

Using immersive simulations to improve service design and provide inclusive care in rural areas

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Abstract

This poster considers the experience of a multi-disciplinary service in Powys working with individuals experiencing the effects of a range of long-term conditions, and the use of immersive simulations to understand and review approaches to care from the perspective of service users, referrers and colleagues.

In August 2025, the Service repeated a full day simulation in the Hydra Minerva suite at the University of South Wales to follow the journey of an individual from the point of referral through to the multi-disciplinary team meeting at the end of their first consultation.

By understanding the journey of individuals through the service and the key decision points, the service hopes to gain a better understanding of where support should be targeted. This intelligence in turn will help to shape how the clinical pathways offered should be designed and support discussions around allocation of resources and at what point they should be deployed.

The exercise included all members of the Service, including business support and clinical roles.

The structured, repeatable, multimedia approach taken to the simulation allows the experience to be shared across similar multi-disciplinary teams on a local, national and global level.

The exercise highlighted the importance of including all service members in service development activities – clerical and clinical – and reinforced the value of including user representation in the development of future resources.

Introduction

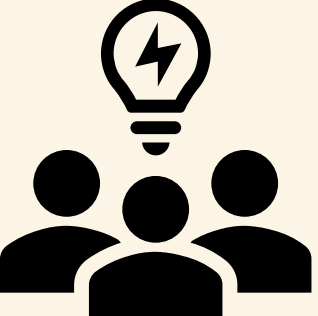
The Powys Living Well Service helps people manage long-term health conditions like chronic pain, fatigue, Long Covid, and severe obesity. Serving the entire county, it offers mainly virtual appointments to improve accessibility and reduce travel. The Service collaborates with local partners to provide technology, connectivity, and digital skills support, while also offering in-person appointments when needed.

An immersive simulation was created to evaluate the user experience from referral to first appointment.



Participants

This simulation approach was first used with the Service in 2023, involving all members of the Service (clinical and clerical) with observers from other teams. In 2025, the updated simulation involved a wider range of participants.



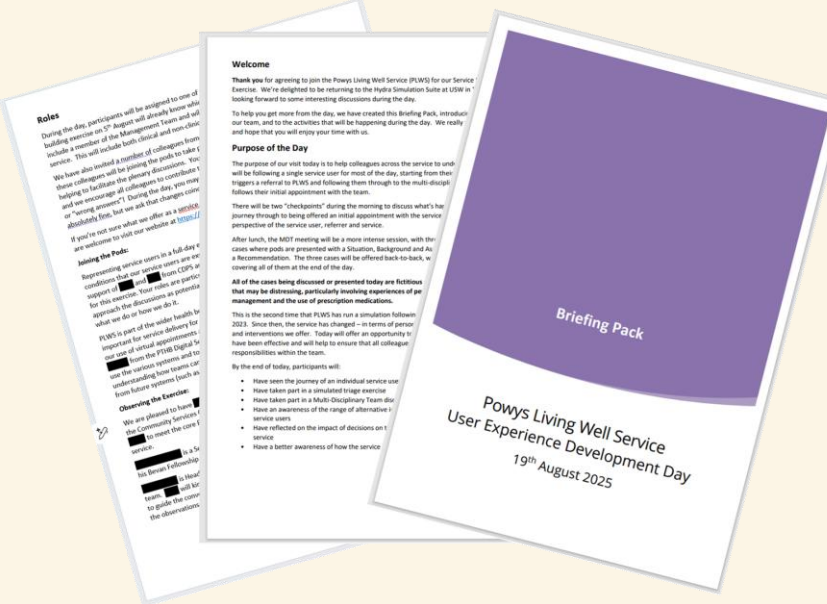
All members of the Service were included, drawn from a diverse range of Allied Health Professions and business support functions and including a significant range of experience – from colleagues with over twenty years’ experience to those starting their careers.

To ensure a broad perspective in the simulation, the service included two colleagues from Accessibility Powys (a third sector organisation supporting individuals with disabilities in accessing virtual consultations), two colleagues from the Centre for Digital Public Services (CDPS) to represent the wider public and potential service users, and two colleagues from the core Digital Services team within Powys Teaching Health Board (PTHB) to represent the corporate teams that support the service.

