

ADVANCING DATAFIED WELFARE ADMINISTRATION

POLICY
BRIEF

Insights and experiences on the
digital welfare state in Scotland



THE UNIVERSITY of EDINBURGH
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Political Science

Advancing Datafied Welfare Administration: Insights and Experiences on the Digital Welfare State in Scotland

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The views expressed herein and any opinions, interpretations of the data, or errors are the sole responsibility of the authors.

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Executive Summary

What do good digital tools for the welfare state look like? How do these align with Scottish Social Security principals?

Recipients of social security in Scotland are required to navigate a complex landscape of multi-level administrative systems for benefits and services. These services are often 'digital-by-design', making extensive use of digital infrastructures and automated features. However, there is a lack of consideration about how to design and deploy these systems in a way that is based on dignity, fairness, respect, and reflects concerns of users. This policy brief brings together research from three separate research studies (2022-2025) and a stakeholder workshop held in March 2026. Findings show the need for careful design of systems, involvement of affected communities, and acknowledgement of the limitations of technology to replace human support networks.

Key messages:

- Good digital welfare tools must:
 - Minimise the amount of data collected
 - Acknowledge front-end services and back-end data pipelines
 - Embed digital services in human support networks
 - Support individual's agency
 - Be cognisant of the digital welfare ecosystem
 - Avoid exacerbating inequalities
 - Involve affected communities
- Policymakers and product designers should consider not only the design of tools, but their purpose and appropriateness. Digital welfare tools should support benefit take-up and tackle, rather than reproduce, stigma.
- Designers should include civil society, service providers, researchers and those who will be interacting with the system (i.e., claimants) throughout the design process to ensure tools are fit for purpose and created with the communities they serve.
- Designers should consider ways to minimise client administrative burden, including how systems might interact with other public agencies.
- After deployment, agencies have a responsibility to be transparent to clients about data collection in terms of front-end services and back-end data flows. Designers should develop digital welfare tools based on transparent systems of accountability, especially where non-public organisations are involved in data collection and management.

Introduction

People in receipt of working-age social security in Scotland are required to navigate an increasingly **multi-level administrative system** for benefits and services, including approaches that incorporate **digital** and **automated** features. While there are buoyant policy debates within the anti-poverty and policymaker communities in Scotland about the value or eligibility conditions for social security, much less is discussed about administrative approaches involving digital and automated features or heightened data collection capabilities. Yet engagement with such technologies shapes claimants' budgeting, time, physical and emotional wellbeing, child rearing decisions, and rights to privacy. Through the Scottish Social Security Charter, the Scottish Government has committed to social security provision "based on dignity, fairness and respect." Our research argues for these principles to more clearly align with developments in the digital welfare state.

This brief summarises three qualitative research studies examining digital welfare carried out by academics at the University of Edinburgh between 2022 and 2025. These three studies reflect individuals' and organisations' experiences with front- and back-end components of digitalised and automated welfare administration in Scotland. The findings have been synthesised into policy recommendations co-created with individuals and organisations working with public services and affected communities.

The brief proceeds as follows: Each of the studies (*Automating Universal Credit*, *Navigating Digital Welfare*, and *Data Benefits*) are summarised in sequenced sections that outline study aims, research methods, and relevant findings. The brief then derives insights on what good digital tools and services for the welfare state should look like. The brief ends with a section on policy recommendations co-produced by academic, civil service, and third sector participants at a workshop held in partnership with the [Administrative Fairness Lab](#) in March 2026.

The intended audience for this brief includes Scottish policymakers; third sector organisations; government workers, including service designers and implementers; social security activists; and researchers with the aim of ensuring that future debates and policy developments about social security and welfare policies pay greater attention to the use of digital tools and reforms in policy design and delivery.



Research Spotlight: Automating Universal Credit

Morgan Currie

Universal Credit (UC), the UK's largest working age social security payment, is a conditional social security benefit in the UK introduced in 2012. UC is digital-by-design as recipients apply for it online and communicate with case managers through a virtual account. Recipients also use the online account to submit necessary documentation and check the statement they receive reporting their upcoming UC payment.

Unique to UC, automation determines monthly pay based on a complex set of means-testing variables and data linkages with other departments. MPs have long claimed that the automated payment speeds up the flow of data on work activity, creating a more responsive and accurate payment. Yet research on UC by scholars and third-sector groups has found inconsistent and unpredictable experiences for claimants (Griffith, 2021; Mears and Howes, 2023).

