Reflections from the Human-Centred Design Science team, Department for Work and Pensions (DWP)

July 2025

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Contents

Executive Summary

This paper is part of the Public Design Evidence Review (PDER) and assumes familiarity with at least the Brief Guide.[1] It aims to inform conversations about next steps on public design, drawing on what we've learned through the PDER, and our experience of integrating design and other innovations into collective decision-making in DWP. It is a think piece rather than formal research or recommendations.

When policy interventions fail – could public design have helped prevent a 'Blunder'?

Programmes that didn't go as planned, such as the Child Support Agency in its early years,[2] give us the opportunity to explore how public design might have helped. The original processes for collecting maintenance did not respond well to the complexities of family situations, something which user testing and better feedback loops could have identified. The tension between money for families and savings for the taxpayer (via reduced benefits) was unresolved, leading to a service which failed to deliver for either. Design could have helped navigate those tensions.

Public design as a powerful psychotechnology

Many approaches have been tried to improve policy outcomes. We've experimented with several, including systems thinking, behavioural science, strategic analysis, and design. These tools all augment human thinking and group decision-making, and we describe them with the cognitive science term 'psychotechnology'. We offer three new hypotheses about how public design improves decision-making:

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[1] Public Design Evidence Review: A Brief Guide. Available here: <u>Public Design for Transformational Change: A Brief Guide (PDF)</u> and here: <u>Public Design for Transformational Change: A Brief Guide (HTML)</u>

[2] King, A. & Crewe, I. (2013). The Blunders of our Governments. London: Oneworld.

1. By expanding the range of data available in the decision-making process – especially about experiences, system dynamics, and unintended consequences

2. By increasing the amount of data that people can consider simultaneously – through visualisation, prototyping, and collaborative sensemaking

3. By broadening the range of 'frames' available for making sense of data – through enabling and flexing alternative interpretations of problems or situations.

When might public design go wrong?

Like other psychotechnologies, public design can be misunderstood, misapplied, or rejected by systems not ready to absorb it. We've seen four major pitfalls:

- Overclaiming: a fine line must be walked between underselling the potential of design and over-promising its benefits to the public sector, especially in isolation

- Tissue rejection: introducing public design into environments that lack the conditions for it to take root can result in eventual failure

- Pendulum swing: without proper integration, helpful existing practices may be abandoned in favour of new ones, including those labelled 'design'

- 'Cargo cult' adoption: applying design via surface features and 'buzzwords' instead of rigour can harm government, citizens, and the credibility of design.

What might help public design realise its transformational potential?

- Definitional clarity: a shared language is essential for collective alignment

- Ongoing learning: thoughtful interrogation of practical experiences, alongside more formal types of evaluation, would help public design to evolve and adapt

- Actively considering the roles of capability versus conditions: Public design practices can emerge under conducive conditions, even without professional designers, as seen in the programme to implement automatic enrolment into workplace pensions. Conversely, even expert designers may struggle in unsupportive environments. This suggests that while upskilling and external expertise have value, they are unlikely to succeed without parallel efforts to shape the organisational conditions that enable design to thrive.

Public sector conditions that matter to the success of public design

Subtle barriers influence public design outcomes. From our experience we highlight:

- HR policies and practices: high churn in roles at all levels can disrupt the relationships and knowledge necessary for new approaches to embed

- Funding and evaluation requirements: public design approaches aren't an automatic fit for the traditional evaluation often expected by funding bodies

- Accountability and scrutiny systems: design approaches can come into tension with the demand for clarity and traceability in public decision-making.

Contributors and Acknowledgements

Contributors

The following individuals from the DWP Human-Centred Design Science team, listed in alphabetical order, made substantial contributions to the development, refinement and/or quality assurance of this work: Dr Kayleigh Edmundson, Cate Fisher, Will Gliński, Dr Russell Henshaw, Alice Holmes, Dr Owain Nash and Ben Savage.

Acknowledgements

We are indebted to colleagues from academia, the design community, across government and elsewhere, who generously shared their experience and feedback throughout the drafting process. Their contributions have helped to shape a document that we hope will help colleagues and partners understand public design and how it can be of greatest benefit to the public sector.

We are extremely grateful to individuals who provided critical peer review and feedback on a near-final draft of this paper: Ryan Barton, Dr Weston Baxter, Andrew Besford, Alejandra Diaz, Alice Goldman, Kat Gough, Jennifer Heigham, Dr Catherine Howe, Professor Lucy Kimbell, Thomas McCarthy-Evenson, Paul Moran, Julia Ross, Anne Thurston, James Wolfe and Claire Wraith. Their expertise and guidance have been invaluable. Finally, we extend thanks to those individuals who gave their time to proofread this paper along with all the others published as part of the Public Design Evidence Review.

1. Introduction

It has been a privilege to lead on the publication stage of the Public Design Evidence Review. Conceived in the Policy Profession Unit, prepared for publication in the Department for Work and Pensions (DWP), and launched by the Cabinet Office at a venue provided by University of the Arts London, it has been a cross- and beyond-government effort. This paper is an opportunity to share insights gathered along the way by our Human-Centred Design Science team – a group of social scientists dedicated to identifying the capabilities needed by the government of the future.

This paper, which assumes familiarity with at least the Brief Guide,[3] is the final piece of the PDER but not the end of the conversation. It hopes to bridge the gap between formal evidence and subsequent conversations about next steps, from the vantage point of a team that has worked on DWP transformation for ten years. It is not a set of firm conclusions, findings or recommendations, but rather ideas, hypotheses, and additional insights about the nitty-gritty of transformation. Our practical examples are not formal evaluations of the broader policies, but a window into what can work and what doesn't, providing learning which can and has been used to do things better.

