss initial proposals. We have since asked many more people with a range of professional, academic and lived experience to refine drafts.

The co-production will continue beyond this plan. We will continue to work with neurodivergent people and their families to refine, update and deliver these projects. To make our 2030 Goal a reality, we will need your support.

Principles behind this plan

We used three fundamental principles to decide on what to include and exclude from this plan.

1. **Flexibility is key.** Different people have different and often conflicting needs: some people are most comfortable in stimulating environments which others find overwhelming. Aiming for one stereotyped idea of “autism-friendly” environments will not work. Instead, we should focus on creating a choice of environments to meet as wide a range of needs as possible.¹² Where this is not possible, spaces should be adaptable: a low-stimuli default to avoid causing overload, with the option to add higher-stimuli choices as needed.
2. **Information is empowering.** Sometimes it will not be possible to accommodate all needs perfectly, especially in existing spaces which have not been built with accessibility in mind. However, there are still ways to make these spaces easier to use, such as providing information in advance about potentially difficult aspects so that people can prepare and make informed decisions.
3. **Access standards should be co-developed with neurodivergent people and families.** Inclusive spaces are not a nice-to-have; they are the difference between whether or not a person can access a space at all. Neurodivergent people have a wide range of different needs and experiences. To ensure our measures are as inclusive as they can be, we must seek insights from a wide range of neurodivergent people.

A handwritten signature in black ink, appearing to read 'J Cusack'.

Dr James Cusack
Chief Executive, Autistica

Shut out of everyday life

The cost of inaccessible spaces

Scope of the Inclusive Spaces Plan

This plan is intended to cover all environments used by members of the public – the streets, shops, cafés, museums, parks and more that many of us take for granted. It is also intended to cover spaces such as educational, health and care facilities which, while not always accessible to the whole public, are necessary for accessing vital services.

Approximately 1 in 7 people are neurodivergent, meaning they process information, behave and experience their environment differently from the statistical majority.¹⁴ Neurodivergence encompasses a range of neurodevelopmental conditions including autism, ADHD, dyslexia, dyspraxia, Tourette Syndrome and learning disabilities. Our 2030 Goal is that more public spaces will be accessible to neurodivergent people; as such, the Inclusive Spaces Plan will mostly refer to neurodivergent people as a wider group. However, as much of the evidence base in this area – and much of Autistica’s own work – focuses on autistic people specifically, the language used to describe certain statistics and projects will reflect this.

A range of unmet needs

Many neurodivergent people – including over 90% of autistic people – process sensory information differently.^{3,15} Some neurodivergent people can find the lights, sounds, textures and other sensory features of everyday life overwhelming (hypersensitivity); some may not notice or be able to respond to important sensory information such as pain or their name being called (hyposensitivity); some may need to seek out busy patterns, loud noises, strong smells or other sensory experiences to stay calm or focused. Many neurodivergent people experience a mix of all of the above, which can vary over time and in different contexts.¹⁶ Likewise, the sensory environment of a given space may change greatly at different times of the day, week or year, or fluctuate greatly depending on the number of people that are encouraged to use the space.

90% of autistic people
process sensory information differently

The sensory input we take in every day is highly complex. As such, the sensory experiences of neurodivergent people vary greatly; one person may derive great joy from the same sensory input that would cause significant distress for another, and a particular person may find a space manageable one day but not the next. Most spaces have not been designed with these considerations in mind, making them difficult for neurodivergent people to use.

Beyond sensory differences, neurodivergent people may need more certainty and clarity in how to use and navigate a space.¹⁷ Services and venues that do not provide sufficient information in advance can therefore also be inaccessible, as can designs which encourage unpredictability (for example, roaming staff, or places without a clear process for queuing). Other common access barriers for neurodivergent people include: reliance on one specific method for communication, such as by telephone; not being given enough time to process information and demands; or unexpected verbal interactions.^{18,19} While online spaces and services remove some of these barriers, they are not a full solution; digital poverty excludes many from these options²⁰ and factors such as complex web forms, unclear navigation and distressing content also present new barriers for many neurodivergent people.

The impact on neurodivergent people

Although there is a strong legal framework for ensuring services and venues are accessible for disabled people,^{21,22} historically the needs of neurodivergent people have rarely been considered in accessibility efforts. As a result, these barriers hamper the ability of neurodivergent people to carry out essential everyday tasks, like buying food or attending a medical appointment, as well as preventing full access to education and employment. Inaccessible spaces can also prevent neurodivergent people from travelling, socialising and pursuing the experiences they enjoy. This has a range of knock-on effects for the wider health and wellbeing of neurodivergent people. Over half of all autistic people will meet criteria for an anxiety disorder at some point in their lifetime,⁵ and multiple studies have now found links between anxiety and sensory reactivity.^{7,8,23,24,25} Inaccessible spaces may also inhibit opportunities for exercise and food – for example, neurodivergent schoolchildren may feel unable to eat in busy, noisy school halls or play in over- or under-stimulating playgrounds²⁶ – which in turn contributes to a range of physical and mental health problems.^{27,28,29}

The impact on wider society

Virtually all spaces, services and venues are also workplaces for the staff who manage them. Access barriers not only prevent neurodivergent people from visiting a space, but also from working there – contributing to the highest unemployment rate of all disability groups.⁴ Inaccessible public transport also limits employment opportunities for neurodivergent people,³⁰ as well as their ability to access other services and activities. This has a significant impact on the wellbeing of neurodivergent people, as set out in detail in Autistica's recent Employment Plan.³¹ However, it also comes at a detriment to overall productivity; a neurodiverse team is more likely to generate a wider range of ideas and avoid cognitive biases,³² while the UK economy loses approximately £14.5 billion every year from underemployment of autistic people.^{33,34,35}

Lack of accessibility also prevents neurodivergent people from patronising businesses and contributing to the local and national economy. Across disability generally, UK businesses lose approximately £2 billion per month through exclusion of disabled customers, with 75% of disabled people and families choosing not to use a UK business due to poor accessibility or customer service.³⁶ Online, around 7 in 10 disabled people will click away from websites that are not accessible for them, with approximately £17 billion annually being redirected to more accessible online businesses.³⁷

Historically, adjustments that were fought for by disability rights activists have also created benefits for a range of other groups. The dropped kerbs and lift access required by wheelchair users make it easier to travel with young children or heavy luggage;³⁸ meanwhile, as many as 80% of young adults now regularly watch TV shows with subtitles intended for those who are deaf or hard of hearing.^{39,40} Similarly, many of the changes necessary to make spaces inclusive for neurodivergent people will also create a smoother and less stressful experience for everyone. Notably, changes such as quieter spaces and providing clear information in advance are already recommended by existing initiatives for dementia-friendly venues.^{41,42}

An opportunity for change

Today, we have a much greater awareness of the sensory experiences and needs of neurodivergent people than we did when many of our current spaces and venues were built. In 2022, the British Standards Institution published its first ever national guide for adapting and designing spaces to meet the needs of neurodivergent people,¹¹ covering guidance on the design of new buildings, suggested adjustments that can be made to existing spaces, and types of information to provide in advance. We now have an opportunity to make spaces more inclusive for future generations of neurodivergent people; this plan is intended to help make that a reality.

Improving access

Creating inclusive spaces for all

Our 2030 Goal: By 2030, public spaces will be more accessible to neurodivergent people.

Accessibility now and in the future

Different spaces will require different actions to improve accessibility. We have divided this plan into two broad sections:

1

Changing environments. We know more than ever about the environments neurodivergent people need to thrive. The creation of new spaces is therefore a key opportunity to ensure the needs of neurodivergent people are met from the start. In existing spaces, simple low-cost adjustments such as establishing a quiet room can greatly improve accessibility.

The sensory experiences of neurodivergent people vary greatly; the preferences of one person could create barriers for another. Where possible, spaces should create choice and meet a wide range of possible sensory needs. If only a single space is available, design should aim for a low-stimuli environment to avoid causing harm, but provide the option of additional stimuli for those who need it.

2

Changing attitudes. The environment within a space is shaped not just by design, but by the people using the space. It is not always feasible to accommodate all possible access needs in one physical space, but changes in our attitudes and behaviour can make a substantial difference in whether and how neurodivergent people can access the space.

For some neurodivergent people, simply providing relevant information in advance can greatly reduce anxiety and enable them to make informed choices about the spaces they visit. Others may use their own tools and strategies to mitigate access barriers – but too often, neurodivergent people do not feel safe in meeting their own needs in public. A shift in attitudes towards access needs and mitigations is vital to creating inclusive spaces.

By 2030...