Aim:

- To understand the interaction between policy aims and UC's technical design and working claimant's lived experiences with UC's automated payment system to inform policy relevant to UC's technical design.

Methods

Researchers carried out a longitudinal qualitative study with 25 claimants, through interviews and by text messaging them regularly over six months to a year. This approach provided real-time and over-time insights into the lived experiences of users (Currie and Podoletz, 2023a). The study drew on a lived experiences framework to redress the uneven power dynamics of representing the voices of those sharing their daily interactions with UC (Currie and Podoletz, 2023b).

Findings

- The complexity of UC's payment calculation can prevent claimants from anticipating their income each month.
- The payment's automated data sharing feature can lead to inaccurate calculations of a claimant's monthly entitlement.
- The misalignment of UC payment timing with the timeframes in which working claimants receive wages can lead to reduced or no payment the next month.
- Due to the limited time to report childcare charges to DWP, delays may result in late or no payment of the childcare reimbursement.
- Single mothers make up the largest percentage of workers on UC, so these design features will negatively impact this demographic disproportionately.

We link these findings back to two main design features of the UC system. First, the DWP automatically accesses HMRC's earnings data to calculate the monthly UC payment for workers; payment errors can arise from employers reporting income information to HMRC late or wrongly. Second, the rigid 'monthly assessment period' used to determine what earnings data is included in the payment calculation can be misaligned with the timeframes with childcare, in which case they may not receive reimbursement in a timely manner or at all; the monthly assessment period can also conflict with the timeframes in which working claimants receive their wages, in which case their monthly earnings can appear higher than normal, causing their next monthly UC payment to go down the following month.

One claimant group disproportionately impacted by UC's technical design is working single mothers. This demographic makes up the largest percentage of workers on Universal Credit, heading 40% of working UC claimant households (OPFS *et al.*, 2025). These claimants struggled to cover bills when errors or misalignments with employer or childcare schedules occurred; claimants reported increased anxiety and negative impacts on household budgeting.

Further information

Webpage: <https://automatinguc.co.uk/>

Key project outputs:

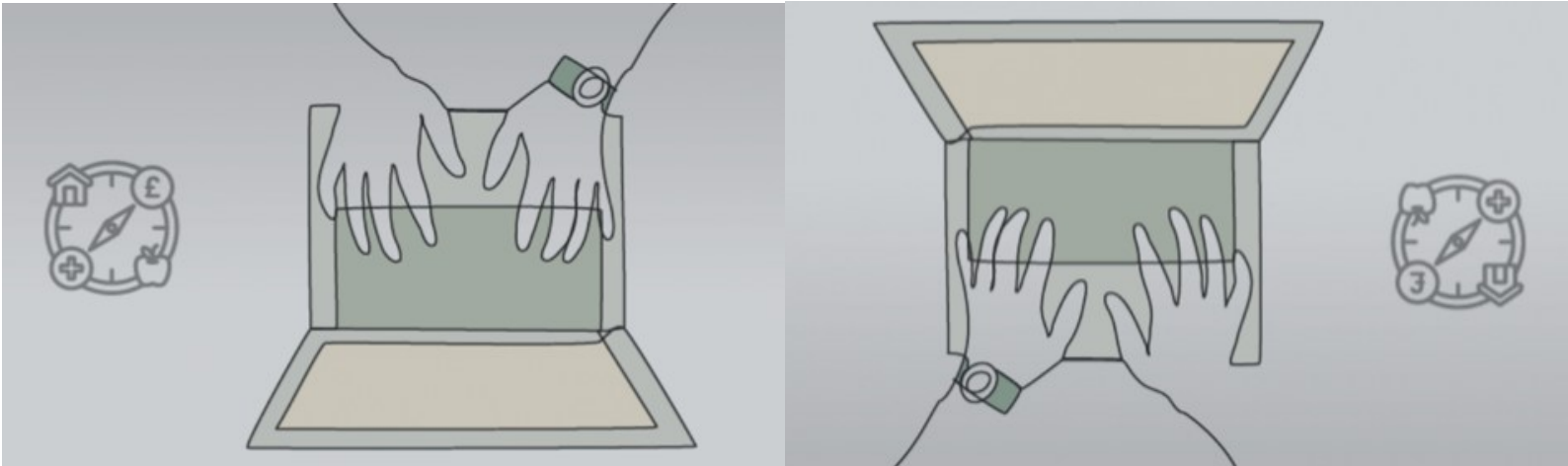
[Automating Universal Credit Roundtable Summary Report](#)
[Design Problems of Universal Credit and single working mothers](#)
[Algorithmic Accountability in the UK: How FOIA Sheds Light on Automated Welfare](#)

Academic publications:

Bennett, H., Currie, M., Podoletz L. (2026). Universal Credit: administrative burdens of automated welfare. *Journal of Social Policy*. 55(1):24-42.