It starts with an introduction to the role of our team and how our work includes bringing new tools and techniques into government. It explains why we think such new approaches need their own term, and why we think that term is 'psychotechnologies'. Then, just like our team, the paper focuses on the real problem: policy interventions don't always work – why is this? We consider one of the case studies in 'The Blunders of our Governments'[4] and reflect on how public design might have changed the outcome. We go on to explain why we think public design is a set of powerful psychotechnologies, and offer an early set of hypotheses that might explain how they generate better collective decision-making. Looking

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[3] Public Design Evidence Review: A Brief Guide. Available here: <u>Public Design for Transformational Change: A Brief Guide (PDF)</u> and here: <u>Public Design for Transformational Change: A Brief Guide (HTML)</u>

[4] King, A. & Crewe, I. (2013). The Blunders of our Governments. London: Oneworld.

across the lessons we've learned with a range of psychotechnologies, we highlight potential pitfalls to avoid, and strategies that can help new practices land well. We conclude with a set of organisational conditions that will need to be adapted, or adapted to, if design is to transform the public sector. Throughout we draw on developments in cognitive science, especially the work of Professor John Vervaeke.[5] He and others explain that thinking is not just brainwork – it's how bodies and environments work together to make sense of things and solve problems. Nowhere is that more challenging and complex than in the public sector.

At key points in the paper we use examples, many drawn from our own experiences at DWP, to ground our reflections in real-world learning. Our intention isn't to make claims about the success or failure of the broader policy, but to demonstrate our emerging understanding of what can work, what doesn't, and pitfalls to avoid.

2. How have the Human-Centred Design Science team approached this work?

Our team had multiple goals when it was founded in 2015 with a remit to look across all of DWP. These ambitions reflected the perspectives of our sponsoring Directors General (DGs), one from policy and one from digital transformation, and included:
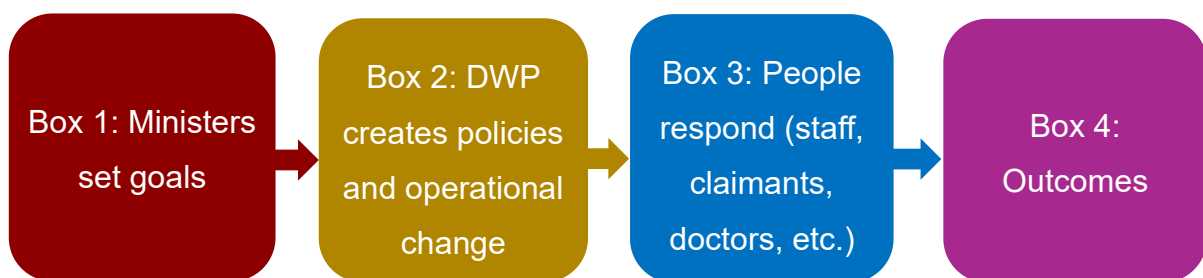
- taking human-centred design 'upstream' into policymaking to produce better policies and to help policymakers collaborate in digital service development

- bringing social science, especially psychology, sociology, and anthropology, to help with some of the heavy lifting in policymaking (framing and guiding policy solutions) that had previously been done by economics alone

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[5] John Vervaeke is a cognitive scientist at the University of Toronto.

- reverse-engineering the 'magic ingredients' in one of DWP's most successful programmes, automatic enrolment into workplace pensions (included in the Case Study Bank).[6]

Our sponsor DGs hoped this team could find new ways into old problems and improve our success as makers and deliverers of some highly complex areas of social policy. We presented our purpose to ministers in terms of the following model:

Figure 1: The hidden leverage point: assumptions made during change

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Box 1: Ministers   →   Box 2: DWP          →   Box 3: People        →   Box 4:
set goals              creates policies        respond (staff,          Outcomes
                       and operational         claimants,
                       change                  doctors, etc.)
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When interventions don't achieve policy goals, it's common to think that the problem lies in the decision-making of end users or staff (Box 3). However, if we suppose that people behave reasonably within the context afforded to them,[7] why do we create policies and processes that assume they would behave otherwise? Our team zoomed in on Box 2 – what factors drive design decisions and how could they be improved? Even if we hadn't been directly tasked with importing human-centred design into policymaking, it was logical for us to start to unpack the 'design' that was happening all around us, in operations as well as policy. We also explored how these

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[6] Public Design Evidence Review: Case Study Bank. Available here: Public Design Evidence Review: Case Study Bank (PDF) and here: Public Design Evidence Review: Case Study Bank (HTML)

[7] Madsen, J.K., de-Wit, L., Ayton, P., Brick, C., de-Moliere, L., & Groom, C.J. (2024). Behavioral Science Should Start by Assuming People are Reasonable. Trends in Cognitive Science, 28(7), 583-85.

decisions were made differently in cases of notable success such as the automatic enrolment programme. Our collaboration since the end of 2016 with one of the leading academics in this review, Professor Lucy Kimbell, turbo-charged our journey.

Drawing on cutting-edge thinking from around the globe, we have collected and adapted new approaches that have the potential to lead to better collective decisions in the policymaking and delivery process. We've had the opportunity to try these out in the context of DWP's knottiest problems, from policy and operations to change programmes, finance and HR. We've experimented with design methodology, systems thinking, theory of change, agile ways of working, strategic frameworks such as SWOT analysis, and behavioural science tools such as COM-B.[8]

We think it's helpful to have a term for what has been previously described using vaguer concepts such as 'tools', 'approaches', 'methods', or 'ways of working'. We landed recently on a concept popularised by cognitive scientist John Vervaeke: 'psychotechnology'. He defines this as "a socially generated and standardized way of formatting, manipulating, and enhancing information processing that's readily internalizable into human cognition".[9] Psychotechnologies are not just part of an individual's knowledge or skills. As cultural practices they also shape group behaviour, attention and judgement by providing a shared cognitive scaffolding for prioritising and filtering complex information. Psychotechnologies thereby affect what John Vervaeke calls 'relevance realisation'[10]: the process by which our minds determine whether and how information is perceived as important or meaningful. This is critical for problem-solving at both the individual and group level.