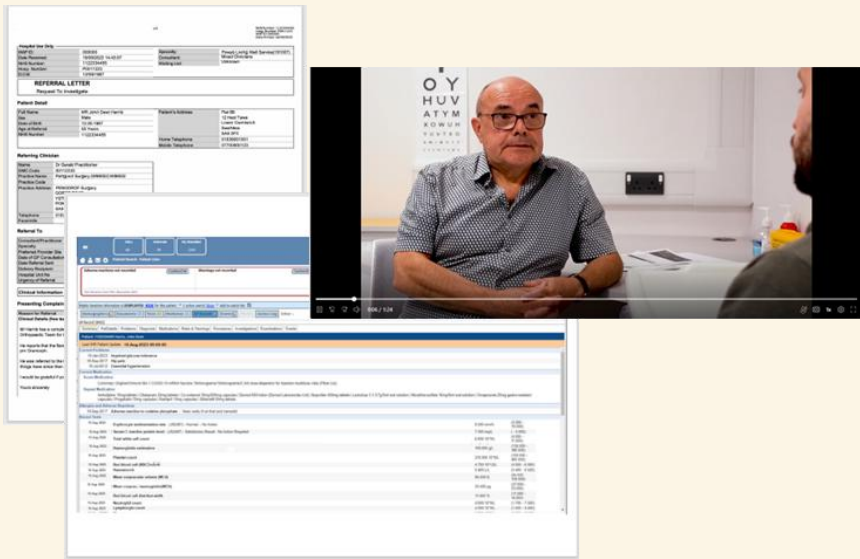
The 2025 exercise was co-facilitated by the Assistant Director with responsibility for the Service, the Head of Organisational Development for the health board and the Business Manager for the Service (who was the exercise designer). The simulation took place over a full working day (approximately seven hours).

Preparation

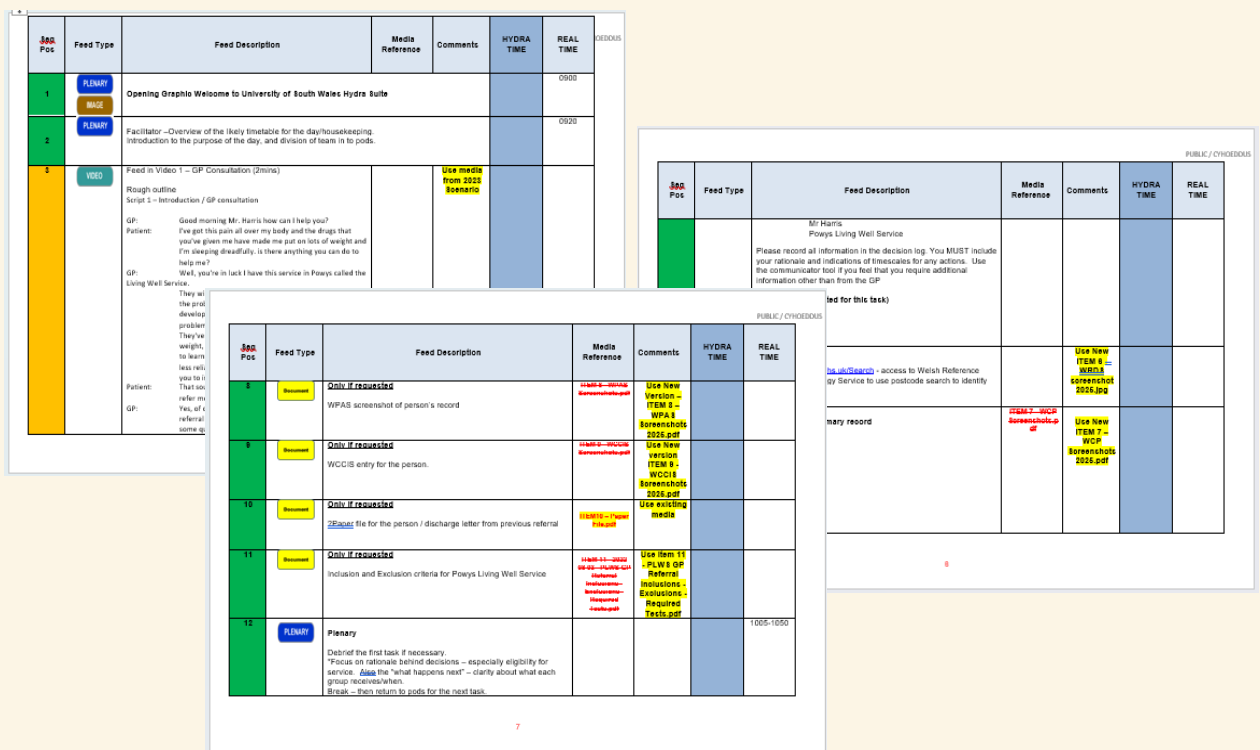
Psychological safety is essential for simulations like this, so all participants received a full briefing pack outlining who would be involved and what was expected. Each participant was assigned to a “pod” for group work, ensuring a mix of professions, experience, and operational roles.