Podoletz, L. and Currie, M. (2024). Automating universal credit: A case of temporal governance. *First Monday*, 29(2). <https://doi.org/10.5210/fm.v29i2.13580>.

Currie, M., and Podoletz, L. (2023a). Emotions and dynamic assemblages: A study of automated social security using qualitative longitudinal research. In *Proceedings of the 2023 ACM Conference on Fairness, Accountability, and Transparency (FAccT '23)*. Association for Computing Machinery, New York, NY, USA, 1101–1111. <https://doi.org/10.1145/3593013.3594066>. of the Association for Information Science & Technology (ASIS&T). Oct. 29 – 31. London, United Kingdom. <https://doi.org/10.1002/pr2.813>.



Research Spotlight: Navigating Digital Welfare

Hayley Bennett

The Scotland Act 2016 gave the Scottish Government new powers relating to social security, including responsibility over certain benefits. This has led to a context where some social security recipients in Scotland need to navigate multiple administrative processes designed by UK government agencies, Scottish government agencies, and local authorities to access various cash transfers/benefits or understand their potential entitlements. Some services require annual or one-off applications; some are real-time updates (e.g., Universal Credit), and some are passported processes, requiring receipt of one benefit to be eligible and receive another (such as Scottish Child Payment).

Claiming simplicity, policymakers and operational designers are increasingly moving away from their former paper-based, human-centered applications towards digital, online and automated approaches to deliver social security and anti-poverty support. However, agencies often develop their own distinct application processes, digital interfaces, back-end services, and thus administrative approach without acknowledging how they become a complex collective experience for benefit recipients.

Aims:

- To understand the experiences of benefit recipients interacting with different agencies and applications in Scotland.

Research Questions:

- How do people in receipt of multiple benefits in Scotland experience various digital-interfaces and administrative processes?
- How can creative methods gather these experiences and views?
- How can findings be fed back to designers and policymakers?

Methods

To document claimants' front-end experiences, Navigating Digital Welfare deployed innovative research methods across two one-day workshops in two Edinburgh neighbourhoods (East and West) via community hubs. Workshops provided drop-in spaces with interactive stations where researchers talked to benefit recipients.

Both workshops offered four unique stations to the 40 adult research participants: 1) a mapping station to identify the range of benefits and sources of support; 2) a photo elicitation station that guided short interviews used to capture specific experiences with Universal Credit applications and digital interfaces; 3) a zine-making station led by an artist at which research participants expressed visually how claiming benefits makes them feel; and 4) a graffiti wall station through which claimants expressed their feelings about applying for different benefits.

Findings

This study's findings outline how individuals:

- are interacting with multiple interfaces to claim a range of benefits or access support,
- experience the hardship of that systemic complexity as administrative burdens are multiplied,
- do not comprehensively understand the links between different agencies in terms of data sharing, communication, or conditionality requirements,
- cannot accurately identify which agencies are responsible for designing and administering different social security payments (although most were aware that the Department for Work and Pensions operate Universal Credit),
- fall foul of different rules or engagement requirements due to confusion about who delivers which benefit and how best to engage,
- seek out human support to help them to understand different application processes, including how to sign up and apply for benefits via digital interfaces,
- struggle to find human support with up-to-date knowledge on benefits and application processes. People found official welfare rights agencies and professionals (e.g., those in housing associations) the most useful.

Difficulties faced by claimants specifically include unpredictable interfaces, changeable communication processes (as different agencies seek to modernise administrative processes at different times) and accessing human contacts. This context may lead to underclaiming, misinformation, or an inability to access services.

Several respondents were keen on the idea of just one digital interface where they could find out all their entitlements, apply for entitlements once, and manage one digital relationship. However, such a scenario could entail devolved and localised benefits losing control of key design features, including ensuring the social security charter principles translate into administrative practices.

Further information

Project Website: <https://digitalwelfare.sps.ed.ac.uk/>

Zine: <https://digitalwelfare.sps.ed.ac.uk/reports>

Reports: [Methods Report](#) | [NDW Scottish Choices Report](#)

Academic publications: Bennett, H. (2026). "Navigating Digital Welfare: A Multi-Level Maze?" *Social Policy & Administration* 60, no. 1: 27–38. <https://doi.org/10.1111/spol.13138>.