It has occurred to us that public sector organisations need to be savvy about adopting tools that augment human thinking and collective action, just as they need

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[8] Michie, S., Atkins, A., & West, R. (2014). The Behaviour Change Wheel: A Guide to Designing Interventions. Sutton: Silverback Publishing. pp. 59-65.

[9] Vervaeke J. Awakening from the Meaning Crisis: Episode 42.

[10] Vervaeke, J., Ferraro, L., & Sookman, A. Relevance, Meaning and the Cognitive Science of Wisdom. In M. Ferrari, & N. Weststrate (Eds.), The Scientific Study of Personal Wisdom. (2013) Springer, Dordrecht. pp. 25-7.

to be informed customers (and catalysts) of digital technologies. This review sought to build an evidence base about how to do this well in relation to design. We jumped at the chance to participate, bringing our scientific skills, experience working with design and other psychotechnologies, and the perspective that comes from our position exploring how decisions are made in the heart of government.

3. When policy interventions fail – could public design have helped prevent a 'Blunder'?

The value of public design in government policymaking and delivery is explored in various ways throughout this review. A useful additional exercise involves looking back at programmes that did not go as planned and thinking through the ways in which public design practices as set out in Literature Review Paper 1[11] and section 1 of the academic's Landscape Review[12] might have mitigated or avoided the problems experienced.

King and Crewe's 'The Blunders of our Governments'[13] provides examples for such thought experiments. Take the case of the Child Support Agency. In its conception, there was cross-parliamentary support for creating a new system of administering child support payments. This popularity was based on its potential to improve the lives of lone parent families as well as cracking down on non-paying parents. Yet in

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[11] Public Design Evidence Review: Literature Review Paper 1 - Public Design. Available here: Public Design Evidence Review: Literature Review Paper 1 - Public Design (PDF) and here: Public Design Evidence Review: Literature Review Paper 1 - Public Design (HTML)

[12] Public Design in the UK Government: A Review of the Landscape and its Future Development. Available here: Public Design in the UK Government: A review of the Landscape and its Future Development (PDF) and here: Public Design in the UK Government: A review of the Landscape and its Future Development (HTML)

[13] King, A. & Crewe, I. (2013). The Blunders of our Governments. London: Oneworld.

its implementation the Child Support Agency became one of the most maligned parts of the public sector. Design approaches might have mitigated two sources of failure.

First, the processes for collecting maintenance and calculating its impact on family benefits did not respond well to the complexities of many family situations and was difficult to use – especially as it included all separated families, not just the lone parents it was conceived to benefit. User testing could have revealed that an application process requiring over 100 pieces of information (attempting to cover all possible scenarios) would be hard to complete and administer. Delays created payee debts. Subsequent simplifications and digitisation led to claims getting stuck in an imperfect computer system, with complex older cases still requiring administration. An embedded test-and-learn approach with feedback loops may have helped.

The more challenging design element was that there were two potential problems to be solved, but these were in tension: the first was that failure of absent partners to pay their way was costing the Treasury via the benefits bill. The second was that lone parent families were poor, and additional money from absent partners could have improved children's lives. By the point of implementation, the decision had quietly been made to deduct pound-for-pound the maintenance against benefits, meaning many families saw no financial improvements. The focus on enforcement also meant that the new system could damage relationships between separated partners, sometimes to the point of physical danger, for no material benefit to the parents who were the primary carers. A system can be designed to achieve multiple outcomes, but fudging system trade-offs, however unpalatable, does not end well (in this case, a 2006 report described the system as "failing to deliver, for children, parents and the taxpayer").[14] Furthermore, if policy changes, this can have knock-on effects for what can reasonably be assumed about users. Parents who are the primary carers would react differently to a service which financially benefitted them versus one that would leave them in a similar, or worse, position. This illustrates the importance of not divorcing the policy and strategic context from the detailed service

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[14] Henshaw, D. (2006). Recovering Child Support: Routes to Responsibility, Sir David Henshaw's Report to the Secretary of State for Work and Pensions (PDF file. Size 280KB). Cm 6894. London Stationery Office. pp.1,4.

design – greater collaboration and consistent focus on user needs would be likely to have picked up the implications of a changing policy context.

This example, along with other 'blunders', provides us with insight into how and why traditional policymaking fails. While there is no established definition of 'traditional' policymaking, there is a good understanding of common characteristics that shape real world policy-making practices[15,16] and the gap between the theory and practice.[17]

4. Public design as a powerful psychotechnology

Many new approaches have been tried over the years, with varying degrees of success, to de-risk policy interventions and find ways into previously intractable problems. Our team have been so struck by the power of design approaches that in 2023, we changed our name from 'Behavioural Science' to 'Human-Centred Design Science'. Design isn't the only set of psychotechnologies that we find valuable in our day-to-day practice (our current go-to toolkit blends design with systems thinking, social science and conceptual analysis), but it can do a lot of heavy lifting. Being part of this Public Design Evidence Review has given us the opportunity to reflect on why. Drawing again on cognitive science literature, we offer three novel hypotheses about the mechanisms by which public design improves collective decision-making:

1. Expanding the range of data available in the decision-making process

2. Increasing the amount of data that people can consider simultaneously

3. Broadening the range of frames available for making sense of data.

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[15] Cairney, P. (2023). <u>What Does Policymaking Look Like?</u>

[16] Hallsworth, M., Parker S., & Rutter, J. (2011). <u>Policy Making in the Real World</u> (PDF file. Size 980KB).