A full case study was created by the Business Manager to underpin the simulation, using elements from existing Service “personas”. Simulated documentation reflected the Service’s information systems, and the AI tool HeyGen was used to create video clips simulating input from clinicians and service users. The case study was reviewed by a clinical colleague not involved in the simulation, ensuring the information was realistic and detailed enough to support discussion.



A storyboard was created to outline an individual’s journey into the Service, highlighting three key decision points. At each stage, participants were prompted to consider both the next steps and how decisions were communicated to the service user, referrer (usually a Powys GP), and team members. Relevant case study documents supported each decision point with realistic information.



As the case study was not shared with participants before the event, decisions during the simulation were based only on the information provided, acknowledging possible gaps or ambiguities. Facilitators were briefed in advance on key themes likely to arise at each decision point and given an electronic copy of the storyboard to understand what information would be available to participants.

Technical support was provided by the Immersive Learning team at University of South Wales, who kindly transferred the prepared materials into the Hydra system and supported the facilitators during the exercise.

Author

Tim Smith is the Business Manager for the Powys Living Well Service. Tim has a background in learning and development, having spent several years as a secondary school teacher and senior examiner before taking a lead role in developing a training platform for one of the UK’s largest insurers. Following completion of his MSc in Leading Digital Transformation, Tim is currently a Bevan Fellow undertaking research to develop and deliver a toolkit to support service improvement and improve accessibility and inclusion of health services in rural areas. He also chairs a national Community of Practice focused on Digital Inclusion and Accessibility.

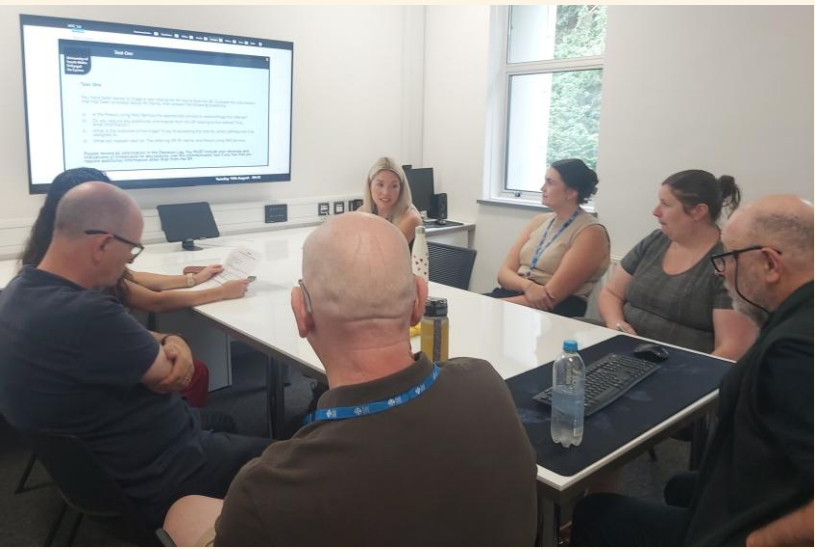


Delivering the Simulation

The exercise was delivered at the University of South Wales’ Hydra Simulation Centre – a neutral venue away from the usual clinical setting, allowing participants to be fully immersed. Mixing group members helped reduce the impact of operational hierarchy on decision-making and encouraged open discussion in a safe environment.

The Hydra Immersive Simulation System is a computer-based environment that enables the monitoring of real-time leadership and decision making during critical incidents. Developed by Professor Jonathan Crego, Hydra is widely used for training police and emergency services in the UK.

