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Designing, developing, and planning implementation of a digital health technology in stroke rehabilitation:

exploring experiences of the Virtual Engagement Rehabilitation Assistant (VERA) Project Management Team

VERA

A **digital health technology**, **co-designed** through **shared vision** and **values**

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BACKGROUND AND AIM

The Virtual Engagement Rehabilitation Assistant (VERA) is a novel, app-based **digital health technology** to **increase service-user engagement in rehabilitation**

VERA was developed through **co-design** with service-users and clinicians

Study aim: to explore the experiences of the Project Management Team who designed, developed, and planned the implementation and evaluation of VERA

METHOD

All 18 members of the **VERA Project Management Team** were invited to participate in the study.

Staff from the NHS, a small/medium-sized enterprise (SME), an academic institution and the Innovation Agency shared their individual experiences in an online semi-structured interview.

The Non-adoption, Abandonment, Scale-up, Spread and Sustainability (NASSS) framework[1] underpinned the interview design and subsequent framework analysis.

FINDINGS

Findings from 7 interviews with participants from 4 partner organisations focused on 4 areas of the NASSS framework.

TECHNOLOGY (DEVELOPMENT AND SUPPLY MODEL)

- VERA began with an idea in a **hackathon** in 2019 which led to a **complex** 3-year journey (to date).
- VERA was developed based on the views of **service-users** and **clinical staff.**
- A **design brief** that everyone understands is key to success – a single **misunderstanding** about terms or needs can cause significant problems.
- You will not achieve all you want with a **first prototype - evaluation** is needed to tailor the intervention.

> *"the project should sort of stand on [its] own merits, and the idea behind the innovation. But often if you don't have a senior medic involved … it's really hard to get traction"*

WIDER CONTEXT

- Each stakeholder perceived **potential benefit** for their organisation; this was a strong **facilitator.**
- Complex **processes** were involved, e.g. data protection impact assessments, medical device regulations.
- **Shared values,** strong respectful **teamwork**, and **enjoyment** were seen as key to success.
- There are many **risks** and no guarantee of success.

> *"having shared values with the individuals that you're working with is really important … these projects are interdisciplinary and very, very, long and you will come up against hurdles and barriers"*

ORGANISATION

- A respected and enthusiastic **senior clinical leader** was key to organisational **adoption.**
- **Integrating** novel technology needs **IT support** from within the **organisation**, even if the technology is developed externally.
- Substantial **commitment** was required from the Trust to free staff time.
- Completion of Trust processes was smoother because VERA was **aligned** with **Trust objectives.**

EMBEDDING THE TECHNOLOGY

(so much more to do…)

- We still need to explore the **effectiveness** of VERA
- Should VERA be **scaled-up**?
  - o Can VERA be **adapted** for the **community setting**?
  - o Can VERA be **integrated** with **NHS patient electronic records**?

> *"Being involved in something that really doesn't have a stop point is exciting and scary at the same time"*

CONCLUSIONS

Designing, developing, and planning the implementation and evaluation of a digital health technology is complex, and takes time and commitment from all stakeholders. The findings from this study may enable others to negotiate barriers and to facilitate successful development of digital health technology through co-design.

SCAN ME

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Reference: 1. Greenhalgh T, Wherton J, Papoutsi C, Lynch J, Hughes G, A'Court C, Hinder S, Fahy N, Procter R, Shaw S. Beyond Adoption: A New Framework for Theorizing and Evaluating Nonadoption, Abandonment, and Challenges to the Scale-Up, Spread, and Sustainability of Health and Care Technologies. J Med Internet Res. 2017 Nov 1;19(11):e367. doi: 10.2196/jmir.8775.

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