Changing Environments	Changing Attitudes
Spaces, venues and services will be designed and adapted to meet a wide range of needs relevant to neurodivergent people.	Neurodivergent people will feel confident in highlighting the barriers they face and, where relevant, using their own sensory aids and strategies to mitigate these. Spaces, venues and services will support this by providing relevant access information.

Projects for creating inclusive spaces

Each of the projects described in this plan is based on discussions with neurodivergent people, families, researchers and those involved in design standards. This is not an exhaustive list, but addresses some of the most pressing gaps to provide a solid foundation for creating inclusive spaces. We believe these projects have the highest likelihood of delivering breakthroughs for more effective support.

Changing Environments	Changing Attitudes
<ul style="list-style-type: none"> • AutSPACES citizen science project • New BSI guidance • Restorative spaces • Adapting healthcare spaces • Adapting online materials • Identifying useful design features 	<ul style="list-style-type: none"> • Inclusive Space Profile • Attitudes to mitigations • Everyday Tips Hub



The Price of Success

The investments needed

Changing Environments	Phase 1 Initial Investment (estimated)
AutSPACEs citizen science project <i>Building the evidence base for key access considerations</i>	£150,750
New BSI guidance <i>Testing and implementing new guidance for accessible design</i>	£180,000
Restorative spaces <i>Quiet spaces for mitigation and recovery</i>	£500,000
Adapting healthcare spaces <i>Enabling neurodivergent people to access healthcare</i>	£750,000
Adapting online materials <i>Making digital spaces accessible</i>	£85,000
Identifying useful design features <i>Kickstarting research to improve accessibility</i>	£200,000

Changing Attitudes	Phase 1 Initial Investment (estimated)
Public Space Profile <i>Empowering neurodivergent people with information</i>	£50,000
Attitudes to mitigations <i>Tackling stigma against neurodivergent needs</i>	£75,000
Everyday Tips Hub <i>Sharing information and strategies from peers</i>	£500,000

Projects Autistica will invest in or partner on	£2,490,750
--	-------------------

*These are initial scoping costs – we would ultimately envisage more substantial investment, and will continue to work with government and NHS partners to define the potential for this.

Changing Environments

We know more than ever about the ways in which neurodivergent people are excluded from the spaces, services and venues we take for granted. There is now no excuse not to make all spaces as inclusive as possible.

There is no one-size-fits-all accessible environment. An environment that is ideal for one neurodivergent person may be intolerable for another. Rather than fitting a single stereotype, spaces should be designed to create choice, meet a range of needs, and minimise harm.



AutSPACEs citizen science project

Building the evidence base for key access considerations

In 2016, Autistica led the James Lind Alliance priority-setting exercise for autism research, which highlighted creating enabling environments and understanding sensory processing among the top 10 priorities.⁹ To understand how to most effectively remove environmental barriers, we have partnered with the Alan Turing Institute to build a citizen science platform where a large number of autistic people can share their experiences of navigating the world.¹⁰

AutSPACEs is a participatory research project; the autistic community are involved throughout as decision-makers and researchers as well as research volunteers. Ultimately, the project aims to: share autistic people's stories, adaptive techniques and recommendations for other autistic people; educate neurotypical people; and advise organisations on how to design and adapt spaces. Participants can choose whether data is used for research purposes and/or made public for others to learn from. The platform build is open source, meaning that all code created can be freely changed, shared and built on by anyone through the AutSPACEs GitHub repository.¹³ Key to the project is a growing community of autistic participatory researchers who also advise on areas such as moderation and data-sharing.

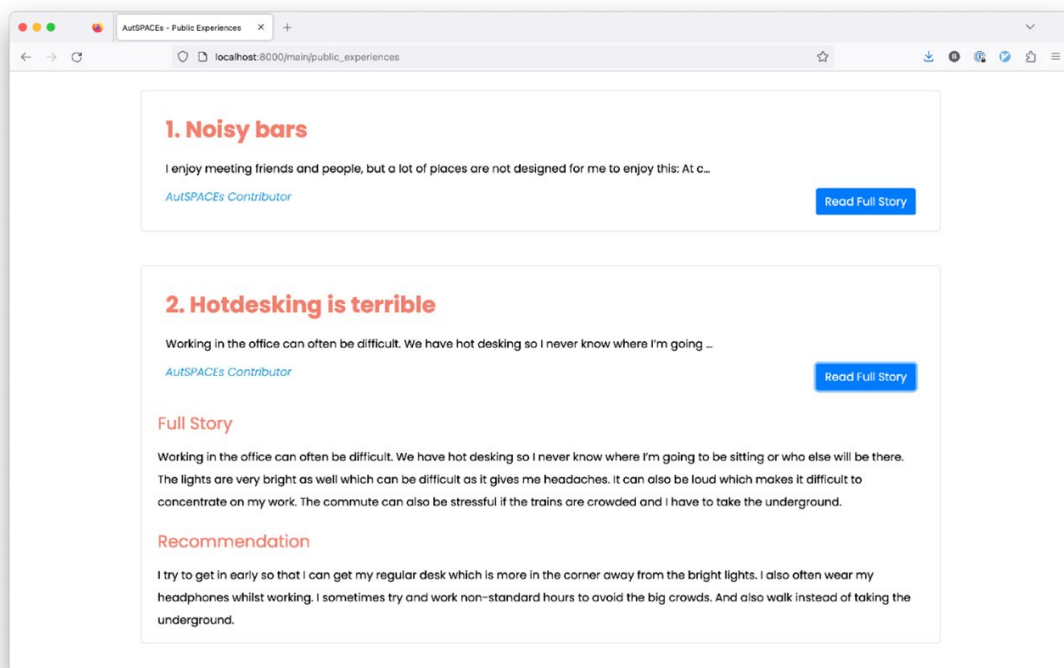


Figure 1. Screenshot of the AutSPACEs platform currently in development, showing an example contribution of an autistic person's experience of hotdesking and suggested mitigations.

The sensory experiences of autistic people are incredibly diverse, with needs that sometimes conflict with each other. AutSPACEs will collect information from a large number of autistic citizen scientists that will reflect this diversity. The project will also explore additional factors that can affect an autistic person's experience of a space, such as timing, familiarity, compounding stressors and co-occurring conditions. Ultimately, the platform will provide a wealth of detailed, objective information that will empower autistic people to make informed choices, as well as learning possible mitigating strategies from peers.

An emblematic example of AutSPACEs' co-creation approach can be found in the content submission and moderation guidelines that govern the project. Following community workshops and focus groups, a joint team of researchers and autistic community contributors co-developed a strategy for navigating the tension between wanting to give autistic people a voice to share their potentially difficult sensory processing experiences while also making sure that all contributors feel safe. Based on some of the most contentious and important moderation issues raised in the larger community, the moderation team engaged in regular co-working sessions to shape the guidelines, bringing them back to feedback to the larger community in regular intervals. The resulting moderation approach that came out of this process looks quite different to mainstream social media platforms. For example, users cannot comment on contributors' experience to avoid invalidation and to ensure that lived experience is centred. Similarly, while the guidelines allow for the inclusion of potentially upsetting experiences, those are labelled in categories such as 'drug abuse' or 'violence', giving readers the option to opt-in to reading those.⁴³

User testing of a minimal viable product is underway. What happens next will depend on the outcome of this testing, but we remain prepared to work on solutions to any obstacles identified. Alongside this project, we are also developing a more general Everyday Tips Hub in-house to enable autistic people and families to exchange experiences and advice on a range of topics, including navigating difficult sensory environments (more information on [page 30](#)).⁴⁴

