Monitoring Equality in Digital Public Services

Open Data Institute

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About

This 'Monitoring equality in digital public services' report has been researched and produced by the Open Data Institute, with funding from The Legal Education Foundation, and published on 31 January 2020. Its lead author was Edafe Onerhime, with additional support from Jeni Tennison, Renate Samson, Ben Snaith, Fionntan O'Donnell and Walter Brown. If you want to share feedback by email, or would like to get in touch, contact the project lead, Renate Samson, at renate.samson@theodi.org.

To share feedback in the comments, highlight the relevant piece of text and click the 'Add a comment' icon on the right-hand side of the page.

OPEN FOR FEEDBACK How can it be improved? We welcome suggestions from the community in the comments.

Executive summary

Many of the public and private services we use are now digital. The move to digital is likely to increase as technology becomes more embedded in our lives. But what does this mean for how essential public services understand who is using, or indeed not using, them and why? Public services are required to adhere to legal requirements around discrimination,[1] but how do these requirements apply in the digital sphere, and how can we monitor adherence to them?

With funding from The Legal Education Foundation[2], we have explored how digital public services adhere to these legal requirements. We have sought to understand how the protected characteristics of people using the digital services are being collected, to make it possible to tell how they might be affecting excluded communities.

Protected characteristics are a way of describing a part of who we are.[3] The Equality Act 2010 outlines protected characteristics as being age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, and sexual orientation.[4] Article 14 of the Human Rights Act 1998 makes it unlawful to discriminate against a person for a wide range of reasons, including "sex, race, colour, language, religion, political or other opinion, national or social origin, association with a national minority, property, birth or other status".[5]

We have found during this project that those providing digital public services don't know the demographic make-up of who uses them. Data about the protected characteristics of people using these services isn't currently collected and statistics aren't published in a consistent or collective way. This means it is harder to find out who is excluded from using these services and why.

Barriers to access, exclusion or algorithmic biases based on protected characteristics are problematic. We know from research by organisations like Citizens Advice – a charity offering free, impartial advice – that people with mental health conditions, for example, have encountered barriers using everyday services.[6] The UK government report, 'Exploring the UK's digital divide', showed that women, people aged over 65 and disabled people are all disproportionately affected by digital exclusion, meaning they are less likely to have the skills or access to use the internet and are therefore excluded from using online services.[7]

There are also reports of exclusion from online services through built-in biases in digital services that use face and voice recognition.[8] In addition, there is a risk that data-driven systems can operate in a discriminatory fashion, for example by having processes that are harder for women than men to successfully navigate. This was highlighted in an open opinion by Dee Masters and Robin Allen QC.[9]

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[1] UK Government (2010), 'Equality Act 2010', https://www.legislation.gov.uk/ukpga/2010/15/contents
[2] The Legal Education Foundation (n.d.), https://www.thelegaleducationfoundation.org/
[3] Equality and Human Rights Commission (n.d.), 'Protected characteristics', https://www.equalityhumanrights.com/en/equality-act/protected-characteristics
[4] UK Government (2010), 'Equality Act 2010', https://www.legislation.gov.uk/ukpga/2010/15/contents Equality Act 2010
[5] Equality and Human Rights Commission (2018), 'Article 14: Protection from discrimination', https://www.equalityhumanrights.com/en/human-rights-act/article-14-protection-discrimination
[6] Citizens Advice (2017), 'Citizens Advice finds people with mental health problems are being failed when trying to engage with essential everyday services', https://www.citizensadvice.org.uk/about-us/how-citizens-advice-works/media/press-releases/citizens-advice-finds-people-with-mental-health-problems-are-being-failed-when-trying-to-engage-with-essential-everyday-services/
[7] Office for National Statistics (2019), 'Exploring the UK's digital divide', https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/articles/exploringtheuksdigitaldivide/2019-03-04
[8] New Scientist (2019), 'UK launched passport photo checker it knew would fail with dark skin', https://www.newscientist.com/article/2219284-uk-launched-passport-photo-checker-it-knew-would-fail-with-dark-skin/
[9] Cloisters (2019), 'In the matter of automated data processing in government decision making',

Responsible collection and publication of data and statistics on protected characteristics would enable the monitoring of digital public services to determine whether everyone is being treated equitably by the system.

During this short research project, we conducted interviews with:

- organisations that have, or could develop, good practice
- organisations that implement digital transformation
- people and communities who could be helped or harmed by the data
- regulators.

Although we found a gap in specific guidance on how to design and collect data about who uses digital services, our desk research did reveal a range of useful guidance on collecting data safely and securely, which is published by regulators, government organisations like the Government Statistical Service[10], and in the humanitarian sector. We also found that the demographic data that is collected by devolved governments and equalities guidance differs for England, Scotland and Wales.

Furthermore, we found that organisations who already monitor for protected characteristics do so with privacy and dignity of people in mind and in alignment, where possible, with demographic data sources like the census.

In light of our research and conversations with interviewees, we have made recommendations on how we think there could be a move forward to collect and publish data about who uses digital services, while respecting people's privacy. These recommendations focus on the design and development of public services, but equally could be adopted by private digital services and by organisations seeking to understand how their services are working – or not.

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https://www.cloisters.com/wp-content/uploads/2019/10/Open-opinion-pdf-version-1.pdf
[10] Government Statistical Service (n.d.), https://gss.civilservice.gov.uk/

Recommendations

1. **Collect data to understand services users**
   We recommend that service designers start to embed, with respect and care, equalities monitoring into the provision of digital public services.

   We recommend that any collection of protected characteristics data is designed such that:

   - people can choose to provide information – or not
   - privacy is respected
   - standards and guidance are followed
   - the results are transparent and follow good data practice.

2. **Collaborate to develop standards, guidance and training**
   We recommend that regulators, and other bodies supporting and monitoring the adoption of digital public services, collaborate to produce robust guidance, standards and training on how to collect, use and publish data about the people using those services.

   We further recommend that the Gov.uk Design System[11] is developed to include styles, components and patterns to collect data about who uses the services and that this should be based on rigorous and collaborative user research.

   We recommend that an open standard for data for monitoring equality requirements be developed.

   Data at a minimum should include:

   - Protected characteristics.
   - Where the person is.
   - Why the service has failed.

   We recommend that training for service designers includes how to:

   - design coherent, multi-channel services
   - design for opting-out
   - consider inclusive user research.

3. **Conduct further research**
   We recommend that further research could be undertaken in the following areas:

   - Are there other examples of monitoring equal access to services?
   - What other characteristics could be monitored?
   - What impact does monitoring have on users of a service?
   - Can monitoring be trusted?
   - How do citizens feel about the collection of monitoring data?