Each of the three participant groups was assigned to a “pod” (small meeting room) equipped with a large display for sharing tasks and supporting materials, including video when needed. Each pod used an electronic decision log to record both their decisions and the reasoning behind them.



After each major decision point, all groups met in a plenary space where their decision logs were displayed on large screens. Facilitators used these to highlight key differences or interesting rationales, prompting wider discussion. This approach focused on exploring uncertainties or gaps in understanding and enabled external participants to contribute fully without emphasizing specialist roles or clinical knowledge.

Using the storyboard, facilitators controlled the flow of information into each pod, with all groups starting from the same point. Pods could request extra documentation or details as needed. Facilitators remotely monitored pods, viewing decision logs in real time and listening to discussions via closed-circuit video, gaining valuable insights into team collaboration and key discussion topics not always captured in the logs.



Outputs

The storyboard for the exercise focused on three key points in the journey of an individual through the Service:

- the initial referral from their GP,
- the response of the individual to the “Welcome” leaflet and request for additional information,
- the MDT discussion following an initial appointment with the Service.

Pod discussions covered accessibility of information—language, tone, formats—the roles of service members, and the reasoning behind questions asked of service users.

The most common question was “**Why?**”, mainly from external participants, used to probe reasoning and improve understanding, leading to ideas for making processes faster and simpler.

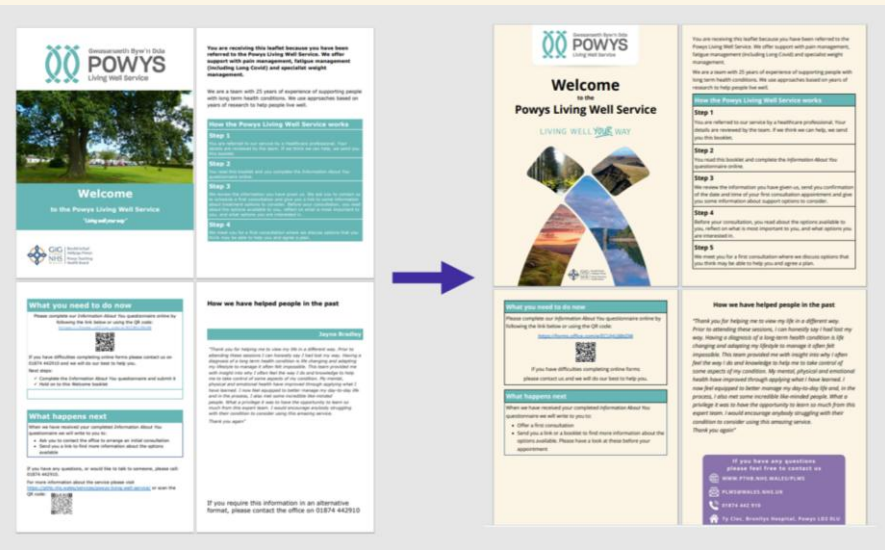
In plenary sessions, facilitators highlighted ambiguities, such as differing views on referral triage and communication with referrers. This allowed exploration of consent issues, information storage, and team roles, revealing misconceptions and checks within existing systems.

Each pod’s discussion reflected participants’ experiences, from information accessibility to system complexity. Including external participants kept the focus on practical service delivery, ensuring outputs centred on the user experience.

Over the course of the day, three key themes repeatedly emerged from the discussions:

A shared understanding of access to records/Consent

By the end of the final plenary, participants agreed on how and when information could be accessed and by whom. A follow-up was planned with the Information Governance team to confirm this understanding and identify any future training needs.



Importance of Communication – including clarity of leaflets for new service users.

All participants identified ways to improve communication service users, such as presenting each language on separate of paper, using a parchment background for easier reading, revising the language for better accessibility.

Recognition of value of a true Multi Disciplinary Team and the importance of every role within it.

Recognising the strength of a Multi Disciplinary Team is in its diversity and experience, whether clinical or non-clinical and applying common clinical approaches such as Shared Decision Making to the work of the team can enable service improvements to be achieved both quickly and sustainably.



Conclusions

Immersive simulations provide teams with new ways to collaborate, innovate, and reflect. The greatest value comes from open, psychologically safe discussions. The approach taken does not need to be complex or costly—simple simulations can be highly effective. Immersive simulations help multi-disciplinary teams identify shared understanding, misconceptions, as well as areas for future development.

Funding Statement

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