

Creating design personas to support a National Medicines Safety Improvement Programme

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SUMMARY

This paper outlines the co-production of four design personas representing people with learning disability to embed human-centred thinking within a national medicines safety improvement programme (MedSIP) and provides examples of their use and impact. Developed through evidence synthesis, lived experience, and multidisciplinary input, the personas provide realistic scenarios of individuals at risk of harm from psychotropic medicines used for behaviour that challenges, supporting empathy and shared mental models for system redesign. Their application within MedSIP demonstrates how design personas can operationalise human factors principles in large-scale healthcare improvement.

KEYWORDS

Medicines safety, personas, learning disability

Introduction

Healthcare systems are adapting to increasing complexity and there is focus on reducing avoidable harm from medicines. The National Medicines Safety Improvement Programme (MedSIP) is dedicated to reducing avoidable harm from high-risk medicines in high-risk patients. In line with this agenda, in April 2025, a new initiative focussed on *'helping people with learning disability, at risk of behaviour that challenges, avoid harm from psychotropic medicines'* was commissioned by NHS England as a national programme delivered by the 15 Patient Safety Collaboratives (PSCs) across England.

Recognising the diverse needs of people with learning disability design personas were created to complement lived experience insights in guiding care pathway evaluation and redesign. They provide a consistent user reference point across programme discussions, supporting adaptive human centred decision making across complex and evolving care pathways. This paper describes the development and implementation of these personas, which were grounded in research evidence and co-produced to reflect common user needs, clinical presentations, and the contextual dilemmas faced in clinical management. It also explores the use of design personas as a future ready human factors strategy to support adaptive care pathway redesign at national scale.

In England, an estimated 1.3 million people have a learning disability (Office of Health Improvement & Disparities, 2025), with an estimated 18% (Bowring et al., 2017) exhibiting behaviour that challenges (e.g. aggression, self-injury). This is often managed through psychotropic medication, particularly antipsychotics, which are associated with severe harm such as movement disorders (Scheifes et al., 2016a) and significantly reduced quality of life (Scheifes et al., 2016b).

Method

Design personas were co-produced by a multidisciplinary core team comprising specialists in human factors, quality improvement, clinical expertise, pharmacy, communication, and individuals with lived experience. Persona validity was supported through triangulation of multiple data sources, including academic literature, national policy guidance, and findings from a large-scale Appreciative Inquiry. Draft personas were reviewed by a multidisciplinary advisory board and individuals with lived experience, with iterative refinements made to content, language, and emphasis based on their feedback. A graphic designer created final visual representations of the personas.

A draft toolkit was also developed to support practical application through system and journey mapping. The PSCs were then encouraged to consider using the personas in the MedSIP programme especially around system mapping and action planning and to feedback on their use.

Results

[Four design personas](#) were co-produced to represent mild, moderate, severe, and profound learning disability. Each persona comprised two pages: one provided a comprehensive description of the individual, including personal preferences and social context, the other detailed medical information. Authenticity was enhanced through first-person narratives or carer perspectives for non-verbal individuals. A summary of the personas is presented in Table 1. Design Personas reflected common clinical presentations and prescribing dilemmas and were intentionally designed to include unresolved elements, mirroring the complexity and ambiguity often encountered in real-world referrals whilst also building empathy. Each persona included content intended to directly inform clinical decision-making and create discussion about options for care planning that would highlight successes and opportunities in the current care pathway. For example, they stimulated discussion around:

- What is the persona's current care needs and possible contributors to any behaviour change. How would those needs be met, or not, by the current care pathway and how would services be accessed?
- What gaps are there in the medical history that would need to be explored and who would do that?
- When in the care pathway would the persona receive a care benefit.

The personas were designed to remain relevant and a useful reference point as a key programme document for the lifetime of the programme and through various care pathway iterations. resource.

Table 1: Summary of the design personas

Persona	Overview
Samir	15 years old. Mild learning disability: recent behavioural changes possibly linked to social factors.
Iain	Adult. Moderate learning disability; long-term antipsychotic use for an unclear indication. A raised prolactin level could be related to antipsychotic use
Nia	Adult. Severe learning disability. Multiple psychotropic medicines prescribed with an unclear clinical history. The specialist home is learning about the STOMP programme and would like the prescribing to be reviewed
Maria	Adult. Profound learning disability; complex co-morbidities and psychotropic regimen. There has been a recent increase in self-harm and aggression.