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[11] Gov.uk (n.d.), 'Design your service using GOV.UK styles, components and patterns', https://design-system.service.gov.uk/

Introduction

Public and private services are being transformed. Traditionally offline services, many of which are essential services, are now becoming digital by default. Part of the push in the public sector to make services digital stems from the UK Government's 'Government Transformation Strategy 2017–2020', which encouraged the harnessing of digital channels to build and deliver public services.[12] As services go digital, they must still meet legal requirements around discrimination,[13] just as non-digital services must; but we have found there is work to be done.

In Great Britain, providers of services have a legal obligation to prevent discrimination and exclusion[14] of a service based on a person's protected characteristics[15], which includes a person's: age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, or sexual orientation.

In Northern Ireland, service providers must make reasonable adjustments for people with disabilities[16] to help them to overcome barriers to accessing services.

Unfortunately there is no accepted practice for collecting and publishing data about who uses digital services, which makes it hard to tell whether they have discriminatory effects or not. The absence of this data means providers of digital services don't know who is using the service and who is excluded. There is evidence that some aspects of services are discriminatory, such as the algorithms behind visa application processing[17], but it is unclear how widespread this is. The failure of an accepted approach to collecting this data means it is hard for public authorities who have obligations under the Public Sector Equality Duty[18] (PSED) to advance equality and demonstrate compliance.

The impact of lack of data is also felt outside government bodies. Advocacy organisations such as Age UK[19] and regulators like the Equalities and Human Rights Commission[20] (EHRC) or the Equality Commission for Northern Ireland[21] (ECNI) are finding it hard to understand if people are being discriminated against, and with a lack of data it is difficult for them to subsequently hold organisations to account.

In this project, funded by The Legal Education Foundation[22] (TLEF), we have explored how exclusion can happen and how data can help people understand if these legal obligations are being met. We wanted to understand the motivations, needs, wants and challenges people faced in collecting and publishing data about who uses digital services.

We interviewed people from organisations that have existing good practice in place,

[12] Cabinet Office and Government Digital Service (2017), 'Government Transformation Strategy', https://www.gov.uk/government/publications/government-transformation-strategy-2017-to-2020/government-transformation-strategy

[13] UK Government (2010), 'Equality Act 2010', https://www.legislation.gov.uk/ukpga/2010/15/contents

[14] Equality and Human Rights Commission (2019), 'Your rights under the Equality Act 2010', https://www.equalityhumanrights.com/en/advice-and-guidance/your-rights-under-equality-act-2010

[15] Equality and Human Rights Commission (n.d.), 'Protected characteristics', https://www.equalityhumanrights.com/en/equality-act/protected-characteristics

[16] NI Direct (n.d.), 'Protection against disability discrimination', https://www.nidirect.gov.uk/articles/protection-against-disability-discrimination

[17] The Guardian (2018), 'Lawyer blames visitor visa refusals on 'deep underlying racism', https://www.theguardian.com/uk-news/2018/jul/06/lawyer-blames-visitor-visa-refusals-on-deep-underlying-racism

[18] Equality and Human Rights Commission (2019), 'Public Sector Equality Duty', https://www.equalityhumanrights.com/en/advice-and-guidance/public-sector-equality-duty

[19] Age UK (n.d.), https://www.ageuk.org.uk/

[20] Equality and Human Rights Commission (n.d.), https://www.equalityhumanrights.com/en

[21] Equality Commission for Northern Ireland (n.d.), https://www.equalityni.org/Home

[22] The Legal Education Foundation (n.d.), https://www.thelegaleducationfoundation.org/

organisations which could help develop good practice, organisations that implement digital transformation, people and communities who could be helped or harmed by the data or lack of data, and regulators.

We also researched how organisations collect data on who uses their services, what good practice exists or is used to collect data safely and securely, and other regulations to consider when collecting or publishing data on who uses digital services.

We focused on speaking with organisations in the UK, including representatives from government departments and from civil society. However, there are also good practices for collecting and publishing this type of data emerging from international bodies and much of this practice is applicable globally.

This report explains what we discovered from interviews and desk research – from the lack of insight into who uses digital services, to concerns about collecting data safely – and our recommendations on how to move forward with good practice.

What we did

With funding from the TLEF[23], we explored how protected characteristics of people using digital public services are collected and published.

During research over eight weeks, we interviewed people from different stakeholder groups, including the UK government, digital transformation practitioners and community, and regulatory and advocacy bodies. We also engaged with organisations interested in our research and researched current practices, guidance and data. We produced this report based on our engagement, desk research and interviews.

With thanks to:

- Emily McCarron, Equality and Human Rights Policy Manager, Age UK
- Tom MacInnes, Head of Data, Citizens Advice
- Amy Turton, Project Diamond Manager, Creative Diversity Network
- Ewan Devine-Kennedy, Principal Researcher, The Equality and Human Rights Commission
- Andrew Goldsby, Community and Relationship Manager, Equality Advisory & Support Service
- Ali Harris, CEO, Equally Ours
- Elric Honoré, Development Officer, Fife Center for Equalities
- Ben Carpenter, Inclusive Services Lead, Government Digital Services
- Mhairi McGee, Policy and Campaigns Officer, HEAR Equality Network
- Ali Shah, Head of Technology, Information Commissioner's Office
- Judith Jones, Head of Regulatory Strategy (Domestic), Information Commissioner's Office
- Zoe Leventhal, Public Law and Human Rights Barrister, Matrix Law
- Clare Pini, Statistician, GSS Best Practice and Impact, Office for National Statistics
- Paola Serafino, Head of the Centre for Equalities and Inclusion, Office for National Statistics
- Richard Laux, Deputy Director (Data and Analysis), Race Disparity Unit
- Samantha Fothergill, Lawyer and Campaigner, Royal National Institute of Blind People
- Albert King, Deputy Chief Data Officer, Scottish Government
- Cat Macaulay, Chief Design Officer, Scottish Government

Background

What are protected characteristics?

In Great Britain, it is against the law to treat a person unfairly because of who they are. The Equality Act 2010[24], regulated by the EHRC, makes discrimination against a person due to any of the following nine characteristics unlawful:

1. **Age:** This may be a specific age or a range of ages, for example people over 60.
2. **Disability:** A long-term physical or mental impairment that affects a person's ability to carry out everyday activities.
3. **Gender reassignment:** A person reassigning their birth sex to a preferred sex and changing their physical or other characteristics.
4. **Marriage and civil partnership:** Marriage or civil partnership between same or different sex couples.
5. **Pregnancy and maternity:** A person who is pregnant, expecting a baby, on maternity leave or breastfeeding.
6. **Race:** A person belonging to a group defined by their colour, race, nationality or national origins.
7. **Religion and belief:** A person's religion or lack of religion, including a religious or philosophical belief that affects the way they live.
8. **Sex:** A man, woman or group of people like men, boys, women or girls.
9. **Sexual orientation:** A person's sexual attraction to same sex, different sex or both.