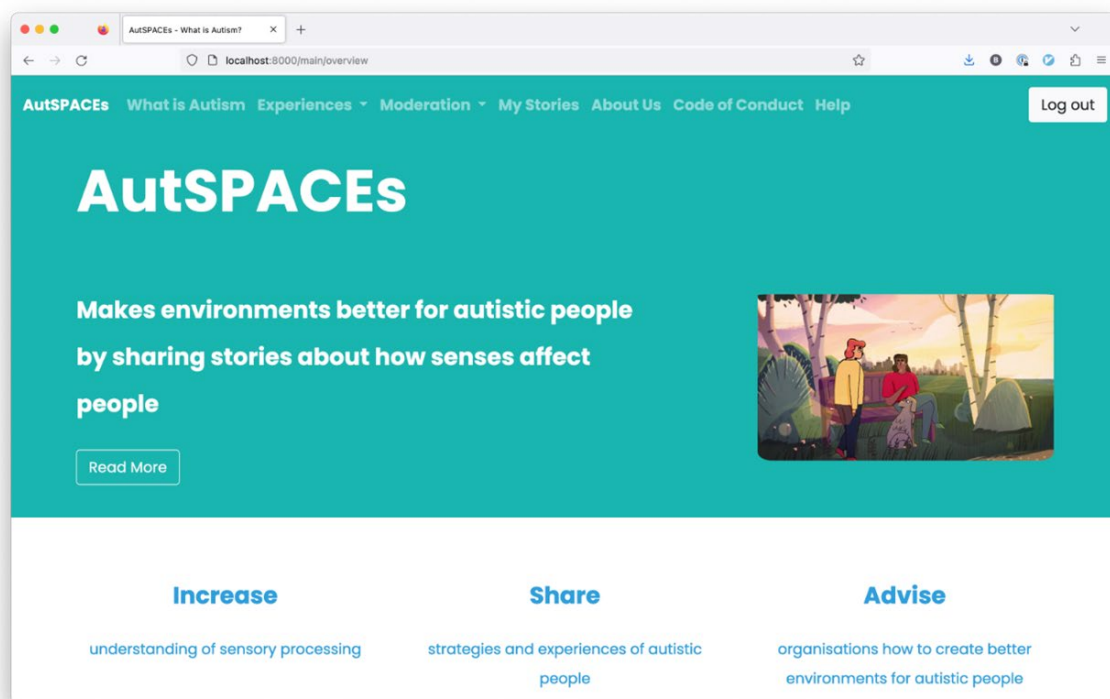


Figure 2. Homepage of the AutSPACEs platform currently in development.

Timeline of the AutSPACESs project



- Autistica leads the James Lind Alliance priority setting exercise, identifying sensory processing and enabling environments amongst the top 10 priorities for research



- Autistica holds a global summit on autism-enabling environments with autistic adults, relatives, researchers and health professionals
- The summit identifies citizen science as a key opportunity for exploring autistic people's experiences in a range of environments



- Autistica funds the Alan Turing Institute to co-produce a citizen science platform enabling autistic people to share their experiences in different environments



- The AutSPACES team and a community of autistic participatory researchers build a test version of the platform with accessible design, a trustworthy data-sharing process and a clear moderation system



- AutSPACES receives additional funding from the Alan Turing Institute



- User testing of minimal viable product expected to begin soon

New BSI guidance

Feedback and case studies

on new guidance for accessible design

Why is this important?

Historically, spaces have not been designed to meet the needs of neurodivergent people. New builds create an opportunity to build in accessibility from the start – ensuring all neurodivergent people can visit with confidence, and saving time and money on temporary adjustments in the long term. While adapting spaces retrospectively can be more challenging, significant improvement is often still achievable. For the first time, the British Standards Institution (BSI) have produced guidance on designing spaces for neurodivergent people;¹¹ now, we need to put it into practice.

What is the current situation?

In 2022, BSI published a Publicly Available Specification – a sponsored, fast-track, consensus-building informal document – on designing mainstream spaces to meet the needs of our neurodiverse population. PAS 6463 was produced with Buro Happold, Transport for London, BBC Workplace and Forbo Flooring and covers a wide range of possible sensory needs including hyposensitivity and hypersensitivity, as well as accounting for neurodegenerative conditions such as dementia. The PAS 6463 is not intended to cater to more specialist services or provide individual ratings to venues, but highlights the range of elements most venues should consider in designing accessible spaces. This is a major opportunity to ensure new spaces are more accessible to neurodivergent people in the years to come.

How do we make a breakthrough?

For PAS 6463 to make a difference, those designing, refurbishing or adapting spaces need to use it widely. As this is a relatively new area for building standards, it is also important to assess whether the guidelines are achieving their intended aims and how they can be clarified, appended and improved in the future. As the evidence base in this area grows, PAS 6463 is likely to evolve through several iterations, meaning that initial case studies following the guidelines could feed back into future revisions. With sufficient development, there is even potential for PAS 6463 to become an official international standard through the International Organisation for Standardisation, of which BSI is a member. Autistica is well-placed to convey the key messages of the PAS 6463 guidelines to our existing connections across healthcare, employment and other areas of public life to support in this work.

Case study: Zurich

Insurance firm Zurich UK has created sensory maps for each of its sites showing levels of temperature, noise, smells and foot traffic around the workspace to help employees choose where to work dependent on their needs.

The guides will help those who are neurodivergent, but also those who are going through the menopause, are pregnant or managing depression or anxiety. In fact, they have the potential to benefit everyone.

The intention is that this map will help anyone visiting their offices: whether they have a long- or short-term sensory need, or they are visiting for the first time and want to get their bearings in advance.

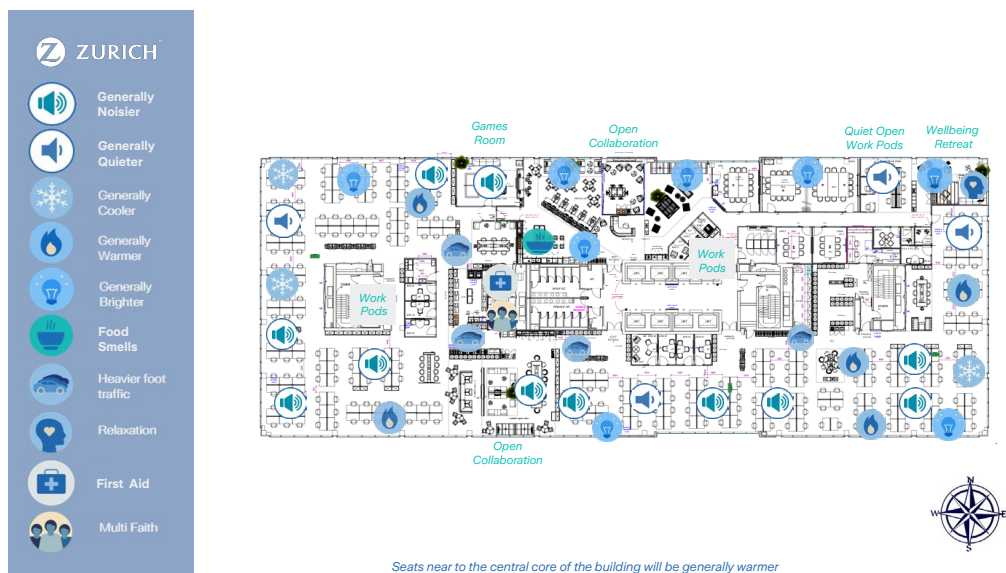


Figure 3. Sensory map of Zurich's head office.

The team were keen to design the map so that it could be easily adapted as and when things change in the building. That's why they settled on designing the map as a PDF accessible to all staff and visitors.

This simple approach reduces the need for expensive adaptations to the building, by providing choice and flexibility to everyone within the current space.

Autistica has:

- Fed into the development of PAS 6463, and will continue to work with the British Standards Institution in planning evaluation of PAS 6463 and future work in this area.
- Launched the Employers' Guide to Neurodiversity to help employers support neurodivergent people at work, featuring a range of common environmental considerations highlighted in PAS 6463.⁴⁵

Autistica will:

- 1.1 Develop resources summarising the key points of PAS 6463 to promote uptake by organisations and public bodies who plan to design new spaces.
- 1.2 Work with BSI to signpost to the PAS 6463 in our guidance for employers as part of our Neurodiversity Employers Index (NDEI™), due to launch in 2024.⁴⁶
- 1.3 Work with BSI to support monitoring and evaluation of PAS 6463 ahead of the BSI's planned review in 2025.
- 1.4 Support future development of PAS 6463, including any expansion into a full standard.

Public authorities and others who manage buildings and spaces open to the public need to:

- 1.5 Embed PAS 6463 into ongoing assessments of existing spaces, building in evaluation of any changes made to capture the benefits of the PAS and inform future development.
- 1.6 Implement PAS 6463 into the design phase of new spaces, building in evaluation to capture the benefits of the guidelines and inform future development.

The UK government, devolved governments and local authorities and councils need to:

- 1.7 Consider how PAS 6463 can be implemented into relevant planning policy and building regulations nationally and locally.

Restorative spaces

Creating quiet spaces for mitigation and recovery

Why is this important?

We typically need to move through a wide range of spaces across our lives; for healthcare, education and employment, and to do the activities and see the people we love. However, the access needs of neurodivergent people are rarely considered in the design of these spaces. This means many neurodivergent people have to navigate hostile spaces, risking sensory overload and potentially significant consequences for their physical and mental health. Nobody should have to choose between access to vital services and personal wellbeing. Providing a discreet place for people to rest and recover without being singled out as “different” is a simple, low-cost way to mitigate other access barriers and make a safer environment for neurodivergent people to use.^{47,48}

What is the current situation?