Research Spotlight: Data Benefits

Morgan Currie and Vicky Gorton

Personal data is routinely collected by government agencies to assess eligibility and to administer social security schemes. There is increasing interest in how this data can be used to maximise the take up of benefits and to reduce the administrative burden on individuals through automatic enrollment and payment of a benefit. Data sharing between agencies offers the promise of transforming the delivery and evaluation of social security, helping those most in need to receive the support they are entitled to. However, doing so requires not only legal and technical processes but public support.

Aims:

- To review current data sharing activities relating to social security administration
- To identify realistic future scenarios for further data sharing
- To gather attitudes of those in receipt of benefits towards the sharing of their data for the purposes of benefits administration and academic research

Methods

Researchers used interviews with eight government, third sector, and academic stakeholders to co-produce four current and realistic possible scenarios for social security data sharing for the public good. These scenarios were discussed during seven focus groups at community centres in Edinburgh with 41 individuals who receive benefits to understand their views on data sharing.

Findings

- Participants' thoughts on data sharing were closely related to their daily experiences of data collection and social security systems.
- Participants are concerned with inaccurate data being shared, lack of consent or knowledge around data sharing, and disproportionate sharing of their data.
- Participants also saw how data sharing could make receiving benefits easier, ensure entitlements, prevent penalties and facilitate research for the public good.
- Understanding attitudes and experiences of affected communities should be grounded in specific scenarios rather than general attitudes, as views often change depending on the context.

- Communities want to be consulted and involved in discussions around data sharing and linkage.

Across every focus group, while a handful expressed trust in data sharing processes and the government, most strongly distrusted agencies and their ability to keep their data safe. Participants' thoughts were closely related to their daily experiences of data collection and social security systems, which for most went hand in hand with commercial and state surveillance and inequality. Many were aware of news stories about public sector data breaches or abuses.

All participants expressed concerns about the data sharing scenarios. These included: the potential negative impacts of inaccurate data sharing for individual's accessing benefits; a lack of choice or consent by individuals around what happens to their data; not knowing how their data would be used; and agencies sharing more information about them than was strictly necessary or proportionate. However, when discussing the four co-produced data sharing scenarios, participants did identify some advantages of data sharing: data sharing could make receiving benefits easier for claimants, potentially help ensure entitlements for those who qualify, possibly prevent penalties and theoretically facilitate research for the public good.

This research demonstrates the importance of talking to affected communities in ways that are grounded in specific scenarios rather than general attitudes, as views often change depending on the context. This study also highlights the interest these communities have in being consulted in discussions around data sharing and linkage.

Further information

Project Website: <https://www.sps.ed.ac.uk/research/research-project/data-benefits>

Reports: [Data Benefits: A study on Social Security Data Sharing in Scotland](#)

Research Synthesis: What do good digital tools for the welfare state look like?

By combining the research and insights from the three studies, we propose a series of key recommendations for the design and delivery of Scottish digital welfare. There is a need to:

Minimise the amount of data collected

Digital tools create concerns about state surveillance. Transparency and data minimization are essential.

Acknowledge front-end services and back-end data pipelines

Digital tools involve both front-end services and back-end data flows of potentially sensitive data. Both must be considered and communicated.

Embed digital services in human support networks

Application processes can be complex; digital tools should never replace the often-necessary human support that help individuals navigate social security and anti-poverty services.

Support individual's agency

Digital and automated processes must always be a choice made by the individual.

Be cognisant of the digital welfare ecosystem

Individuals often interact with multiple tools, each of which have different interfaces and back-end processes. Multiple (and often disparate) digital welfare reforms increase administrative burdens instead of lowering them.

Avoid exacerbating inequalities

Gender, race, class and physical ability, among other characteristics, shape people's interactions with digital services; designers should anticipate effects on certain groups.

Digital welfare and the Scottish Social Security Principles

On 31 March 2026, we held a workshop at the University of Edinburgh including participants from civil society/third sector organisations, Scottish Government, academics, and researchers to present the research findings and recommendations. We mapped the research insights, attendee experiences and collective views onto the Scottish Government's seven Scottish Social Security charter principles to co-produce the following recommendations:

Pre-design and pre-deployment of digital welfare tools: Designers must always consider both the *purpose* and the *appropriateness* of digital welfare tools and of sensitive data collection.