In Northern Ireland, the Disability Discrimination Act 1995 applies and is regulated by the ECNI.[25] Providers of services must make reasonable adjustments to prevent discrimination against people with disabilities.[26] The definition of disability here differs from the Equality Act 2010 in terms of length and seriousness of conditions – a person must satisfy the particular definition.

Our research focuses on the broader set of protected characteristics that apply in Great Britain (England, Scotland and Wales).

Why research protected characteristics?

Everyone has the right to fair and inclusive access to services and protection from discrimination. In Great Britain, the Equality Act 2010 defines protected characteristics as part of a person's identity; essentially making them who they are. The act replaces various laws that protected people from discrimination, including the Race Relations Act 1976[27] and the Disability Discrimination Act 1995[28] in England, Scotland and Wales.

Discrimination can be direct or indirect:[29] a person who is treated worse than other people due to them having a protected characteristic, being thought to have a protected characteristic, or being associated with someone with a protected characteristic, experiences direct discrimination. A policy can cause indirect

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[24] UK Government (2010), 'Equality Act 2010', https://www.legislation.gov.uk/ukpga/2010/15/contents
[25] Equality Commission for Northern Ireland (n.d.), https://www.equalityni.org/Home
[26] NI Direct (n.d.), 'Disability discrimination law', https://www.nidirect.gov.uk/articles/protection-against-disability-discrimination#toc-1
[27] UK Government (1976), 'Race Relations Act 1976', https://www.legislation.gov.uk/ukpga/1976/74/enacted
[28] UK Government (1995), 'Disability Discrimination Act 1995', https://www.legislation.gov.uk/ukpga/1995/50/contents/enacted
[29] Equality and Human Rights Commission (2019), 'What is direct and indirect discrimination?', https://www.equalityhumanrights.com/en/advice-and-guidance/what-direct-and-indirect-discrimination

discrimination when it is applied in the same way to everyone, but overall disadvantages a group of people with a protected characteristic.

In 2017, Citizens Advice – a charity offering free, impartial advice – found that people with mental health conditions encountered barriers using everyday services.[30] These services include paying bills, switching energy providers, and contacting local authorities. Their research concluded that more flexibility is needed when communicating with people who have a mental health diagnosis. Long-term mental health conditions are a disability under the Equality Act 2010, and by collecting and publishing who uses digital services, we can better understand who faces barriers using them.

Our research focuses on all protected characteristics, with the aim of advancing equal access to fair and inclusive services.

Why focus on digital services?

In 2017, the then UK Government set out the 'Government Transformation Strategy 2017–2020'.[31] This strategy outlined how the government planned to harness digital to build and deliver fast, effective public services.

Digital channels, however, come with their own set of challenges. We know that digital exclusion – when people are unable to, or choose not to, engage with the digital world – presents a real risk of inequality. In 2018, 5.3 million adults, or 10% of the adult UK population, experienced digital exclusion.[32] According to the Office for National Statistics (ONS), women, people aged over 65 and disabled people were disproportionately affected by digital exclusion.[33] This is particularly true of disabled people, as one in five people in the UK are affected by long-term illness, have an impairment or live with a disability.[34] In 2017, 56% of internet non-users were disabled.

The risks of lack of fairness and equality in relation to digital services do not just arise over access to those services, but in how they treat people differently. In 2019, a report in *New Scientist* revealed that the new passport photo checking service from the Home Office failed to recognise skin shades of people from ethnic minority groups.[35] The Passport Office's digital service had also rejected an application from a young black man when his closed lips failed the facial recognition checks.[36] Even if the final outcome of using such a service is eventually the same, through appeal to human intervention, inequalities arise in the time, effort and emotional impact on people with protected characteristics.

Digital services, from websites such as Gov.uk and the passport service, are the potential future of UK government services. Services such as HM Revenue and Customs (HMRC) Voice ID, which uses biometrics, may also become more prevalent in the future. The use of biometrics is currently a sensitive area. In the UK, the use of

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[30] Citizens Advice (2017), 'Citizens Advice finds people with mental health problems are being failed when trying to engage with essential everyday services', https://www.citizensadvice.org.uk/about-us/how-citizens-advice-works/media/press-releases/citizens-advice-finds-people-with-mental-health-problems-are-being-failed-when-trying-to-engage-with-essential-everyday-services/

[31] Cabinet Office and Government Digital Service (2017), 'Government Transformation Strategy', https://www.gov.uk/government/publications/government-transformation-strategy-2017-to-2020/government-transformation-strategy

[32] Office for National Statistics (2019), 'The scale of digital exclusion in the UK', https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/articles/exploringtheuksdigitaldivide/2019-03-04#the-scale-of-digital-exclusion-in-the-uk

[33] Office for National Statistics (2019), 'How does internet usage and digital exclusion vary for men and women?', https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/articles/exploringtheuksdigitaldivide/2019-03-04#how-does-internet-usage-and-digital-exclusion-vary-for-men-and-women

[34] Scope (n.d.), 'Disability facts and figures', https://www.scope.org.uk/media/disability-facts-figures/

[35] New Scientist (2019), 'UK launched passport photo checker it knew would fail with dark skin', https://www.newscientist.com/article/2219284-uk-launched-passport-photo-checker-it-knew-would-fail-with-dark-skin

[36] BBC News (2019), 'Passport facial recognition checks fail to work with dark skin', https://www.bbc.co.uk/news/technology-49993647

fingerprints and DNA are covered by the Protection of Freedoms Act 2012[37], but other forms of biometrics, such as facial biometrics, voice or gait, for example, are not currently subject to legislative or regulatory guidance or oversight. Research into issues of bias within the algorithms and technology used in facial biometrics for example, has shown that false positives towards women, the elderly, children, and West and East African and East Asian people are present.[38]

The move to digital, and more broadly to automated or biometric-based services, therefore requires a focus on understanding who is using, or not using, these digital services; the outcomes of their interactions with the services; and the experiences of different groups when using these services and the alternatives they are offered.

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[37] UK Government (2012), 'Protection of Freedoms Act 2012', https://www.legislation.gov.uk/ukpga/2012/9/contents/enacted?view=plain
[38] National Institute of Standards and Technology, US Department of Commerce (2019), 'Face recognition vendor test. Part 3: Demographic effects', https://nvlpubs.nist.gov/nistpubs/ir/2019/NIST.IR.8280.pdf

Legislation and guidance

In England, Scotland and Wales, the Equality Act 2010 is the key piece of legislation that protects people from discrimination.[39] In Northern Ireland, the Disability Discrimination Act 1995 applies.[40]

Article 14 of the Human Rights Act 1998 makes it unlawful to discriminate against a person for a wide range of reasons, including "sex, race, colour, language, religion, political or other opinion, national or social origin, association with a national minority, property, birth or other status".[41]

Public authorities must also comply with the Public Sector Equality Duty[42] (PSED) to eliminate discrimination, advance equality and foster good relations between those who share protected characteristics and those who don't.