[17] Hilger, L. (2024). <u>Mind The Gap: Social Policymaking in the UK in Theory and Practice</u>.

This framing aligns with Liedtka's description of design thinking as a 'social technology' that builds dynamic capabilities by shaping the emotional and cognitive experiences of innovators, offering a complementary perspective to Vervaeke's notion of psychotechnologies and relevance realisation.[18]

Hypothesis 1: Expanding the range of data available in the decision-making process*.*

Public design prioritises and offers tools for exploring and making visible aspects of the world that tend to stay on the periphery of policymaking. This includes micro level detail, macro level systems and the relationships between things (e.g. relationships between different people, or between people and places, buildings, or technology). User research, for example, illuminates the local detail of a person's life, and also reveals elements of the wider system, because that person experiences a policy or service in the context of other policies and systemic factors. Testing prototypes with users yields precise and grounded information about causal patterns in the world.

Ongoing involvement of different perspectives means yet more data, with opportunities for new, updated information about reality to make its way into the process. These benefits are familiar to those who have seen agile project management, done well, emphasising frequent interaction of software developers, internal customers, and end users.[19] Ambiguities can be resolved as they arise (versus having to be fully specified in a requirements document) and unanticipated developments such as technical challenges can be responded to quickly in ways that

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[18] Liedtka, J. (2020). Putting Technology in Its Place: Design Thinking's Social Technology at Work. California Management Review, 62(2), 53-83.

[19] Rigby, D., Sutherland, R., & Takeuchi, H. (2016). Embracing Agile: How to Master the Process that's Transforming Management.

meet the needs of all three groups. The Case Study Bank[20] and Design Thought Leader report[21] show that design tools can help manage relationships between people, places, and things in policy settings, too.

Agile, at its best, also exemplifies integration of Vervaeke's four types of knowledge[22]: propositional (we know that), procedural (we know how), perspectival (we know what it is like to perceive the world from a certain point of view), and participatory (we know how to adopt certain roles, identities and relations to others and the world). Traditional policymaking relies heavily on propositional and procedural knowledge. Design can help combine these with perspectival and participatory knowledge – systematically incorporating important ways that people experience the world.

Hypothesis 2: Increasing the amount of data that people can consider simultaneously*.*

Visualisations can help make detailed data more accessible, easier to retain and easier to integrate during policymaking. This is particularly true of techniques such as systems maps, video ethnography and rich pictures (a form of sketch art). For example, ethnographic videos and photos can expand the breadth and contextualisation of information immediately available to decision-makers and increase the relatability of people's real-life experiences. Rich pictures can show a

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[20] Public Design Evidence Review: Case Study Bank. Available here: Public Design Evidence Review: Case Study Bank (PDF) and here: Public Design Evidence Review: Case Study Bank (HTML)

[21] Public Design for Transformational Change: International Perspectives from Design Thought Leaders. Available here: Public Design for Transformational Change: International Perspectives from Design Thought Leaders (PDF) and here: Public Design for Transformational Change: International Perspectives from Design Thought Leaders (HTML)

[22] Henriques, G. (2021). John Vervaeke's Brilliant 4P/3R Metatheory of Cognition.

wide range of imagined aspects of a current or future policy that would be difficult to portray compellingly in words. Causal loop mapping can demonstrate the relationships within systems with far greater impact and clarity than a narrative can.

Studies have shown that visualisations can reduce the burden on working memory, allowing users to offload complex information onto visual artifacts.[23] They leverage human pattern recognition, making interconnections and systemic effects more salient, fostering insights that might otherwise be missed. In fact, humans are doing more than recognising patterns in these visualisations, they are creating new interpretations and syntheses which themselves guide what is seen as important or relevant. As Cross (1992) puts it, "the solution is not simply lying there among the data, like the dog among the spots in the well-known perceptual puzzle; it has to be actively constructed by the designer's own efforts".[24]

Visualisations do not replace the need for words; good visualisations should be underpinned by detailed verbal descriptions. Indeed, visualisations may be especially potent in combination with narratives or stories to unravel 'what's going on here?'.[25] Stories can create dynamic, internal visualisations by way of language's ability to activate neural mechanisms that 'simulate' events and experiences.[26]

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[23] Larkin, J. H., & Simon, H. A. (1987). Why a Diagram is (Sometimes) Worth Ten Thousand Words. Cognitive Science, 11(1), 65-100.

[24] Cross, N. (1982). Designerly Ways of Knowing. Design Studies, 3(4), 221-227.

[25] King, M., & Kay, J. (2020). Radical Uncertainty: Decision-making for an Unknowable Future. London: The Bridge Street Press.

[26] Speer, N.K., Reynolds, J.R., Swallow, K.M., and Zacks, J.M. (2009). Reading Stories Activates Neural Representations of Visual and Motor Experiences. Psychological Science, 20(8).

Hypothesis 3: Broadening the range of frames for making sense of data.

Different perspectives aren't just collected and 'fed into' policymaking or service design. These perspectives offer different problem 'frames': ways of interpreting, and making sense of, problems or situations.

In policymaking, it can feel as if we're looking at the problem as a whole, but in fact some parts are in high resolution and others in low resolution, because the whole problem and its context would overwhelm our limited cognitive capacity. Let's use the visual system as an analogy. The potential amount of visual data available to us is huge, but our clever perceptual system selects from this vast array whilst masking the fact that it is doing so. The result is a truly high-resolution perception in the centre of the visual field, while the periphery is lower resolution and may only detect significant changes such as movement.[27] The whole field feels high-resolution, but in fact it is favouring some elements over others.

The underlying process, as discussed in relation to psychotechnologies earlier, is Vervaeke's relevance realisation[28] – a biologically-based and essential process by which we select the data and frames that will help us achieve our goals. The selected information then, in turn, shapes the goals we set (the process is recursive). In the often overwhelmingly complex world of policymaking, traditional norms[29] offer a way to select what is relevant and take action.