Buildings and spaces used by the public are only beginning to consider restorative spaces as an access need. There is increasing awareness of the need to mitigate against potential sensory barriers, but at present this is often limited to specific “autism friendly” events, timeslots and locations that are not necessarily accessible for everyone who needs these adjustments.⁴⁹ In some settings, including many schools, access to quiet space is reliant on prior agreement and verbal requests, which may not be possible for someone who is already distressed or who fears repercussions for standing out from their peers.⁵⁰ In many cases, restorative spaces are funded through one-off grants, leaving them at risk when initial funding runs out.

The British Standards Institution’s new guidance on designing for neurodiversity (PAS 6463) highlights the importance of dedicated quiet rooms and other restorative spaces to allow safe recovery from sensory overload.¹¹ Chapter 14 of PAS 6463 contains detailed guidance on creating and managing a dedicated, low-stimuli quiet space based on international research,⁵¹ with provisions for those who need additional stimulation including adjustable lighting, movable seating, and blankets and sensory tools that are stored away for use when needed. While these facilities are often vital for some neurodivergent people to access spaces, they may also be beneficial for a much wider group of people. Low-stimulation and solitary areas can also be designed into outdoor spaces, such as playgrounds.²⁶

How do we make a breakthrough?

The new British Standards Institution guidance provides a key opportunity to move towards the implementation of effective, dedicated, quiet, and restorative spaces across public venues. Autistica are well-placed to convey the key messages to a range of stakeholders responsible for managing publicly-funded spaces, and are already engaging with various private organisations on creating accessible environments in an employment context.

Autistica has:

- Worked with the Alan Turing Institute to develop the AutSPACES citizen science platform for autistic people to share their experiences of navigating different environments.¹⁰
- Fed into an early draft of PAS 6463, the British Standards Institution’s first ever design guidance for neurodiversity.¹¹
- Launched the Employers’ Guide to Neurodiversity to help employers support neurodivergent people at work, including a range of common sensory needs and adjustments.⁴⁵

Autistica will:

- 2.1** Develop and promote resources summarising PAS 6463, including the recommendations on designing quiet and restorative spaces.
- 2.2** Work with BSI to signpost to the PAS 6463 in our guidance for employers as part of our Neurodiversity Employers Index (NDEI™), due to launch in 2024.⁴⁶
- 2.3** Continue to work with the British Standards Institution to identify areas for further development and opportunities for evaluation, such as developing clear symbols to denote restorative spaces.

Public bodies and companies who run venues accessible to the public need to:

- 2.4** Ensure dedicated quiet and restorative spaces are available to all who use these venues, in line with the recommendations of PAS 6463.
- 2.5** Account for restorative spaces as part of the core budget for design and maintenance.

Government bodies should:

- 2.6** Promote and encourage the implementation of PAS 6463 and quiet spaces across public services.



Adapting healthcare spaces

Enabling neurodivergent people to access healthcare

Why is this important?

Autistic people experience poorer overall health than the general population.^{27,52,53,54} This is partly because autistic people are less likely to have successful interactions with healthcare services, allowing treatable problems to escalate.^{18,55,56,57} Inaccessible environments are a major barrier to effective healthcare for autistic and other neurodivergent people.^{18,58,59,60,61}

Emerging evidence suggests that neurodivergent people may be more likely to use emergency hospital care.^{62,63,64,65,66} In particular, autistic people and people with learning disabilities are disproportionately likely to end up being admitted to inpatient mental health care.^{67,68} In many cases, inpatients are unable to leave the space and there is usually little opportunity to alter the environment; this leads to escalating sensory distress which could thwart recovery.^{68,69} Relatively small changes to adapt specialist spaces for neurodivergent people could break this cycle, save money for the NHS in the long term, and, most importantly, improve outcomes.

What is the current situation?

On average, autistic people experience poorer health – and, sadly, earlier death – than their non-autistic peers.^{27,50,53,54} Additionally, thousands of autistic people and people with learning disabilities are currently detained or otherwise resident in inpatient healthcare settings.⁶⁷

Healthcare buildings were rarely, if ever, built with the needs of neurodivergent people in mind; they are often noisy with harsh lighting,⁵⁰ strongly scented products, few choices for food, unclear information, and a range of other elements likely to cause further distress.^{18,19,59,60} These barriers can reduce the patients' ability to understand and make themselves understood by clinicians, and may even deter neurodivergent people from attending screening appointments or seeking healthcare in future.^{18,19,57} There are a range of other barriers preventing neurodivergent people from accessing healthcare, including limited communication options and hostile attitudes.^{18,70} These factors contribute to the appalling inequalities neurodivergent people face across all areas of physical and mental health, including in dental settings.⁷¹

The NHS Long Term Plan began to address this, in particular through the reasonable adjustments flag which will alert staff when individual adjustments to the environment are required.⁷² More recently, NHS England have published a sensory resource pack, with £4.1 million committed to improving inpatient environments for autistic people in 2021/22 and conducting ongoing research to develop and evaluate a sensory assessment app for those admitted to mental health hospitals.⁷³ The Oliver McGowan Mandatory Training on Learning Disability and Autism, which is currently being rolled out across health and social care, may also help to tackle attitudinal barriers to accessing healthcare.^{27,50,53,54,74}

How do we make a breakthrough?

NHS bodies manage a wide range of buildings including primary care services, hospitals, inpatient facilities, and housing for people who need long-term healthcare. The process of retrofitting these spaces to ensure accessibility for disabled people is already underway; nevertheless, this has not historically considered the needs of neurodivergent people. NHS-managed spaces are required to meet a variety of government guidelines, largely in the form of Health Building Notes and Health Technical Memoranda.⁷⁵ However, many of these documents have not been updated for years or even decades, and much has changed since then in terms of what we know about neurodiversity and the access needs of neurodivergent people.

Where unavoidable access barriers remain, these can sometimes be overcome with simple adjustments to the delivery of healthcare. This could include: offering appointments at quieter times, such as the start or end of the day; providing information and discussing adjustments in advance; adjusting expectations around the patient's behaviour and what is possible to achieve in one appointment; and using healthcare passports to communicate adjustments.¹⁹

Case study: Autistic-led sensory audits in NHS Herefordshire and Worcestershire

The Learning Disability and Autism team at NHS Herefordshire and Worcestershire Integrated Care System are working with Lived Experience Partners to assess the sensory environment in primary care practices across the region, using tools based on NICE guidelines for autism. Their findings are then used to provide specific recommendations for the practice, initially with funding attached to help implement these recommendations. Of the 34 practices assessed so far, 32 have made improvements to their practice space as a result. The autistic assessors were able to find real-life avoidable barriers that may have otherwise gone unnoticed, such as fire alarms being tested at peak times for appointments. The project has also created a series of educational resources about autism and sensory needs⁶¹ and offers relevant training to practices.

Autistica has:

- Fed into new guidance from the British Standards Institution on designing spaces with neurodiversity in mind.¹¹
- Worked closely with NHS England to develop their workstream on autism, which is now a clinical priority within the NHS Long Term Plan.⁷²
- Funded research exploring environmental barriers to accessing healthcare, as well as the links between sensory reactivity and mental health more widely.^{75,76}
- Started developing Personal Support Profiles to assess and highlight the strengths and needs of neurodivergent individuals in a format easily accessible to services such as healthcare.^{77,78}
- Supported the toothPASTE study, exploring barriers to dental visits and other factors affecting dental health in autistic children and developing a prototype support package for parents.⁷⁹

Autistica will:

- 3.1** Develop a detailed retrospective study exploring the profiles of need in autistic people admitted to inpatient care, as set out in the Autistica Anxiety Plan.⁷⁸
- 3.2** Work with researchers and NHS mental health services to develop a Neurodiversity Mental Health Inclusion Index that will assess accessibility for neurodivergent service users, as set out in the Autistica Anxiety Plan.⁷⁸
- 3.3** Continue to work with the British Standards Institution and NHS bodies to clarify how PAS 6463 or any new guidance would interact with existing requirements for designing healthcare spaces.

The Department of Health and Social Care should:

- 3.4** Work with neurodivergent people, families and NHS bodies to update the relevant Health Building Notes and Health Technical Memoranda, taking into account the British Standards Institution's PAS 6463¹¹ and other evidence on meeting the needs of neurodivergent people.

Integrated Care Boards should:

- 3.5** Consider PAS 6463 as part of ongoing work on improving healthcare environments for neurodivergent people.
- 3.6** Begin work to implement PAS 6463 into the spaces they control insofar as is feasible.

Adapting online materials

Making digital spaces accessible

Why is this important?

Websites, apps and social media platforms are an increasingly vital part of accessing everyday services and interacting with others. For neurodivergent people who struggle to navigate the sensory environment of physical spaces or express themselves face-to-face, digital spaces can provide the opportunity to experience the world on an equal footing with others. However, the differing sensory and social needs of neurodivergent people⁸⁰ are rarely considered in the design and development of digital platforms.⁸¹

What is the current situation?