Guidance on the PSED is devolved for Scotland[43] and Wales[44]. There is also separate guidance for England and non-devolved public authorities in Wales and Scotland.[45] To support transparency, public authorities must also publish equality objectives every four years and demonstrate their compliance.

For local authorities, the 'Best value statutory guidance' outlines how to work with voluntary and community groups and small businesses to deliver effective public services.[46]

Our research focuses on monitoring the use of digital public services, which means collecting and publishing data about the people using them, to which the General Data Protection Regulation[47] (GDPR) and the Data Protection Act 2018[48] apply. Data about protected characteristics is similar to sensitive personal data[49], which is defined as a special category of data under the GDPR.

Part 5 of the Digital Economy Act 2017 outlines how the government will make better use of data, including data sharing, research and statistics, and safeguarding people's privacy.[50]

For websites and mobile devices, the UK government has committed to new accessibility regulations: The Public Sector Bodies (Websites and Mobile Applications) (No. 2) Accessibility Regulations 2018.[51]

[39] UK Government (2010), 'Equality Act 2010', http://www.legislation.gov.uk/ukpga/2010/15/contents
[40] UK Government (1995), 'Disability Discrimination Act 1995', https://www.legislation.gov.uk/ukpga/1995/50/contents
[41] Equality and Human Rights Commission (2018), 'Article 14: Protection from discrimination', https://www.equalityhumanrights.com/en/human-rights-act/article-14-protection-discrimination
[42] UK Government (2010), 'Equality Act 2010. Section 149: Public sector equality duty', http://www.legislation.gov.uk/ukpga/2010/15/contents
[43] Equality and Human Rights Commission (2019), 'Guidance for Scottish public authorities', https://www.equalityhumanrights.com/en/advice-and-guidance/guidance-scottish-public-authorities
[44] Equality and Human Rights Commission (2014), 'The essential guide to the Public Sector Equality Duty: An overview for listed public authorities in Wales', https://www.equalityhumanrights.com/en/publication-download/essential-guide-public-sector-equality-duty-overview-listed-public-authorities
[45] Equality and Human Rights Commission (2014), 'The essential guide to the Public Sector Equality Duty', https://www.equalityhumanrights.com/en/publication-download/essential-guide-public-sector-equality-duty
[46] Communities and Local Government (2011), 'Best value statutory guidance', https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/5945/1976926.pdf
[47] Information Commissioner's Office (2018), 'Guide to the General Data Protection Regulation', https://www.gov.uk/government/publications/guide-to-the-general-data-protection-regulation
[48] UK Government (2018), 'Data Protection Act 2018', https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted
[49] Information Commissioner's Office (n.d.), 'What is personal data?', https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/key-definitions/what-is-personal-data/
[50] UK Government (2017), 'Digital Economy Act 2017', http://www.legislation.gov.uk/ukpga/2017/30/contents/enacted
[51] UK Government (2018), 'The Public Sector Bodies (Websites and Mobile Applications) (No. 2) Accessibility Regulations 2018', https://www.legislation.gov.uk/uksi/2018/952/made

Unfortunately, at present, there is no accepted practice for collecting and publishing data about who uses digital services and their experience. There is little evidence of public digital services collecting this data consistently and transparently. There is also no open standard for doing so. However, there are pockets of practice and published data inside and outside local and central governments.

Our research revealed a gap in how to safely and securely collect and publish this data as part of digital services. In the next section, we describe how we carried out our research, and outline our findings and recommendations.

What we found

Inclusive services need to be accessible

The Government Digital Service (GDS) 'Service manual'[52] is the guidance for government teams building digital services[53]. It provides a quick and easy way to understand how government services are built, agile ways of working, and provides examples of how government service principles are used. It is used to help "teams to create and run great public services" and touches on the need to design inclusive services. For example, the guidance on understanding users who don't use digital services[54] focuses on making design inclusive and providing support for those who need help. The section on making your service more inclusive[55] emphasises the barriers people may face to using government services and the legal duty to be adhered to under the Equality Act 2010. The importance of creating inclusive government services[56] guidance details the GDS's work on building inclusive services for everyone.

To comply with the Public Sector Bodies (Websites and Mobile Applications) (No. 2) Accessibility Regulations 2018[57], the manual includes guidance on making your service accessible[58]. Accessible services must meet the Web Content Accessibility Guidelines (WCAG) 2.1.[59] For example, they must support assistive technologies like screen magnifiers and screen readers, work with people who are disabled as part of their user research, and explain what it is that has been done to make the service more accessible.

We found that no single design element makes a service fairer and more inclusive for all protected characteristics. People may fit in one group, or they may have multiple characteristics in a single group, for example, multiple disabilities, or they may be part of more than one group. As Cat Macauley, Chief Design Officer at the Scottish Government, said to us: "I don't know any people who fit in a [single] protected characteristic, most people who fit one will also fit another, if multiple." Furthermore, there is also the issue that how people choose to define themselves may differ from how others define them.

While it is important to meet the accessibility requirements,[60] it must be understood that accessibility alone will not provide support to all people with protected characteristics who may use a digital service.

Fully inclusive services that take into account the intersection between protected characteristics are needed. It is important to understand that people's needs and circumstances can change. Disability, for example, may be as temporary as a broken foot, or as permanent as the ongoing need to use a wheelchair. People's engagement with technology, therefore, can also change. For example, while a screen reader may be beneficial for a period of time, if a person's sight deteriorates, a screen reader may

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[52] Gov.uk (n.d.), 'Service manual', https://www.gov.uk/service-manual
[53] Government Digital Service (2018), 'How we write guidance for the service manual', https://gds.blog.gov.uk/2018/05/17/how-we-write-guidance-for-the-service-manual/
[54] Gov.uk (2016), 'Service manual: Understanding users who don't use digital services', https://www.gov.uk/service-manual/user-research/understanding-users-who-dont-use-digital-services
[55] Gov.uk (2018), 'Service manual: Making your service more inclusive', https://www.gov.uk/service-manual/design/making-your-service-more-inclusive
[56] Government Digital Service (2018), 'The importance of creating inclusive government services', https://gds.blog.gov.uk/2018/06/29/building-inclusive-government-services/
[57] UK Government (2018), 'The Public Sector Bodies (Websites and Mobile Applications) Accessibility Regulations 2018', http://www.legislation.gov.uk/uksi/2018/852/contents/made
[58] Gov.uk (2019), 'Service manual: Making your service accessible: An introduction', https://www.gov.uk/service-manual/helping-people-to-use-your-service/making-your-service-accessible-an-introduction
[59] World Wide Web Consortium (2018), 'Web Content Accessibility Guidelines (WCAG) 2.1', https://www.w3.org/TR/WCAG21/
[60] HM Government (n.d.), 'Making online public services accessible', https://accessibility.campaign.gov.uk/

not be the solution they need to enable them to access a service.