The aim of digital welfare should be to make support more accessible to those most in need and to reduce inequalities, rather than efficiency through low-cost reforms. Digital welfare tools should tackle, rather than reproduce, stigma and support benefit uptake. Digital welfare, including AI and automated systems, should be used in a proportionate way that considers the limitations of technology for human interaction and support.

Designing digital welfare tools: Designers should *include civil society, service providers, researchers and the voices and experiences of those who will be interacting with the system* throughout the design process and for service delivery and improvement; this should be done by safeguarding client privacy and well-being (eg, not experimenting on real claimants without their knowledge).

Digital welfare tools should be designed to align with legislation, societal values, and up to date inequalities research. Designers should explore ways to *minimise claimant administrative burden*; for instance, they should consider how their digital system might interact with other public agencies and whether joined-up service delivery with other social security systems would reduce barriers to support.

At the same time, designers should *limit sensitive data collection* beyond what is necessary to carry out the service. Designers should also always acknowledge potential inaccuracies of recorded data and take this into account when making data-driven decisions for policy and design iteration.

Post-deployment communication about digital welfare tools: Digital welfare systems should be *transparent to clients about data collection* in terms of front end services and back-end data flows. Designers should develop digital welfare with transparent systems of accountability, especially where private sector organisations are involved in data collection and management.

Designers should adopt an iterative design approach that continuously incorporate client, civil society, and researcher feedback.

Mapping the research insights, attendee experiences and collective views onto the Scottish Government's seven Scottish Social Security charter principles:

Scottish Social Security Principle	What this means for digital welfare tools and practices
Social security is an investment in the people of Scotland	Policy makers and designers should examine digital welfare tools' appropriateness as a mode of engagement with individuals in receipt of social security and consider the limits of using technology to manage human relationships. Investment in digital welfare tools should be based on improving accessibility and useability for those most in need of support.
Social security is itself a human right and essential to the realisation of other human rights	Stakeholders must understand digital welfare tools as part of a support network involving humans and technology, where the primary aim is to reduce inequalities. Policymakers and service designers should: - Continuously question how the proposed use of digital welfare tools aligns with appropriate legislation and values during the conception, development, and delivery stages - Consider what equalities data is most effective for designing digital welfare tools
The delivery of social security is a public service	Digital welfare tools should: - Reduce services and knowledge barriers between public agencies to improve joined-up service delivery - Be understood as involving both front-end services and interfaces and back-end, sensitive data flows - Be developed with transparent systems of accountability, especially where private sector organisations are involved in data collection and management
Respect for the dignity of individuals is to be at the heart of the Scottish social security system	Scottish Government should work with various stakeholders to: - Design digital welfare tools based on clients' experiences and lives - Encourage informed participation by clients in design stages and feedback post-deployment, using a robust safe-guarding process - Consider the tensions between privacy and disclosure and the need to produce data for service improvement - Understand the limits of digital welfare tools, including AI and automation.
The Scottish social security system is to contribute to reducing poverty in Scotland	The Scottish Government and various stakeholders (including civil society, academics, researchers) should: - Use digital welfare tools to tackle (rather than reproduce) stigma and support benefit uptake - Acknowledge potential inaccuracies and parameters to recorded data - Give more consideration to existing ethnicity data gaps and find appropriate solutions - Explore ways to minimise claimant administrative burden
The Scottish social security system is to be designed with the people of Scotland on the basis of evidence	The development of digital welfare should: - Involve affected communities - Involve greater collaboration between system designers, researchers, policy makers, civil society, and people who experience poverty

Opportunities are to be sought to continuously improve the Scottish social security system in ways which put the needs of those who require assistance first and advance equality and non-discrimination	The development of digital welfare tools and evaluations of effectiveness should: - Consider the appropriateness of automated payments and data sharing - Adopt an iterative design approach that supports 'test and learn' - Critically examine opportunities to improve services and systems that avoid experimenting on real claimants - Involve third sector as human support
The Scottish social security system is to be efficient and deliver value for money	Policymakers, operational managers and system designers should: - Acknowledge the complex nature of anti-poverty support beyond front-end services - Consider the appropriateness of personal data collection - Recognise that efficiency does not mean only prioritising low costs reforms - Appreciate digital tools as instruments for improving human engagement not as a substitute or proxy - Connect the government's potential use of digital welfare tools to Scotland's growing tech sector to explore potential resources

For further information about ADWA, any of the projects discussed, or future research collaborations exploring the digital welfare state in Scotland please contact:

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