In 2016, the Government Digital Service published posters offering general advice on designing for people with a range of disabilities, including autism.⁸² Research is beginning to explore ways to improve the experiences of neurodivergent people online. The Autistic Adults Online project,⁸³ which began in December 2020, uses a mix of linguistic analysis from social media posts and focused workshops to examine how autistic adults interact on social media. Emerging challenges facing autistic people on social media include emphasis on small talk over interest-led sociality, exposure to poor-quality content, lack of control over social media feeds and their own content, and difficulties interpreting and conveying meaning.⁸⁴ The project included the development of a toolkit to support policymakers in creating more inclusive social media platforms.⁸⁵

The Autistica-funded AutSPACES project also explored ways of adapting online moderation for autistic people. Facing the challenge of enabling all autistic people to speak openly about potentially difficult experiences whilst ensuring all contributors feel safe, the team co-created clear guidelines for content submission and moderation on their own platform.⁴³ More information about this process is available on [page 12](#).

How do we make a breakthrough?

Autistica has partnered with Queen Mary University of London on an extension of the Autistic Adults Online project. This new phase aims to develop a theory of change for enhancing social media platforms to support service users, developers and businesses. Autistica have also co-produced a policy brief to inform decision-makers involved in regulating online platforms.⁸⁶ Separately, we are currently working with Internet Matters, Roblox, Ambitious about Autism and the Autism Society (based in the USA) to explore the experiences of autistic young people who game online.⁸⁷

Autistica has:

- Worked with the Alan Turing Institute to develop the AutSPACES citizen science platform for autistic people to share their experiences of navigating different environments.¹⁰
- Supported the development and recruitment of the Autistic Adults Online project, exploring how autistic adults use social media and identifying opportunities to improve social media platforms.⁸³
- Co-created a policy brief on the evidence base around neurodivergent people's experiences in digital spaces.⁸⁶
- Started working in partnership with Internet Matters, Roblox, Ambitious about Autism and the Autism Society to explore the experiences of autistic young people who game online.⁸⁷

Autistica will:

- 4.1 Work with researchers and autistic social media users to co-develop a clear theory of change for ensuring online platforms meet the needs of autistic people.
- 4.2 Promote the Autistic Adults Online policy brief and related resources through our social media, networks and webinar series.
- 4.3 Scope co-production of resources to improve online safety for neurodivergent young people.



Identifying useful design features

Kickstarting research to improve accessibility

Why is this important?

Historically, the needs of neurodivergent people have not been considered in designing spaces. Identifying appropriate environments and understanding sensory processing are both high priorities for the autistic community,⁹ but this is still a relatively new area of research. Kickstarting research to identify design features that meet the varied needs of neurodivergent people is crucial in enabling this group to access basic services and to pursue their hobbies and interests. This is particularly important for services such as transport, where it is more difficult to provide separate spaces to recover.

What is the current situation?

In recent years, more and more spaces, services and venues have become aware of the need for adjustments to ensure accessibility for neurodivergent people. However, this is typically concentrated on a few stereotyped common needs, rather than capturing the diversity of neurodivergent people's sensory experiences, and there is still little evidence supporting the more common sensory adjustments.⁴⁹ Furthermore, the onus is on individual companies and venues to identify and implement adjustments; there are emerging pockets of best practice,^{11,59,61,88} but these are rarely evaluated and shared more widely.

How do we make a breakthrough?

Although research in this area is developing rapidly,⁴⁸ the evidence base remains insufficient to provide the detailed information usually required for building specifications and other guidance. The British Standards Institution's new guidance for designing for neurodiversity¹¹ is an exciting first step, but further research is desperately needed to identify and evaluate design features that could significantly improve access to a wide range of spaces.⁴⁹

Autistica has:

- Established a Priority Setting Partnership, bringing together autistic people and families, researchers and professionals who identified environmental adjustments and sensory processing as two of the top ten research priorities for the autism community.⁹
- Worked with the Alan Turing Institute to develop the AutSPACES citizen science platform for autistic people to share their experiences of navigating different environments.¹⁰
- Started developing the Everyday Tips Hub, enabling autistic people and families to directly share their own experiences and practical advice for difficulties they have encountered.⁴⁴

Autistica will:

- 5.1** Identify and build on key themes from the findings of the AutSPACES project and Everyday Tips Hub to develop proposals for useful design features, and work with public and private bodies to ensure their implementation.
- 5.2** Continue to develop partnerships with researchers and experts by experience to build a co-ordinated research effort towards creating inclusive spaces for neurodivergent people.

The Department of Health and Social Care should:

- 5.3** Publish an action plan for autism research as set out in the government's 2021 Autism Strategy,⁸⁹ working with research funders to create a single national strategic initiative that includes intervention studies focusing on built environments.

Changing Attitudes

The access barriers faced by neurodivergent people are not always physical. Too often, public spaces are made inaccessible through stigmas around autism, fear of repercussions from asking for adjustments, or a lack of consideration for neurodivergent people in wider accessibility information.

Information can enable access. It will not always be possible to meet all access needs in a space not designed to do so. Nevertheless, providing advance information about the environment can empower neurodivergent people to make informed decisions about whether to visit and how to prepare.



Public Space Profile

Empowering neurodivergent people with information

Why is this important?

Unmet sensory needs can prevent someone from using a space or service completely. Another common barrier is anxiety, with more than 4 in 10 autistic children meeting criteria for anxiety disorders⁶ that frequently persist into adulthood;⁵ uncertainty is a key driver of this, and can itself make a space inaccessible.^{47,90}



The sensory and communication needs of neurodivergent people are diverse and sometimes contradictory, and it is not always possible to meet all needs in a space that was not designed to do so. However, it is much easier to provide detailed and accurate information about the environment and potential barriers. Information can empower neurodivergent people to choose to avoid certain spaces, prepare mitigation strategies such as bringing their own sensory tools, or join with confidence knowing that a space is accessible for them.⁴⁷ Providing information about the social elements of using a space – for example, how to move in and out of busy train aisles or order food and drink in a particular restaurant – can also greatly reduce anxiety and misunderstandings that can prevent neurodivergent people from successfully using these services.

What is the current situation?

Most disabled people try to find accessibility information about a space before visiting, with over half deciding not to visit if this information is unavailable.⁹¹ It is down to individual services and spaces to decide what information to collect and provide in advance. This can lead to distress when neurodivergent people come up against unexpected barriers to access, and can also cause people to avoid spaces unnecessarily due to concerns about barriers which are not present. It is increasingly commonplace for those responsible for a space or venue to provide a webpage for accessibility information, but rarer for these to include information relevant to neurodivergent people.⁹² Not all companies have the resources to research a wide range of conditions, collect the necessary data and maintain up-to-date information.

The environment of some spaces can change significantly over time; through rush hour, holiday festivities, or nearby mass gatherings such as sporting events. Some venues display information online or on-site about upcoming events and foreseeable changes during these times. Real-time information is already becoming more commonplace in certain spaces; for example, some trains use screens to display the crowdedness of each carriage, and online map services have also begun to crowdsource information to estimate how busy a space tends to be at different times of the day or week.

How do we make a breakthrough?

The British Standards Institution's new guidance on designing for neurodiversity (PAS 6463) outlines various ways of providing advance information to enable neurodivergent people to enter unfamiliar spaces with confidence.¹¹

This could include audio and video “flythroughs”, suggested mitigations for common sensory barriers, maps, and written information on what to expect, available in advance and at the point of entry. This information should be detailed, visitor-centred, and honest about unavoidable barriers without being defensive.⁹²

Creating a set template that lists information relevant to neurodivergent people, such as “standing” sensory features that rarely change and common adjustments that could be made on request, would also make it easier for services and spaces to collect and share this information. This, in turn, will provide a starting point for neurodivergent people to easily find accessibility information and make informed choices accordingly. In many cases, there will be factors more specific to the type of service or venue in question; for these, PAS 6463 can be used as a guide for organisations as to the types of sensory information that may be relevant for accessibility.

Case study: The Postal Museum

The Postal Museum in London have gone to great lengths to make their facilities as inclusive as possible.⁹³ Prospective visitors can go on to their website in advance to plan their visit. They can download a visual story and detailed information on all of the various spaces, or watch a video.

The museum offers visitors resources that they can borrow during their visit, for example communication cards (which show the highlight objects and feature key questions), ear defenders and sensory bags.

In addition to making all visits as inclusive as possible, the museum hosts relaxed days from 10am-5pm when they are closed to the general public. These tickets are priced lower than general admission.