We think public design may offer a relevance realisation upgrade. By supporting flexibility in how problems are framed, the knowledge that guides how these

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[27] Otten, M., Pinto, Y., Paffen, C. L. E., Seth, A. K., & Kanai, R. (2017). The Uniformity Illusion: Central Stimuli Can Determine Peripheral Perception. Psychological Science, 28(1), 56-68.

[28] Vervaeke, J., Ferraro, L., & Sookman, A. Relevance, Meaning and the Cognitive Science of Wisdom. In M. Ferrari, & N. Weststrate (Eds.), The Scientific Study of Personal Wisdom. (2013) Springer, Dordrecht. pp. 25-7.

[29] Hallsworth, Parker, & Rutter. Policy Making in the Real World (PDF file. Size 980KB).

problems can be acted on can be held lightly and updated as new insights are discovered. Tuning into different aspects of the problem ('reframing') allows new solutions to emerge. Whether through shared visual artefacts or the convening of stakeholder groups, the collective shifting, synthesizing, and prioritisation of frames takes decision-makers from knowing about the state of the world to being able to change it.

A case study of all three hypotheses: Supporting unpaid carers to remain in work

Our project (which features in the PDER Case Study Bank)[30] explored unpaid carers' experiences of decision-making about work and care in order to improve information provision for this group. To achieve a comprehensive range of data and perspectives (Hypothesis 1) we:

- reviewed existing qualitative and quantitative data;
- commissioned depth research with early and later stage carers to understand their experiences and needs;
- used popular search terms to simulate online user journeys and map the system of digital information from a working carers' perspective;
- spoke to external stakeholders individually to understand their organisation's insight and objectives, and how this shaped their information provision; and
- brought those stakeholders together, along with carers and cross-government colleagues, to define problems collectively and co-design prototype solutions.

We produced visualisations to support stakeholders to assimilate the resulting wide-ranging evidence (Hypothesis 2). Personas (fictional characters developed to explore the needs of different potential users) were used alongside user journey

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[30]Public Design Evidence Review: Case Study Bank. Available here: Public Design Evidence Review: Case Study Bank (PDF) and here: Public Design Evidence Review: Case Study Bank (HTML)

maps to consider first-person experiences of services and information. System diagrams illustrated how lived experiences intersected with institutional objectives and services. User needs were synthesised into a visual model of informed decision-making. Low-fidelity prototypes of new information products were used to prompt stakeholders and users to consider real-world implications of the evidence.

Through these methods, and in particular by taking a user journey perspective, we arrived at a new framing of the problem and brought 'potential carers' – working people at the very outset of making choices about work and care – into focus for the first time (Hypothesis 3). This group had been previously overlooked in policymaking but have their own unique and underserved needs. User research also helped expose the complex, iterative nature of decisions about work and care – often made at a family level – that can have profound impacts on people's outcomes years down the line.[31] By taking both a user-centred and systems view, we uncovered the mismatch between working carers' need for holistic decision-support and the fragmented nature of current information provision. These new framings highlighted previously unrecognised aspects of the problem that have helped pave the way for new solutions.

5. When might public design go wrong?

Perhaps because psychotechnologies tend to be nested within specific disciplines (economics, digital design, project management), their common features have gone unrecognised. Our team has been unusual in having the opportunity to consider and compare a range of psychotechnologies and their application to different problems in different contexts. Reflecting on the many things we have seen go wrong, we offer a typology of risks to psychotechnology implementation generally and draw out how these might apply to public design. The subsequent section will share the flipside – strategies that make success more likely.

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[31] Department for Work and Pensions (2024). Qualitative Research with Working People Exploring Decisions about Work and Care.

Overclaiming

We believe there is enough in this public design review package to suggest there are real benefits here, but the evidence base remains limited. There is a fine line to walk between underselling the potential of public design and overselling the benefits that will be delivered in reality, especially while we are still very much learning where it can help most, and what is needed to realise that benefit for the public sector. It is by no means easy to assess how far a psychotechnology enhances an organisation's ability to deliver policy intent. Indeed, it is something we have wrestled with as a team. Some of our behavioural science colleagues, wrestling with a similar problem, have tried to solve it by using Randomised Controlled Trials (RCTs). After developing an intervention based on or inspired by behavioural science literature, a trial is used to test whether the target outcome is improved relative to a control (usually the status quo). To some extent this use of RCTs also helped overcome a related 'overclaiming' challenge for behavioural science in the form of the replication crisis in psychology – where flaws in the evaluation framework meant that a large amount of what was thought to be known was called into question.[32] However, the downside was that interventions needed to be tightly defined in order to be incorporated into a trial. This, among other problems, led to behavioural science being criticised for overemphasising individual interventions at the expense of systemic changes.[33] We echo our academic partners' calls for more collaborations between design professionals and researchers to evaluate when and how public design has an impact. We also note that because design rightly emphasises positive collaborative processes this could lead people to unwittingly over-estimate impacts on outcomes (i.e. the process feels great but does it achieve something new?).

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[32] Open Science Collaboration (2015). Estimating the Reproducibility of Psychological Science. Science, 349(6251), aac4716.

[33] Chater, N., & Loewenstein, G. (2023). The i-Frame and the s-Frame: How Focusing on Individual-level Solutions has Led Behavioral Public Policy Astray. Behavioral and Brain Sciences, 46, e147, 1-26.

Tissue rejection

Our Design Thought Leaders[34] referred to versions of this phenomenon frequently. If the conditions aren't right for new practices to flourish, they will fail or the practitioners will leave, and an incorrect conclusion will be drawn that they 'don't work'. This is our biggest fear for public design. There is a greater risk of 'tissue rejection' if a less receptive environment encounters practitioners who are unable to select and adapt the forms of design processes to meet these challenges.