These concepts are explored in 'Inclusive design principles', which encourages "putting people first" by "designing for the needs of people with permanent, temporary, situational, or changing disabilities", with people being defined as "all of us".[61]

Internationally, the Ontario government's inclusive design toolkit[62] similarly encourages the design of services for people with *"temporary or situational disabilities"*, while in the UK, the GDS guidance on 'the importance of creating inclusive government services' stresses that: *"fully inclusive service is one that can be accessed and successfully completed by all its users. They will be able to interact however they need to, regardless of their personal characteristics, situations, capabilities or access needs."*[63]

Expanding on these helpful toolkits and service manuals, well-researched guidance and inclusive design patterns will help make it easier to design fairer, more inclusive services.

Equality requires more than accessible design

Services tend to exclude people with disabilities. Citizens Advice found that people with mental health conditions encountered barriers using everyday services,[64] while the United Nations Special Rapporteur has raised concerns about the digital welfare state[65].

Digital exclusion presents a real risk of inequality[66], and disabled people[67] are disproportionately affected, as one in five people in the UK are affected by long-term illness, have an impairment or live with a disability[68].

We welcome making digital services easier to use for people with disabilities. The GDS has committed to meeting accessibility requirements, including level AA of the WCAG 2.1[69] as a minimum.

We found that work towards equality currently focuses heavily on disability, but less so on other protected characteristics.

Organisations we interviewed were less likely to focus on sexual orientation, gender reassignment, and religion or belief, for example. We discovered a reluctance to ask about these protected characteristics and assumptions that other protected characteristics are more likely to be the basis for exclusion from public digital services.

[61] Inclusive Design Principles (n.d.), https://inclusivedesignprinciples.org/

[62] Ontario Government (2020), 'Inclusive design toolkit', https://www.ontario.ca/page/inclusive-design-toolkit

[63] Government Digital Services (2018), 'The importance of creating inclusive government services', https://gds.blog.gov.uk/2018/06/29/building-inclusive-government-services/

[64] Citizens Advice (2017), 'Citizens Advice finds people with mental health problems are being failed when trying to engage with essential everyday services', https://www.citizensadvice.org.uk/about-us/how-citizens-advice-works/media/press-releases/citizens-advice-finds-people-with-mental-health-problems-are-being-failed-when-trying-to-engage-with-essential-everyday-services/

[65] United Nations Special Rapporteur (2019), 'Report of the Special rapporteur on extreme poverty and human rights', https://www.ohchr.org/Documents/Issues/Poverty/A_74_48037_AdvanceUneditedVersion.docx

[66] Office for National Statistics (2019), 'The scale of digital exclusion in the UK', https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/articles/exploringtheuksdigitaldivide/2019-03-04#the-scale-of-digital-exclusion-in-the-uk

[67] Office for National Statistics (2019), 'What is the pattern of internet usage among disabled people?', https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/articles/exploringtheuksdigitaldivide/2019-03-04#what-is-the-pattern-of-internet-usage-among-disabled-people

[68] Scope (n.d.), 'Disability facts and figures', https://www.scope.org.uk/media/disability-facts-figures/

[69] World Wide Web Consortium (2018), 'Web Content Accessibility Guidelines (WCAG) 2.1', https://www.w3.org/TR/WCAG21/

Ben Carpenter from the GDS said to us: "It seems that the timing of when to ask people potentially very sensitive questions is hard to fit in with their user needs, so you're trying to provide a service that is just about what they need, whereas this is something that we need."

Understanding that designing for equal access must consider all protected characteristics is an important step for organisations providing digital services to take.

Furthermore, we must ensure that the problem of bias being built, often unintentionally, into automated systems using machine learning algorithms to make decisions, does not impinge on equality of access to services.

Already automated systems making decisions about people's lives have been shown to have demonstrably negative impacts on people with protected characteristics. One example is the UK's visa application programme, which has been identified by some organisations as being biased against applications from black and ethnic minority applicants.[70]

Whether the system is biased or not is unclear. Answers to the problem are unlikely to become clear anytime soon, not solely because of government secrecy, but because the process of lifting the hood and interrogating algorithmic decision is complex at best. Challenging or seeking redress against a decision is rarely, if ever, possible. How future systems are audited to ensure that protected characteristics are being analysed and used appropriately and ethically is a critical concern which should be addressed now.

We lack data on the use of digital services

A key source of information to help with understanding equalities in the UK today is the ONS equalities data audit.[71] The report audits data sources and publications on outcomes for the nine protected characteristics covered in the Equality Act 2010, to inform policy. It is informed by the EHRC's 'Measurement framework for equality and human rights'[72] and the United Nations 'A human rights-based approach to data' report[73].

Over 280 sources are listed in the equalities audit dataset and work is ongoing. The report is interesting as it highlights that good guidance makes it easier for people to use data; by explaining what the data is intended for, how it was collected, things to consider before using it and important features to be aware of.

One of the key findings of the report is that there is an increasing demand for robust and accessible data about equalities. The report also notes that access to information about data sources is an issue, with the exception being good practice from NHS Digital.

Complementing the report are the Government Statistical Service's (GSS) 'harmonised principles'.[74] These principles are "guidance on how to make statistics

[70]The Guardian (2018), 'Lawyer blames visitor visa refusals on "deep underlying racism"', https://www.theguardian.com/uk-news/2018/jul/06/lawyer-blames-visitor-visa-refusals-on-deep-underlying-racism

[71] Office for National Statistics (2018), 'Equalities data audit, final report', https://www.ons.gov.uk/methodology/methodologicalpublications/generalmethodology/onsworkingpaperseries/equalitiesdataauditfinalreport

[72] Equality and Human Rights Commission (2017), 'Measurement framework for equality and human rights', https://www.equalityhumanrights.com/sites/default/files/measurement-framework-interactive_pdf.pdf

[73] United Nations Human Rights (2018), 'A human rights-based approach to data', https://www.ohchr.org/Documents/Issues/HRIndicators/GuidanceNoteonApproachtoData.pdf

[74] Government Statistical Service (n.d.), 'Harmonisation', https://gss.civilservice.gov.uk/guidances/harmonisation/

more comparable by encouraging producers to use the same methods of data collection and presentation". The principles include "definitions, survey questions, standards for administrative data, rules for presentation and guidance for users". The aim of them is to encourage "data collection to be consistent where appropriate to improve understanding of data and statistics and to make statistics comparable".