[A draft toolkit](#) was created to support persona use, including methods such as system and journey mapping to support their practical application. It was intentionally left in draft form to support iterative refinement through use, reflecting a learning system approach necessary for sustainable, future focused improvement.

Both personas and toolkit have been widely disseminated via programme websites and promoted through national learning collaboratives, encouraging integration into improvement activities.

The personas have been widely used in the programme as an educational tool and to challenge and improve the design of existing care pathways. At this stage, feedback is primarily qualitative and formative in nature.

Examples of use to support education

Use by a national NHS England lead for learning disability at a Royal College event as part of an educational series to discuss the different levels of learning disability. Using the personas to support discussion was an engaging way to bring the topic to life.

Examples of use to support current system mapping activity and drive improvement

Use of the personas has been reported by multiple MedSIP Programme leads in the PSCs:

- Used when lived experience representation was not possible at an Integrated Care Board (ICB) system action planning event with attendees asked to consider the voices and needs of the personas when deciding on actions to take forward.
- Three PSCs reported use of the personas in to support system mapping work with the ICBs they are supporting. Feedback from each is below:
 - Attendees felt that the persona *“really showed a whole person.”* This encouraged participants *“to really think about a more holistic approach to support,”* prompting valuable discussions such as: *“She likes dancing, but is she getting to dance?”* and *“Does she really need two carers all the time, or could we spend some of that funding to ensure she gets to go to the activities she loves, to help her be healthier and happier?”*

The persona then supported conversations exploring why existing pathways may have resulted in the outcomes represented by the persona, and what an alternative pathway could look like which helped the group identify priority areas for improvement.
 - Each service provider attending was asked to explore how each persona would be supported in their area. *‘It worked really well and was the basis for our system mapping’*. One of the system reflections supported by this was *‘how the psychiatrist support is withheld unless absolutely necessary’* and other support services are explored.
 - The personas were used to challenge the pathways that had been mapped with their systems and reported a couple of key observations:
 - They shifted the tone of the conversations *“Using the personas created an unexpected level of empathy—it grounded the discussion, but without the emotional baggage that comes with real life experiences.”* and *“Once people thought about the persona, they naturally shifted from talking about the system to talking about how to help someone navigate it.”*
 - They highlighted gaps in prevention of escalation and non-acute access *‘The personas exposed how hard it currently is for someone with a non-acute issue to enter the pathway—there was a genuine desire to help,*

but no obvious route for them to do so.” and “It helped us see that our system is strong in crisis response but not well-designed for prevention.” and “The personas brought forward areas of clinical concern that might otherwise have stayed hidden in the background.”

In this PSC the work system issues identified were used to create a SEIPS model for each of the personas that summarised the context within the pathway of care.

Conclusion and impact

The four co-produced design personas are now actively embedded within a national medicines safety improvement programme and freely accessible for wider adoption across the system. Their co-production, with input from people with lived experience, clinicians, and human factors specialists, ensures authenticity and relevance to real-world practice. By providing a shared, person-centred reference point, the personas have strengthened care-pathway redesign efforts, enhanced empathy, and supported non-specialist clinicians to better understand the diverse needs of people with learning disability.

Early feedback demonstrates their value in enabling a user-centred design approach within MedSIP. Personas have been used to facilitate system-mapping events, prompt richer multidisciplinary discussions, and safely explore complex scenarios without risk of blame. As fictional yet realistic cases, they provide a psychologically safe way to examine prescribing dilemmas, gaps in care, and opportunities for improvement. MedSIP advocates for persona use alongside lived experience to ensure both consistency and human-centred insight across improvement work.

As the programme scales nationally through 2025–26, case studies and user feedback will guide iterative refinement of the personas and toolkit. This work highlights the potential of design personas as an evidence-informed method for embedding empathy, anticipatory thinking, and shared mental models into national healthcare improvement programmes.

More broadly, this approach demonstrates how human factors led tools can support safer, more adaptive decision-making in complex clinical environments. By helping teams navigate ambiguity, anticipate system-level risks, and understand user needs more deeply, design personas represent a future-ready strategy that equips healthcare systems to adapt effectively to emerging challenges in medicines safety and complex care.

References

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