The pendulum swing

A combination of well-intended enthusiasm, fear of failure, and difficulty in determining which aspects of approaches matter most for success in a specific context can prevent thoughtful integration and lead to a pendulum swing. The agile versus waterfall debate is a great example. In the original Agile Manifesto,[35] the authors set out what they valued in comparison to traditional project management approaches. In doing this, the authors took care to confirm that they still valued the more traditional elements, even though they valued the newer elements more (e.g. "responding to change over following a plan"). However, in implementations of agile, such as Scrum, practices often became more absolute. It became common to find teams that ditched planning altogether.[36]

Our team experienced the pendulum swing in our work, some years ago, on a new performance management system for DWP. Pilots suggested better performance-related outcomes could flow from new approaches that emphasised high-quality 1:1

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[34] Public Design for Transformational Change: International Perspectives from Design Thought Leaders. Available here: Public Design for Transformational Change: International Perspectives from Design Thought Leaders (PDF) and here: Public Design for Transformational Change: International Perspectives from Design Thought Leaders (HTML)

[35] Beck, K., et al. (2001). Manifesto for Agile Software Development.

[36]Scrum Myths: There is No Planning in Scrum | Scrum.org.

conversations alongside team-based objectives. These insights formed the basis of a new system without annual performance reviews or box markings for 'delegated grades' (those below Senior Civil Servant). A myth subsequently emerged in the wider organisation that individual objectives were now prohibited. The 'old' individual objectives were assumed to have been abolished, when in reality line managers had simply been given a mandate to embed team objectives, alongside a wider range of tools for working with individuals. The pendulum was at work again, albeit in the context of a new process instead of a new psychotechnology.

'Cargo cult' adoption[37]

The term 'cargo cult science', popularised by physicist Richard Feynman, describes activities that look like science, but which are practised without the integrity, rigour, or criticality of genuine scientific enquiry. More recently, it is possible to find references to 'cargo cult agile'[38] where again focus is put on superficial enactments of parts of the practice, without the understanding or engagement needed to generate the desired outcomes. In these instances, the spirit and flexibility of agile is abandoned in favour of repeating practices even when useless or counterproductive – maintaining only agile's outward appearance. As with cargo-cult science, design that

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[37] Feynman, R. (1974). Cargo Cult Science: Some Remarks on Science, Pseudoscience, and Learning How to Not Fool Yourself. Caltech's 1974 Commencement Address. Feynman was inspired by a phenomenon observed after American Air Forces withdrew from Polynesian Islands after World War 2, ending the supply of medicines and other provisions which they had given to islanders in return for allowing them to set up base. The Islanders, in what were called 'cargo cults', created wooden facsimiles of landing strips reportedly in the hope that this would summon the delivery of provisions or signal to the American Air Force that they wanted this aid relationship to continue.

[38] James Shore refers to Cargo cult agile as: "teams following the rituals of agile development without understanding the underlying ideas". Shore, J. (2008). Cargo Cult Agile.

only looks like design may not lead to desired outcomes. For example, photographs of people standing around boards of colourful post-it notes are a pleasing contrast to traditional memo-writing but are no guarantee of originality or synthesis taking place. Design doesn't make things easy, it makes things possible.

6. What might help public design realise its transformational potential?

Over time, we've become convinced that some practices seem to enhance success:

Understanding the mechanisms of effect

Some of the risks, particularly cargo cult adoption and overclaiming, can be mitigated by greater understanding on the part of practitioners about how and why public design might improve outcomes, so that they can reflect consciously on their practice. The Literature Reviews[39,40,41] contain plenty of food for thought here and

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[39] Public Design Evidence Review: Literature Review Paper 1 - Public Design. Available here: Public Design Evidence Review: Literature Review Paper 1 - Public Design (PDF) and here: Public Design Evidence Review: Literature Review Paper 1 - Public Design (HTML)

[40] Public Design Evidence Review: Literature Review Paper 2 - Public Design. Available here: Public Design Evidence Review: Literature Review Paper 2 - Public Value (PDF) and here: Public Design Evidence Review: Literature Review Paper 2 - Public Value (HTML)

[41] Public Design Evidence Review: Literature Review Paper 3 - Public Design. Available here: Public Design Evidence Review: Literature Review Paper 3 - Public Design and Public Value (PDF) and here: Public Design Evidence Review: Literature Review Paper 3 - Public Design and Public Value (HTML)

we've added our own thoughts in terms of the three hypotheses included earlier in this paper (see <u>Public design as a powerful psychotechnology</u>).

Definitional clarity

One of the biggest enablers of better collective decision-making, in our experience, is high-fidelity communication. When a word is vaguely defined and is used to mean different things, or different words are being used to mean the same thing, the risk of misalignment and misunderstanding is high. Such vagueness can also contribute to instances of overclaiming and cargo-cult adoption going unchallenged. 'Design' has proved particularly ambiguous, popularly used as a synonym for 'develop' or 'create', but in other contexts carrying specific technical and professional meanings. We often find that it pays dividends to clarify ambiguity.

For example, our own team's work on what is meant by 'quality' during the process of claiming the disability benefit Personal Independence Payment (PIP) has led to a clearer definition of assessment quality that assessors, their clinical directors, those managing contractor performance, and policymakers can align around. In contractual terms, quality was defined through a set of audit criteria relating to the written output from a PIP assessment. However, in terms of policy intent, quality was thought about more broadly, encompassing the quality of the assessment itself, not just the document produced from it. Through observational research, we identified a wide range of distinct assessor behaviours that were more or less likely to generate high-quality information to support assessment recommendations. This work led DWP to start observing assessments for quality purposes, as well as considering written reports, a shift commended by Government Internal Audit.