A couple of the people we interviewed referred to these principles as being helpful in offering some good practice and a clear approach which could be used by all.

Data protection is no barrier to statutory duty

We encountered concerns that public bodies connect compliance with the GDPR with avoiding collecting and publishing data about protected characteristics. Concerns included collecting data without justification and being wary of non-compliance with data protection. Data protection is no barrier to fulfilling equalities duties. The Information Commissioner's Office (ICO) recently shared guidelines to help organisations collect sensitive data which overlaps with protected characteristics.

We spoke with the ICO to clarify this. Judith Jones of the ICO told us: "There is provision in the Data Protection Act about collecting and retaining information for equality purposes and we've got guidance that's just come out on what we would call special category data, which is pretty close to the protected characteristics data and we very much emphasise it being fair and transparent, so telling people what you're doing and treating them fairly, but also what we would look at is proportionality."

The guidance on collecting 'special category data' overlaps with protected characteristics in several areas. The key message is that public bodies must meet their legal obligations under the PSED as well as comply with the GDPR. Compliance with the GDPR, therefore, is not, and should not, be seen as a barrier to the collection or publication of data, so long as the process adheres to the guidance from the ICO, particularly around using a privacy impact assessment to detail how, among other things, the data will be collected, for what purpose and for how long.

Understanding and implementing the ICO guidance will help data controllers define the purpose, assess risks, take precautions and demonstrate they can protect this data.

Data about vulnerable people needs to be handled ethically

Outside of government, humanitarian organisations have produced guidance on working ethically with data about vulnerable people; upholding their rights and treating them with dignity and respect. Oxfam publishes the 'Responsible data management'[75] training pack, the US Agency for International Development (USAID) provides 'Considerations for using data responsibly'[76], and The Centre for Humanitarian Data shares the working draft of their 'Data responsibility guidelines'. At the ODI, we have published a theory of change, which demonstrates how those who steward and create information from data can act in ways that lead to the best social and economic outcomes for all.

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[75] Oxfam (n.d.), 'Responsible data management',
https://policy-practice.oxfam.org.uk/our-approach/toolkits-and-guidelines/responsible-data-management
[76] US Agency for International Development (2019), 'Considerations for using data responsibly at USAID',
https://www.usaid.gov/responsibledata
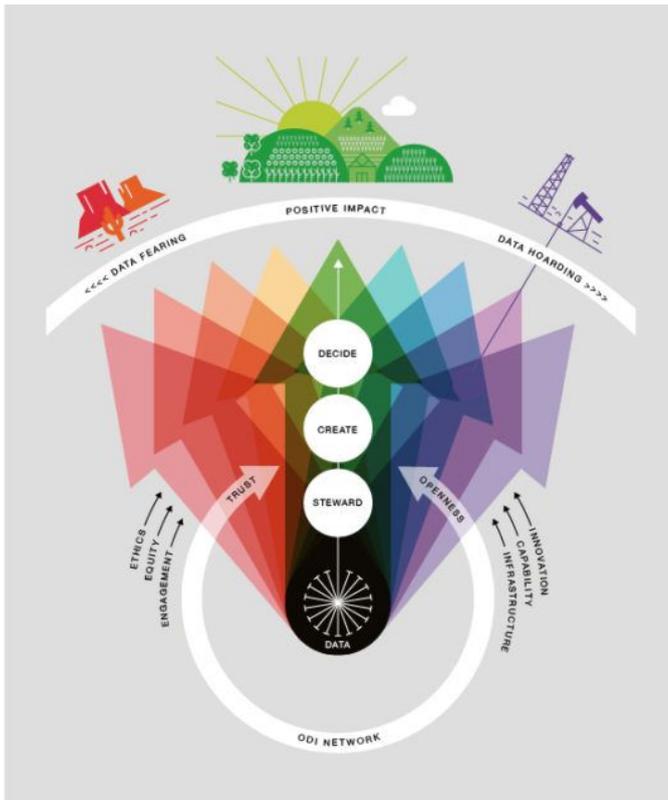
The ODI theory of change[77]

Trust was a key factor for organisations with experience monitoring who uses their services. In the UK, the Equality Advisory & Support Service (EASS) shares data with organisations including the EHRC, as part of their work advising and assisting people on equality and human rights.

We learned from Andrew Goldsby, Community and Partnership Manager at EASS, that they safely and securely collect detailed information about protected characteristics from people using their helpline. This information is provided on a completely voluntary and optional basis. Andrew told us that "it's a case of you can either provide us with nothing, or some of the information, or everything that you feel comfortable with." This approach allows them to monitor which protected characteristics are prevelent when experiencing discrimination, as well as gaining an understanding as to who is using their service.

There are examples of using and publishing monitoring data

Collecting and publishing data to monitor public digital services is accepted practice according to the 'measuring success'[78] section of the GDS 'Service manual'. Data must be collected and published on digital take-up, user satisfaction, completion rate and cost per transaction. The aggregated data is published to the performance dashboard and is available to service providers, government and the public.

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[77] Open Data Institute, 'Theory of change',
https://theodi.org/about-the-odi-our-vision-and-manifesto/our-theory-of-change/
[78] Gov.uk (n.d.), 'Service manual: Measuring success', https://www.gov.uk/service-manual/measuring-success

Services data

Service name contains

Example: Driving licences

Department

All departments

775 services

Download cost per transaction and volume data (CSV)

1.03bn completed transactions per year

total for 376 services out of 775

Department	Service name	Completed transactions per year ▾
Department for Transport	Vehicle tax: checks by individuals	659,734,690
Home Office	Passenger arrivals at the UK border	136,200,000
Department for Transport	Vehicle tax renewals	47,055,169
Department for Environment, Food & Rural Affairs	Cattle Tracing System	20,028,090
Department for Transport	Check driving information	17,606,215
Department for Work and Pensions	State Pension: existing claims	12,896,460
Department for Business, Energy & Industrial Strategy	Requests to Land Registry for official copies of records	10,904,848
Department for Transport	Vehicle registration certificate changes	10,382,205
Department for Transport	Change of registered keeper: notifications	9,464,222
Department for Transport	Vehicle tax: checks by third parties	6,985,406
Home Office	Domestic applications for UK passports	6,483,713
Department for Business, Energy &	Land Registry title register, plan and document views	6,347,019

Image source: Gov.uk

In most cases, the published data does not break down these statistics based on protected characteristics, nor does it describe the outcomes for different user segments. One exception is voter registration, which tracks applications based on age.[79] This demonstrates the technical feasibility of monitoring data being published on the performance platform.