Autistic young people can also enjoy a sensory audio story about the museum at home, where they are encouraged to gather sensory items from around the house to bring the story to life.



Figure 4. Sensory bag and contents from The Postal Museum.

Autistica has:

- Worked with the Alan Turing Institute to develop the AutSPACES citizen science platform for autistic people to share their experiences of navigating different environments.¹⁰
- Fed into an early draft of PAS 6463, the British Standards Institution’s first ever design guidance for neurodiversity.¹¹
- Launched the Autistica Employers Guide to Neurodiversity featuring recommendations for recruiting and retaining neurodivergent staff, including environmental adjustments.⁴⁵

Autistica will:

- 1.1 Work with neurodivergent people and families to co-develop and pilot a standardised template for providing sensory information, including information on foreseeable changes.
- 1.2 Co-produce advice for neurodivergent people on finding access information online and using existing features on popular map platforms that show real-time information.
- 1.3 Develop and promote resources summarising PAS 6463, as a guide on further sensory information that may be more relevant to specific venues.

Public bodies and companies who run venues accessible to the public need to:

- 1.4 Use the Public Space Profile template to provide sensory information about spaces on location, on their websites and in other relevant online and offline communications.
- 1.5 Consider PAS 6463 more generally in decision-making around providing advance and on-site information more specific to the type of venue.

The government should:

- 1.6 Promote and encourage the implementation of PAS 6463 and the Public Space Profile across public services.



Attitudes to mitigations

Tackling stigma against neurodivergent needs

Why is this important?

The sensory needs of neurodivergent people are varied and sometimes conflicting. It will not always be possible for a space to provide the ideal environment for every person, particularly in older buildings which are difficult to change. Some neurodivergent people and families can mitigate challenging environments or meet their own sensory needs with simple everyday items or more specialist sensory tools. However, many forgo these to “fit in” and avoid negative attitudes from others – risking harm from inaccessible environments.

What is the current situation?

At present, most spaces are not designed to be accessible for neurodivergent people; instead, they have to come up with their own workarounds for difficult environments. Those who are hypersensitive may repurpose items designed for more intense environments, such as ear defenders and sunglasses, to block out sensory input in spaces. Others who need additional sensory input may use dedicated sensory tools or repurpose other small items for sensory-seeking.

However, these strategies are not always well understood or well received by the public. Some mitigation tools make it clear that the user is neurodivergent or at least “different”, for which they may be targeted. Even the use of common items may make the user stand out in contexts where they are not expected by others; such as headphones in a social setting, or sunglasses, fans or heavy clothing used year-round. Unfortunately, experiences of bullying and victimisation are commonly faced by neurodivergent people,⁹⁴ leading many to pre-emptively hide their differences for fear of reprisal.⁹⁵ One Autistica-funded study on workplace adjustments found that almost 1 in 3 autistic people felt unable to discuss the adjustments they needed, and over 1 in 4 of those who did request adjustments were refused.⁹⁶ In education, requests to allow neurodivergent pupils to adapt uniform in line with their sensory needs or move classrooms earlier to avoid crowds (which would require little if any resource from the school itself) are frequently rejected; where adjustments are made, many pupils do not use these for fear of bullying if they appear “different”.⁵⁰ More generally, outdated attitudes and lack of understanding from others can be a significant barrier to accessing spaces.⁴⁷



1 in 4

autistic people

are refused workplace adjustments

How do we make a breakthrough?

Simple mitigations against access barriers could be made by neurodivergent people themselves using everyday tools, but are discouraged by negative attitudes.

We will continue to challenge myths and share information about sensory differences and adjustments to wider audiences, for example through our Employers' Guide to Neurodiversity.⁴⁵ We are currently developing the Autistica Attitudes Index,⁹⁷ which will provide a measure of changing attitudes towards autistic people and, by extension, traits experienced by neurodivergent people more widely. Separately, we have partnered with Durham University on a study which entails researchers and the autistic community co-creating training and resources for businesses to make their spaces inclusive of a range of sensory needs.⁹⁸

Autistica has:

- Committed to developing the Autistica Attitudes Index, a robust annual measure of the UK population's perceptions, misconceptions and attitudes towards autistic people.⁹⁷
- Started development of the Everyday Tips Hub, enabling autistic people and families to directly share their own strategies for mitigating difficult sensory environments with each other.⁴⁴
- Partnered with Durham University on a study which entails researchers and the autistic community co-creating training and resources for businesses to make their spaces inclusive of a range of sensory needs.⁹⁸

Autistica will:

- 2.1 Develop, test and validate the Autistica Attitudes Index, working with autistic people and families to identify priorities for changing attitudes and misconceptions around autism and neurodiversity.

Integrated Care Boards should:

- 2.2 Ensure high-quality psychoeducation programmes are commissioned to empower every newly-diagnosed autistic person to understand and advocate for their strengths and needs.⁷⁷



Everyday Tips Hub

Sharing information and strategies from peers

Why is this important?

The access needs of neurodivergent people are very varied. Accessibility information should cover the most common access needs of neurodivergent people, but it is impossible for this information to predict the variety of individual sensory needs and barriers which can be equally debilitating. Autistica's Everyday Tips Hub is a key opportunity to explore more specific questions around accessing particular spaces.

What is the current situation?

It is for individual spaces and services to decide if and how they present accessibility information. Providing some form of accessibility information is commonplace, particularly online; however, it is rarer for this to consider information relevant to the needs of neurodivergent people. There is currently no central point for neurodivergent people to find accessibility information on a range of spaces. Receiving too much information in one go can also be a barrier for some, especially given that for most neurodivergent people, only a small proportion of this information will be relevant to their own needs. While it is sometimes possible to enquire with the venue directly, many neurodivergent people find phone calls difficult, and ongoing stigma deters many from disclosing their needs: particularly on public forums, such as social media.

How do we make a breakthrough?

Autistica is currently developing the Everyday Tips Hub to crowdsource practical tips from autistic people and families for the everyday challenges they face.⁴⁴ We are gathering tips from a wider group in order to test the hub, with a full launch expected later this year. The Everyday Tips Hub will be managed by Autistica and a panel of experts to ensure that the advice given and the content it contains is appropriate and safe. While the overall content of the hub will be much broader, targeted requests for descriptions and advice could be used to build specific pages about navigating certain types of space, from classrooms to sports grounds.

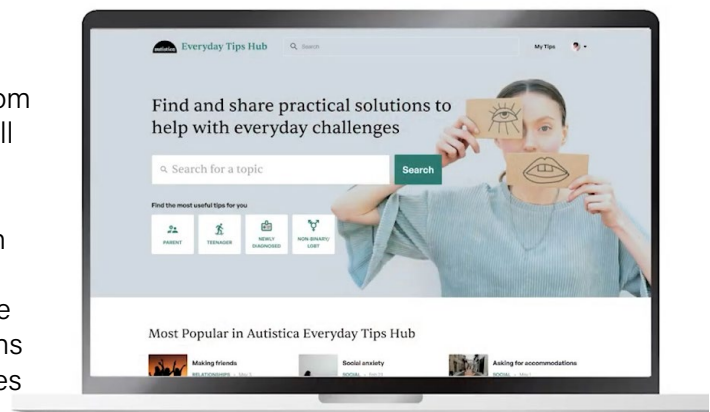


Figure 5. Mock-up of Everyday Tips Hub.

Autistica has:

- Started development of the Everyday Tips Hub, enabling autistic people and families to directly share their own strategies for mitigating difficult sensory environments with each other.⁴⁴
- Worked with the Alan Turing Institute to develop the AutSPACES citizen science platform for autistic people to share their experiences of navigating different environments.¹⁰
- Partnered with Durham University on a study which entails researchers and the autistic community co-creating training and resources for businesses to make their spaces inclusive of a range of sensory needs.⁹⁸

Autistica will:

- 3.1 Develop a priority list of types of buildings and spaces to consider for targeted Everyday Tips Hub requests across e-mail and social media.

Can we count on you?

This plan outlines Autistica's commitments to meet our goal of making public spaces more accessible by 2030, building on our years of research and scoping around environmental adjustments. Neurodivergent people need this now, but we cannot tackle this alone; this will require co-ordinated action from researchers, policymakers and those involved in managing spaces, services and venues, as well as further insights from experts by experience.

We would be delighted to work with stakeholders to discuss your part in achieving this goal and how we can support you to do so. Our future work will continue to gather the views of autistic people, families and other stakeholders to guide policy, research and campaigns in the directions identified in this goal plan.