Inspired by this and other projects, it felt important that the PDER made progress towards clarifying 'public design'. To this end, the academic consortium developed a list of seven practices associated with public design, a short working definition, and a framework depicting how public design re-orients the policy cycle to people's lived realities, contexts and systems (see section 1 in the academics' Landscape

Review').[42] Additionally, the Design Thought Leaders provided extensive insight into their understandings of 'good design', from mindsets and practices through to outputs and outcomes (see section 2, Design Thought Leader report).[43] This is a starting point for a truly shared language that can underpin decisions about public design practice, training, hiring, commissioning and guidance, and enables those without formal design training to participate confidently in its processes.

Ongoing learning

The Case Study Bank[44] is a great resource for learning about recent practice. These focus on positive experiences of design for their authors. We believe it is important to share frustrations too, and we mention a few in this paper. Even in our exemplar project on unpaid carers,[45] things did not go perfectly. For example, we encountered an organisational temptation to repeat the project's discovery phase (the initial stage

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[42] Public Design in the UK Government: A Review of the Landscape and its Future Development. Available here: Public Design in the UK Government: A review of the Landscape and its Future Development (PDF) and here: Public Design in the UK Government: A review of the Landscape and its Future Development (HTML)

[43] Public Design for Transformational Change: International Perspectives from Design Thought Leaders. Available here: Public Design for Transformational Change: International Perspectives from Design Thought Leaders (PDF) and here: Public Design for Transformational Change: International Perspectives from Design Thought Leaders (HTML)

[44] Public Design Evidence Review: Case Study Bank. Available here: Public Design Evidence Review: Case Study Bank (PDF) and here: Public Design Evidence Review: Case Study Bank (HTML)

[45] Public Design Evidence Review: Case Study Bank. Available here: Public Design Evidence Review: Case Study Bank (PDF) and here: Public Design Evidence Review: Case Study Bank (HTML)

focused on problem definition) when new design teams came on board, which slowed progress and stretched stakeholder patience. This and other projects prompted us to consider how design can be practised best in different contexts. For example, when is it essential to do user research to explore unusual or extreme situations ('edge cases')? Are there times when we can make reasoned assumptions instead? At what points do we need to employ more rigorous social research samples and techniques? Once again, ongoing collaboration between design researchers and government analysts can help capture, synthesize and interpret vital qualitative insight, and inform effective future practice.

Actively considering the roles of capability versus conditions

Behavioural scientists such as Professor Susan Michie[46] have long demonstrated that behaviour doesn't just depend on people's capability or motivation to do a thing. Having the opportunity to do it is also pivotal. In other words, conditions matter. We often advise colleagues to explore contextual barriers to a desired behaviour (or practice) to see if these can be removed, rather than adding training modules, information campaigns, carrots or sticks to an already complex choice landscape.

Experienced policy colleagues have remarked to us that the academics' list of public design practices overlaps heavily with accepted notions of policy making done well. This makes sense, given that we've been able to spot many elements of public design practice in the historical example of the successful automatic enrolment programme (included in the Case Study Bank).[47] This programme was run without input from design professionals, but it was led and managed in a distinctive way. For example, it was led in the context of earlier work by the Pensions Commission. They

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[46] Michie, S., Atkins, A., & West, R. (2014). The Behaviour Change Wheel: A Guide to Designing Interventions. Sutton: Silverback Publishing. pp. 59-65.

[47] Public Design Evidence Review: Case Study Bank. Available here: Public Design Evidence Review: Case Study Bank (PDF) and here: Public Design Evidence Review: Case Study Bank (HTML)

had a remit to create cross-party and long-term consensus, and opted to do extensive problem definition and deliberative research (engaging citizens in structured discussions about policy trade-offs) prior to launching into policymaking. The organisational structure incorporated separate policy teams dedicated to the perspectives of employers, employees and the pensions industry. These highly unusual conditions created an environment where public design emerged naturally.

At the other end of the spectrum, Design Thought Leaders shared a wide range of barriers to achieving impact that they had personally faced or observed.[48] Barriers included a lack of access to resources, uncollaborative working practices, and unsupportive senior leadership with high churn. One Design Thought Leader talked powerfully about achieving a 'license to operate' within her organisation only because of the personal relationships and trust she had built up over years, alongside her willingness to put her personal credibility on the line.

Do these examples suggest conditions are so powerful that, when conducive to design, they can enable non-experts to succeed and, when not conducive, they can thwart even the most skilled design professionals? And does the automatic enrolment case study point to at least pockets of latent design skills within our policymaking community?

In the work that follows publication of this review, it would be useful to explore these questions, and also to further develop the evidence base on what public design capability actually is. Many argue that design capability is more than simply being able to use certain methods or tools. One of the Design Thought Leaders referred to design as "more about how you view the world, how you approach problem solving.

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[48] Public Design for Transformational Change: International Perspectives from Design Thought Leaders. Available here: <u>Public Design for Transformational Change: International Perspectives from Design Thought Leaders (PDF)</u> and here: <u>Public Design for Transformational Change: International Perspectives from Design Thought Leaders (HTML)</u>

It's more an attitude or sensibility… what I call 'designerly'" (Christian Bason).[49] Elsewhere, others have similarly talked about a "design sensibility": one that is intrinsically oriented to action, and involves noticing and responding to new situations with the use of senses, imagination, and improvisation (Eklund, Aguiar, & Amacker, 2022).[50] Even this sort of description seems to us to blur into 'ways of working' and 'culture', bringing us once again to the importance of conditions. And design practiced in or for the public sector may need something different to design practiced elsewhere. Although the Design Thought Leaders highlighted the potential value of widespread basic design skills and bringing in those with deep expertise, some expressed concern that design education and commercial design experience does not always prepare people for public sector complexity.[51]

Literature Review 1 (chapter 4 "Skills and competences for design")[52] summarises the evidence base for design capability. The available literature further underlines the

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[49] Public Design for Transformational Change: International Perspectives from Design Thought Leaders. pp. 39. Available here: Public Design for Transformational Change: International Perspectives from Design Thought Leaders (PDF) and here: Public Design for Transformational Change: International Perspectives from Design Thought Leaders (HTML)

[50] Eklund, A. R., Aguiar, U. N., & Amacker, A. (2022). Design Thinking as Sensemaking: Developing a Pragmatist Theory of Practice to (re)Introduce Sensibility. Journal of Product Innovation Management, 39(1), 24-43.