Citizens Advice was frequently mentioned by the government and the civil service as having good practices in collecting and publishing data about who uses its services. We learned from Tom MacInnes, Head of Data at Citizens Advice, that its data collection focuses on five of the nine protected characteristics, with gender reassignment, pregnancy and maternity, sexual orientation, and religion or belief collected less frequently. This approach has clearly been of value, as Citizens Advice and the GDS worked together in 2018 to produce several dashboards[80] which highlight the use of high-level data, including gender and location.

While collecting and publishing data about protected characteristics as people use services isn't widespread or consistent, organisations such as the EASS and Citizens Advice have shown that it is possible.

Inclusive services need more than numbers

We discovered concerns that providers of digital services may focus on data, especially quantitative data, and lose sight of the objectives of equalities legislation, namely creating a fairer, more inclusive society.

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[79] Gov.uk (n.d.), 'Voter registration', https://www.gov.uk/performance/register-to-vote
[80] Government Digital Service (2018), 'Working with Citizens Advice and its amazing data', https://gds.blog.gov.uk/2018/01/10/working-with-citizens-advice-and-its-amazing-data/

Cat Macauley, Chief Design Officer at the Scottish Government, told us: "As a designer, what I struggle with is helping my teams and the people that we work with understand the need to go beyond quant[itive] data. I think where we have real issues with data is around qualitative data."

This point about qualitative data is important. The need to understand not only who is using a digital service, but who isn't and why, is also important. As is the need to grasp who is being excluded and who may be being discriminated against. If service designers can get a handle on these issues, and find a deeper understanding of the reasoning and behaviours behind these questions, they will gain insights which will, we believe, help them design and build more inclusive services. Considering the collection of different types of data and staying clear on the objectives outlined in equality legislation are critical elements of the design process.

Our recommendations

Collect data to understand service users

Our first set of recommendations is for those designing digital public services.

This report has described how digital public services may exclude people by putting up barriers to access, embedding discriminatory algorithms, and/or providing a substantially worse experience for people with protected characteristics. Collecting data to understand service users can help those operating digital services to demonstrate their adherence to equality duties and to understand where to iterate on the design of the service to address any equality issues.

We recommend that service designers start to embed equalities monitoring into the provision of digital public services. However, data about protected characteristics is sensitive and needs to be handled with respect and care. Collecting this data in itself may discourage people from using the service and increase concerns about the government's use of personal data. We therefore recommend that service designers take a measured and informed approach, with an emphasis on trust and ethical practice, and make its impact a focus of user research.

In particular, we recommend that any collection of protected characteristic data for monitoring purposes is designed such that:

- **People can choose to provide information or not:** People using digital services must have a choice of whether to provide or withhold information, including opting out entirely or out of providing certain information, without this having a negative impact on their ability to use the service. The absence of data, where people have opted out, should not be feared. It is valuable data in itself. Data collection is important, but it is not more important than rights and autonomy.

- **Privacy is respected:** People using digital services can provide information about protected characteristics that aren't linked to their records or outcomes; examples of how are already out there, notably the blind applications used by the civil service when hiring staff. Anonymous data collection is more likely to encourage people to volunteer information about protected characteristics, as they are less likely to feel that revealing information would be detrimental to them. Minimise personal data collected to provide the service and maintain a separation at all levels – from front end to back end – between that collected to provide the service and that required for monitoring it.

- **Standards and guidance are followed:** This report has described a number of sources of guidance for the design of accessible services and the collection of protected characteristics data. Refer to and adopt the recommendations of existing standards and guidance rather than develop new ones. This not only reduces effort, but makes it easier to aggregate statistics and compare services.

- **The results are transparent:** People with protected characteristics may already be concerned about discrimination. Hiding data that could reveal discrimination, such as disaggregated statistics about the outcomes experienced by people with different protected characteristics, undermines trust in government further. Transparency of this data, alongside explanations and action plans if the data reveals discrimination, can build trust.

- **Transparency follows good data practice:** Publishing data about who uses

a digital service is valuable for providers of the service, namely government and advocacy bodies. Transparency is important as long as good data practices[81] are followed to aggregate data, reduce the chances of re-identification by individuals recognising themselves, being identified when combined with other data, or by emerging technologies that are not privacy-preserving[82].

Collaborate to develop standards, guidance and training

Our second set of recommendations is for regulators and other bodies supporting and monitoring the adoption of digital public services. We want to see collaboration between them to develop standards, guidance and training on how to collect, use and publish data about the people using those services.

We've seen the impact of effective guidance and standards like the WCAG 2.1[83] in helping digital services improve accessibility. The GDS has committed to helping public sector websites meet accessibility requirements; by 2020 for existing websites and 2021 for apps.[84] Applying lessons learnt in this area is important to developing similar, robust guidance and standards for wider equality.

To produce robust guidance, collaboration is recommended between regulators including the ICO and the EHRC, the GDS and organisations such as Citizens Advice and the EASS, who have mature practices in monitoring protected characteristics. Such an approach would also help provide clarity for those building services so that they understand clearly what they can and cannot do in relation to the various pieces of legislation in this space.

We recommend that the Gov.uk Design System is developed to include styles, components and patterns to collect data about who uses digital services. This should be based on rigorous and collaborative user research, and should consider what data is required as part of the service, how data will be aggregated while protecting user privacy, and when to harmonise data with official statistics to allow easier comparison. Aligning with, or adapting, the GSS harmonisation principles will ensure data collected is robust and comparable with official statistics. This will allow comparison of who is using digital services with who is expected to do so and who may be excluded.

Data at a minimum should include:

- **Protected characteristics:** As a person uses a digital service they should be asked to provide information, optionally and anonymously, about their protected characteristics. This allows the provider to understand who is using their service compared with the population expected to do so.

- **Where the person is:** Protected characteristics guidance can depend on location. Data needed to better understand who is excluded may be collected differently by devolved governments. User research is needed to understand what location data is good practice to collect, for example, postcode, location from IP addresses or other location information.

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[81] Government Statistical Service (n.d.), 'Guidance', https://gss.civilservice.gov.uk/guidance/

[82] Information Commissioner's Office (2019), 'Data minimisation and privacy-preserving techniques in AI systems', https://ico.org.uk/about-the-ico/news-and-events/ai-blog-data-minimisation-and-privacy-preserving-techniques-in-ai-systems/

[83] World Wide Web Consortium (2018), 'Web Content Accessibility Guidelines (WCAG) 2.1', https://www.w3.org/TR/WCAG21/

[84] Government Digital Service (2018), 'How we're helping public sector websites meet accessibility requirements', https://gds.blog.gov.uk/2018/09/24/how-were-helping-public-sector-websites-meet-accessibility-requirements/

- **Why the service has failed:** When a person can't use a digital service, they should be able to share why and which protected characteristics, if any, have contributed to the service failing for them. This allows service failure to be directly related to a group of protected characteristics.