If you can support this goal in any way, please get in touch

info@autistica.org.uk

References

- 1 Doyle N (2020). Neurodiversity at work: a biopsychosocial model and the impact on working adults. *British Medical Bulletin* 135, 108-125. [bit.ly/3ESbMqG](https://doi.org/10.1093/bmb/abd001)
- 2 Autistica (2021). Our 2030 Goals. [bit.ly/3IOrrP0](https://www.autistica.org.uk/our-2030-goals)
- 3 Green D, et al. (2016) Brief Report: DSM-5 Sensory Behaviours in Children With and Without an Autism Spectrum Disorder. *J Autism Dev Disord* 46(11), 3597-3606. [bit.ly/3IPjSkO](https://doi.org/10.1007/s10803-016-2722-8)
- 4 Department for Work & Pensions (2023). Official Statistics: Employment of disabled people 2023. tinyurl.com/3crjsa5v
- 5 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. doi.org/10.1007/s10803-016-2722-8
- 6 Simonoff E, et al. (2008). Psychiatric disorders in children with ASD: prevalence, comorbidity and associated factors in a population-derived sample. *Journal of the American Academy of CaAP* 47(8), 921. doi.org/10.1097/CHI.0b013e318179964f
- 7 Verhulst I, et al. (2022). The Perceived Causal Relations Between Sensory Reactivity Differences and Anxiety Symptoms in Autistic Adults. *Autism in Adulthood* 4(3), 183-192. <https://www.liebertpub.com/doi/10.1089/aut.2022.0018>
- 8 MacLennan K, et al. (2021). The relationship between sensory reactivity, intolerance of uncertainty and anxiety subtypes in preschool-age autistic children. *Autism* 25(8), 2305-2316. [bit.ly/3Jjh5SE](https://doi.org/10.1177/09567862211011111)
- 9 James Lind Alliance (2016). Priority Setting Partnerships: Autism. [bit.ly/3XLWaeS](https://www.jla.ac.uk/priority-setting-partnerships/autism)
- 10 Autistica (2018). Our research projects: Creating better environments. autistica.org.uk/our-research/research-projects/creating-better-environments
- 11 British Standards Institution (2022). Design for the mind – Neurodiversity and the built environment. PAS 6463:2022. <https://knowledge.bsigroup.com/products/design-for-the-mind-neurodiversity-and-the-built-environment-guide>
- 12 Commission for Architecture and the Built Environment (2006). The principles of inclusive design. tinyurl.com/mwevqv5b
- 13 AutSPACES GitHub repository (2020). github.com/alan-turing-institute/AutSPACES
- 14 Embracing Complexity (2023). embracingcomplexity.org.uk/
- 15 Autistica (2019). Autistica Action Briefing: Sensory Needs & The Built Environment. autistica.org.uk/downloads/files/Autistica-Action-Briefing-Sensory-Needs-The-Built-Environment.pdf
- 16 MacLennan K, O'Brien S, & Tavassoli T (2021). In Our Own Words: The Complex Sensory Experiences of Autistic Adults. *J Autism Dev Disord*. doi.org/10.1007/s10803-021-05186-3
- 17 Tola G, et al. (2021). Built Environment Design and People with Autism Spectrum Disorder (ASD): A Scoping Review. *Int J Environ Res Public Health*. 18(6):3203. pubmed.ncbi.nlm.nih.gov/33808817/
- 18 Doherty M, et al. (2022). Barriers to healthcare and self-reported adverse outcomes for autistic adults: a cross-sectional study. *BMJ Open* 12:e056904. dx.doi.org/10.1136/bmjopen-2021-056904
- 19 Doherty M, et al. (2023). Autistic SPACE: a novel framework for meeting the needs of autistic people in healthcare settings. *British Journal of Hospital Medicine* 84(4), 1-9. [bit.ly/3LYxFbC](https://doi.org/10.1136/bmjopen-2021-056904)
- 20 Office for National Statistics (2019). Exploring the UK's digital divide. tinyurl.com/4w9butws
- 21 For England, Scotland and Wales, see Equality Act 2010: legislation.gov.uk/ukpga/2010/15/contents. For Northern Ireland, see Disability Discrimination Act 1995: legislation.gov.uk/ukpga/1995/50/contents
- 22 UN Convention on the Rights of Persons with Disabilities (2007). tinyurl.com/mp37krmw
- 23 Rossow T, et al. (2021). The relationship between sensory reactivity differences and mental health symptoms in preschool-age autistic children. *Autism Res* 14(8), 1645-1657. [bit.ly/3SIs4li](https://doi.org/10.1111/aut.12444)
- 24 Lane S, et al. (2012). Sensory Overresponsivity and Anxiety in Typically Developing Children and Children With Autism and Attention Deficit Hyperactivity Disorder: Cause or Coexistence? *Am J Occup Ther* 66(5), 595-603. [bit.ly/2VQgu3l](https://doi.org/10.1177/0898010112444444)
- 25 South M & Rodgers J (2017). Sensory, Emotional and Cognitive Contributions to Anxiety in Autism Spectrum Disorders. *Frontiers in Human Neuroscience* 11, 20. [bit.ly/3ZCBS8Y](https://doi.org/10.3389/fnhum.2017.00020)
- 26 Brown DMY, et al. (2021). A Scoping Review of Evidence-Informed Recommendations for Designing Inclusive Playgrounds. *Front. Rehabil. Sci.* 2. doi.org/10.3389/fresc.2021.664595
- 27 Croen L, et al. (2015). The Health Status of Adults on the Autism Spectrum. *Autism* 19(7). doi.org/10.1177/1362361315577517
- 28 Mandy W & Tchanturia K. (2015). Do women with eating disorders who have social and flexibility difficulties really have autism? A case series. *Molecular Autism* 6, 6. [bit.ly/3EVsXYm](https://doi.org/10.1186/s13023-015-0064-4)
- 29 Bourne L, et al. (2022). Avoidant/restrictive food intake disorder and severe food selectivity in children and young people with autism: A scoping review. *Developmental Medicine & Child Neurology* 64(6), 691-700. [bit.ly/3KNqKBY](https://doi.org/10.1111/dmcn.15111)
- 30 Pfeiffer B, et al. (2023). Transportation Use and Barriers for Employed and Unemployed Autistic Adults. *Autism in Adulthood*. doi.org/10.1089/aut.2022.0069
- 31 Autistica (2022). The Autistica Employment Plan. [bit.ly/3kFpshO](https://www.autistica.org.uk/employment-plan)
- 32 Syed M (2019). *Rebel Ideas: The Power of Diverse Thinking*. John Murray Publishers Ltd. 10 Sep 2019.
- 33 Buescher AV, et al. (2014) Costs of autism spectrum disorders in the United Kingdom and the United States. *JAMA Pediatr*. 168(8):721-8. [bit.ly/3YkuSwl](https://doi.org/10.1001/jama.2014.1111)

34 Northern Ireland Assembly (2020). Select literature review: Autism and its economic costs. Briefing Paper No. 08/21. NIAR 258- 20. bit.ly/3mcUXQw

35 Jacob A, Scott M, 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. bit.ly/3Yg0jYM

36 Purple (2019). The Purple Pound. wearepurple.org.uk/the-purple-pound-infographic/

37 Williams R and Brownlow S. (2020). The Click-Away Pound Report 2019. tinyurl.com/32s4dvxp

38 Blackwell, AG (2016). The Curb-Cut Effect. *Stanford Social Innovation Review* 15(1), 28-33. bit.ly/3EU1RAD

39 BBC (2021). Young viewers prefer TV subtitles, research suggests. bbc.in/3SL6we0

40 The Week (2022). Why more TV viewers are switching on subtitles. bit.ly/3Ze3Xn8

41 Mayor of London (2021). Dementia Friendly Venues Charter Framework. tinyurl.com/yys3e5ax

42 Alzheimer's Society (2015). Dementia-friendly arts and culture. tinyurl.com/5n8wp49e

43 Aitkenhead G, et al. (2023). How to co-create content moderation policies: The case of the AutSPACES project. *SocArXiv Papers* (preprint). osf.io/preprints/socarxiv/c2xe7/

44 Autistica (2023). Our research projects: Creating a hub for people to share everyday tips. bit.ly/3XTt0dy

45 Autistica (2023). Employers Guide to Neurodiversity. autistica.org.uk/get-involved/employers/

46 Autistica (2023). Research projects: Creating a neuroinclusion index for employers. autistica.org.uk/our-research/research-projects/employers-index

47 MacLennan K, et al. (2022). "It Is a Big Spider Web of Things": Sensory Experiences of Autistic Adults in Public Spaces. *Autism in Adulthood*. doi.org/10.1089/aut.2022.0024

48 Black MH, et al. (2022). Considerations of the built environment for autistic individuals: A review of the literature. *Autism* 26(8), 1904-1915. doi.org/10.1177/13623613221102753