[51] Public Design for Transformational Change: International Perspectives from Design Thought Leaders. Available here: Public Design for Transformational Change: International Perspectives from Design Thought Leaders (PDF) and here: Public Design for Transformational Change: International Perspectives from Design Thought Leaders (HTML)

[52] Public Design Evidence Review: Literature Review Paper 1 - Public Design. Available here: Public Design Evidence Review: Literature Review Paper 1 - Public

interdependence of personal attributes and organisational conditions in generating 'competences'. But what evidence is available is limited by a focus on student populations (rather than employees) and a lack of specific attention to public design. Further research here would undoubtedly be valuable.

Based on our reading of the evidence so far, we suggest it would be helpful to bear the following possibilities in mind when developing any programme to embed and realise value from public design:

- Upskilling initiatives can fail if opportunities aren't widely available to put the learning into practice and allow it to consolidate

- The public sector may have some unrecognised public design capability, particularly in the policymaking profession, as well as designers more explicitly labelled as such in digital functions

- The pool of external professionals who are fully equipped to practice public design may be small, unless education and training pathways change

- Even those professionals who are equipped to practice public design can still be subject to what we've called 'tissue rejection' if the conditions are wrong.

The understandable temptation in response to this review may be to reach for standard solutions that focus on increasing capability – such as mainstreaming basic design training or bringing in expertise from outside. The evidence above suggests, however, that without being sure what that capability is, and without creating the conditions to support it, such interventions are unlikely to have long-term impact.

Design (PDF) and here: Public Design Evidence Review: Literature Review Paper 1 - Public Design (HTML)

7. Public sector conditions that matter to the success of public design

Mission-based and place-based government align well with a design approach and have the potential to transform the conditions to enable public design. In terms of going further, there is plenty of evidence to draw on in this package, especially in the Design Thought Leaders report.[53] Based on our experience inside government, we wanted to highlight three types of constraint or barrier that are not always obvious.

HR policies and practices

Leader churn was mentioned by Design Thought Leaders[54] but staff turnover could be an issue with public servants at all levels. It occurs to us that design approaches work through relationships built over time. This facilitates trust, generates shared learning from what works and what doesn't, deepens the appreciation of nuance, and enables deep discovery around a problem context.

Funding and evaluation requirements

Public design approaches aren't an automatic fit for traditional evaluation as may be expected by funding bodies. In exploring and iterating, for example, project leads

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[53] Public Design for Transformational Change: International Perspectives from Design Thought Leaders. Available here: Public Design for Transformational Change: International Perspectives from Design Thought Leaders (PDF) and here: Public Design for Transformational Change: International Perspectives from Design Thought Leaders (HTML)

[54] Public Design for Transformational Change: International Perspectives from Design Thought Leaders. Available here: Public Design for Transformational Change: International Perspectives from Design Thought Leaders (PDF) and here: Public Design for Transformational Change: International Perspectives from Design Thought Leaders (HTML)

may discover hitherto unforeseen factors, issues, places, or groups of people that are critical to their work. In turn, this may make it difficult to establish baselines and monitor meaningful metrics in any consistent way. Design's focus on complex systems, and the nuances and interactions that can occur in specific locations, adds to the challenge. However, government analysts have made progress in expanding the range of evaluation methods to tackle complex interventions.[55] This fits with a growing realisation that managing complexity requires a different approach to managing the merely complicated. The distinction between complex and complicated problem spaces is set out in the Cynefin sense-making framework.[56] The framework emphasises the necessity to 'probe, sense, and respond' where complex contexts render 'best' or 'good' practice obsolete. Building on advances in evaluation with a view to incorporating design activity into funding bids feels like a useful next step.

Accountability and scrutiny systems

Ministers remain accountable through established systems of scrutiny including Parliamentary processes, audit institutions, and media oversight. These systems rely on particular forms of justification, often privileging clarity, traceability, and formal accountability. Public design, by contrast, emphasises iteration, emergence, and collective sensemaking. While not inherently incompatible, these approaches do operate according to different logics. For example, participatory tools such as dot voting may be helpful for surfacing preferences or generating discussion, but are unlikely to meet the standards of justification required in formal decision-making. For public design to be used responsibly in policymaking, practitioners must be mindful of the constraints under which Ministers and senior officials operate. Some of these are foundational and unlikely to change; others may be open to reform over time. Either way, design practices must be adapted accordingly. This means selecting appropriate tools but also being curious about how and why public sector systems function as they do.

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[55] The Magenta Book on GOV.UK.

[56] Snowdon, D. The Cynefin Framework.

8. From reflection to possibility

The PDER was shaped by a thoughtful community of practitioners, researchers, policymakers and partners. We hope others will share their reflections too, so we can deepen our collective understanding and shape what public design becomes next. We believe public design, as a set of psychotechnologies, can enhance our ability to realise what is relevant, to make sense of the world together, and to act with greater precision and empathy. If we are to meet the challenges of radical uncertainty and systemic complexity, we must invest in ways to help us think better as groups. We hope this review helps others to see what we've seen: that public design, done well, could be a quiet revolution. One that begins with better questions, deeper listening, and the courage to imagine that things could be otherwise.