We recommend that guidance for the data elements of the Design System is published as an open standard for data[85]; a reusable agreement between organisations with expertise in service design, equalities, official statistics and monitoring protected characteristics, including the GDS, the GSS, the Race Disparity Unit, the ONS, and organisations outside government like Citizens Advice.

Any open standard for data developed should align with the 'Open standard principles'[86] and be signed off by the Cabinet Office's Open Standards Board[87]. An open standard signed off by the board will encourage reuse within and outside government, providing leadership in how organisations collect and publish data about who uses digital services.

We recommend that guidance covers how to compare who uses a service with the population expected to do so. This comparison should take into account where people live or where they are gaining access from. Service providers should be aware of the impact of devolution when their service is location-specific, and consider measures for services provided throughout the UK. Demographic data, for example census data and Indices of Multiple Deprivation, are collected by respective devolved nations. Guidance around the PSED is also affected by devolution, with specific responsibilities described in Wales and Scotland. The GSS provides detailed guidance on using official statistics and harmonising data across the UK.

We recommend that guidance and training provided to service designers covers how to design services that collect and publish protected characteristics. Service designers should be trained on how to make reasonable adjustments for people who need help with digital channels, as well as people who can't use them.

Inclusive design[88] training for service designers would focus on designing for a wide range of people, including those with protected characteristics. We recommend that training includes:

- **Designing coherent, multi-channel services:** People with protected characteristics may require alternatives to digital channels, which should provide a comparable experience, including monitoring for protected characteristics.

- **Designing for opting-out:** People using a service should have the option to provide or withhold information about their protected characteristics. Their choices should not impact the outcome of the service, for example a person choosing not to share their sexual orientation with the passport service must not be prevented from obtaining a passport.

- **Inclusive user research:** Service designers should be aware of who would use a service and what barriers they could face. Knowing who could be excluded should inform the people and organisations invited to take part in representative user research. User research techniques should also prevent bias in how information is presented and in the final results.

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[85] Open Data Institute (n.d.), 'Open standards for data', https://standards.theodi.org/

[86] Cabinet Office, The Rt Hon Matt Hancock MP and The Rt Hon Lord Maude of Horsham (2018), 'Open standards principles', https://www.gov.uk/government/publications/open-standards-principles

[87] Gov.uk (n.d.), 'Open Standards Board', https://www.gov.uk/government/groups/open-standards-board

[88] University of Cambridge (n.d.), 'Inclusive design toolkit', http://www.inclusivedesigntoolkit.com/whatis/whatis.html

Conduct further research

Our final set of recommendations is for researchers, and the funders of research, on this topic.

This report details the findings of a short research project which presents an overview of the current landscape in the UK. Further research could be undertaken in a number of areas including:

- **Are there other examples of monitoring equal access to services?** We have focused on digital public services in the UK. A broader study could look, for example, internationally, examine practices in the private sector as well as the public sector, and seek to learn more from existing experience in inclusive non-digital services.

- **What other characteristics should be monitored?** We have described the protected characteristics defined in the Equality Act 2010. However, these do not include characteristics such as income, region, living situation or employment status, which may also be associated with digital exclusion and algorithmic bias that exacerbates current inequalities. Further research could explore which other characteristics digital public services should monitor.

- **What impact does monitoring have on users of a service?** Collecting data to monitor the use of a digital service may put people off using that service. This might be particularly true for people who are already concerned about discrimination, which could exacerbate any exclusion that already occurs. Further research could examine how the collection of such data changes how people interact with a service, whether and how this can be mitigated through design, and the degree to which people with different protected characteristics react differently to this monitoring.

- **Can monitoring data be trusted?** People with protected characteristics may be more likely to opt out of data collection which asks about those characteristics, leading to biases in monitoring data. In addition, rather than opting out, people may provide misleading information when completing monitoring forms (such as always selecting the first option). While there are always uncertainties and biases in any optional, self-reported data, further research could examine the extent of these problems, help inform design to mitigate them, and guide analyses of monitoring data.

- **How do people feel about the collection of monitoring data?** Those who collect and use personal data must always make a decision about the balance between the benefits that data can provide and the privacy impacts on those the data is about. Clearly some data must be collected to enable organisations to demonstrate their compliance with their legal duties. But there are choices to be made about the granularity of that data (for example, precise age or age bracket) and the collection of data outside legally specified protected characteristics. Further research could explore public attitudes to the collection of this data, to help guide the design of data standards and guidance.

Conclusion

Many government services, as well as services provided by charities and private sector organisations, have become, or are becoming, digital by default. Access to these often essential services relies on the public knowing how to use websites and applications, as well as having access to digital devices and an internet connection. But this cannot always be guaranteed or taken as standard.

Not only is internet access or use not 100%, many people have certain protected characteristics, protected by equalities legislation, which make it more difficult for them to use the internet; what the ONS describes as 'digital exclusion'. Furthermore, with the development of digital services that extend technology away from the internet to biometric technology, such as voice or face recognition, the risk of exclusion based on algorithmic biases could cause harm we cannot yet fully predict.

Monitoring who uses digital services is necessary to understand who is excluded, and can help service designers make services fairer and more inclusive. Asking about the protected characteristics of service users is a key element of this. Yet we found over the course of our research that organisations were concerned about asking people to provide their protected characteristics. Concerns varied from questions being intrusive, to data collection causing non-compliance with the GDPR and the Data Protection Act 2018.

Service providers should not shy away from understanding who uses their services, and people with protected characteristics should have their privacy and dignity respected when it comes to collecting and publishing data. These goals are not mutually exclusive. To build trust, service providers must show that they can be trusted to both protect privacy and act on the data they collect. Data protection law takes both these points seriously and provides clear guidance on how to make use of data without harming people's privacy or security.

Anonymous, optional data collection, published using good data practice that prevents people from identifying themselves in the data or being identified by the data, will help build trust with communities of people who are excluded from using digital services. Providing suitable alternatives for people who are digitally excluded, as well as making services fair and inclusive, will ensure that more people can access essential services.

Our research shows that it is possible and desirable to collect and publish data about who uses digital services in a way that is safe, secure and respects people's rights to privacy. This data will enable service providers to demonstrate their Public Sector Equality Duty. It will help advocacy bodies, researchers and regulators to hold the government to account. And it will help focus and inform improvements to those public services, so that everyone can benefit from them.