49 Manning C, et al. (2023). Sensory-inclusive spaces for autistic people: We need to build the evidence base. *Autism*. doi.org/10.1177/13623613231183541

50 National Autistic Society (2023). Education Report 2023. tinyurl.com/y4ash6s3

51 Sadia, T. (2020). Exploring the Design Preferences of Neurodivergent Populations for Quiet Spaces. Preprint. doi.org/10.31224/osf.io/fkaqj

52 Weir E, et al. (2022). Autistic Adults Have Poorer Quality Healthcare and Worse Health Based on Self-Report Data. *Molecular Autism* 13(1), 23. doi.org/10.1186/s13229-022-00501-w

53 Hirvikoski T, et al. (2016). Premature Mortality in Autism Spectrum Disorder. *The British Journal of Psychiatry* 3, 232-238. doi.org/10.1192/bjp.bp.114.160192

54 Autistica (2016). Personal Tragedies, Public Crisis: The urgent need for a national response to early death in autism. bit.ly/2F1fwcy

55 Brice S, et al. (2021). The importance and availability of adjustments to improve access for autistic adults who need mental and physical healthcare: findings from UK surveys. *BMJ Open* 2021;11:e043336. doi.org/10.1136/bmjopen-2020-043336

56 Mason D, et al. (2019). A Systematic Review of What Barriers and Facilitators Prevent and Enable Physical Healthcare Services Access for Autistic Adults. *J Autism Dev Disord* 49, 3387-3400. doi.org/10.1007/s10803-019-04049-2

57 The Westminster Commission On Autism (2016). A Spectrum of Obstacles: An inquiry into access to healthcare for autistic people. bit.ly/3vMoJJ

58 Strömberg M, et al. (2022). Experiences of Sensory Overload and Communication Barriers by Autistic Adults in Health Care Settings. *Autism Adulthood* 4(1), 66-75. doi.org/10.1089/aut.2020.0074

59 National Development Team for Inclusion (2020). "It's Not Rocket Science": Considering and meeting the sensory needs of autistic children and young people in CAMHS inpatient services. bit.ly/3vdsn2Q

60 National Development Team for Inclusion (2022). Technical Note: Sensory Friendly LED Lighting for Healthcare Environments. bit.ly/3WgKMaO

61 NHS Herefordshire and Worcestershire Integrated Care System (2023). Autism and Sensory-Friendly Environments. tinyurl.com/4vcuxcu8

62 Zerbo O, et al. (2019). Health Care Service Utilization and Cost Among Adults with Autism Spectrum Disorders in a U.S. Integrated Health Care System. *Autism in Adulthood* 1(1). doi.org/10.1089/aut.2018.0004

63 Vohra R, et al. (2016). Emergency Department Use among Adults with Autism Spectrum Disorders (ASD). *J Autism Dev Disord* 46(4), 1441-1454. doi.org/10.1007/s10803-015-2692-2

64 Hand B, et al. (2018). Ambulatory Care Sensitive Admissions in Individuals with Autism Spectrum Disorder, Intellectual Disability, and Population Controls. *Autism Research* 12(2), 295-302. doi.org/10.1002/aur.2050

65 Schott W, et al. (2022). Emergency Visits for Autistic Children and Children With ADHD. *Pediatrics* March 2022; 149 (Supplement 4): e2020049437V. doi.org/10.1542/peds.2020-049437V

66 Engelhard M, et al. (2020). Health system utilization before age 1 among children later diagnosed with autism or ADHD. *Sci Rep* 10, 17677. doi.org/10.1038/s41598-020-74458-2

67 NHS Digital (2023). Assuring Transformation statistics for October 2023. tinyurl.com/mtndebju

68 BBC News (2021). Autism: Number of people stuck in hospital 'national scandal' bbc.in/3ViuZab

69 Brede J, et al. (2022). "We Have to Try to Find a Way, a Clinical Bridge" – autistic adults' experience of accessing and receiving support for mental health difficulties: A systematic review and thematic meta-synthesis. *Clinical Psychology Review* 93, 102131. doi.org/10.1016/j.cpr.2022.102131

70 AMASE (2018). Too complicated to treat? Autistic people seeking mental health support in Scotland. tinyurl.com/bdfncavd

- 71 Sherriff A, et al. (2023). Child oral health and preventive dental service access among children with intellectual disabilities, autism and other educational additional support needs: A population-based record linkage cohort study. *Community Dent Oral Epidemiol.* 51(3), 494-502. doi.org/10.1111/cdoe.12805
- 72 NHS England (2019). The NHS Long Term Plan. bit.ly/2LV46HI
- 73 NHS England (2022). Sensory-friendly resource pack: Resources to improve the sensory environment for autistic people. bit.ly/3R99IVD
- 74 Health Education England (2023). The Oliver McGowan Mandatory Training on Learning Disability and Autism. tinyurl.com/29sfr3x5
- 75 NHS England: Estates technical guidance. england.nhs.uk/estates/
- 76 Autistica (2018). Our research: Sensory reactivity and anxiety. bit.ly/2FX7Rua
- 77 Autistica (2021). The Autistica Support Plan. bit.ly/3zUFOHw
- 78 Autistica (2022). The Autistica Anxiety Plan. bit.ly/3BXGahT
- 79 NIHR (2021). Oral Health: ToothPASTE – Empowering families of young children with autism to establish good oral health habits. bit.ly/3YiWiCY
- 80 Ochs E & Solomon O. (2010) Autistic sociality. *Ethos* 38(1), 69-92. doi.org/10.1111/j.1548-1352.2009.01082.x
- 81 Koteyko N, et al. (2022). Autistic sociality on Twitter: Enacted affordances and affiliation strategies. *Discourse & Communication* 16(4), 385-402. doi.org/10.1177/17504813211070655
- 82 GOV.UK. Dos and don'ts on designing for accessibility (2016). tinyurl.com/36racx3r
- 83 Autistic Adults Online (2022). autisticadultsonline.com
- 84 Barros Pena B, et al. (2023). "My Perfect Platform Would Be Telepathy" – Reimagining the Design of Social Media with Autistic Adults. CHI '23: Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems, 40, 1-16. doi.org/10.1145/3544548.3580673
- 85 Koteyko N, et al. (2023). Adapting digital networks and resources for autistic users: A toolkit for the third and public sector. Queen Mary University of London and University of Edinburgh. autisticadultsonline.com/toolkits/
- 86 Autistica (2023). New guidance for accessible online platforms. autistica.org.uk/news/accessible-online-spaces
- 87 Autistica (2023). Research Partnership: What are the benefits and challenges of gaming for neurodivergent young people? autistica.org.uk/our-research/research-projects/neurodiversity-in-gaming
- 88 Gaudion K & McGinley C (2012). Green Spaces: Outdoor Environments for Adults with Autism. bit.ly/427bHc9
- 89 Department for Education and Department of Health and Social Care (2021). The national strategy for autistic children, young people and adults: 2021 to 2026. bit.ly/3OUldbt
- 90 Rodgers J, et al. (2022). Coping with uncertainty in everyday situations (CUES©) to address intolerance of uncertainty in autistic children: an intervention feasibility trial. *J Autism Dev Disord.* doi.org/10.1007/s10803-022-05645-5
- 91 Euan's Guide (2022). The Euan's Guide Access Survey. tinyurl.com/yc4h5ueb
- 92 VocalEyes (2022). Heritage Access 2022. tinyurl.com/3fpcvzh5
- 93 The Postal Museum. Information for autistic and neurodiverse people. tinyurl.com/3j2vc2fn
- 94 Griffiths S, et al. (2019). The Vulnerability Experiences Quotient (VEQ): A Study of Vulnerability, Mental Health and Life Satisfaction in Autistic Adults. *Autism Research* 12(10), 1516-1528. doi.org/10.1002/aur.2162
- 95 Cook J, et al. (2021). Camouflaging in autism: A systematic review. *Clinical Psychology Review* 89, 102080. doi.org/10.1016/j.cpr.2021.102080
- 96 Davies J, et al. (2022). Autistic adults' views and experiences of requesting and receiving workplace adjustments in the UK. *PLoS ONE* 17(8): e0272420. doi.org/10.1371/journal.pone.0272420
- 97 Autistica (2022). Negative attitudes will persist unless we tackle understanding. bit.ly/3HZ2mKC
- 98 Sensory Street (2023). New Durham University impact funding. sensorystreet.uk/2023/08/25/new-durham-university-impact-funding/



autistica

autistica.org.uk

Autistica
Suite B
6 Honduras Street
London
EC1Y 0TH

T 020 3857 4340
info@autistica.org.uk
autistica.org.uk

Registered in England
Company No. 5184164
Charity No. 1107350