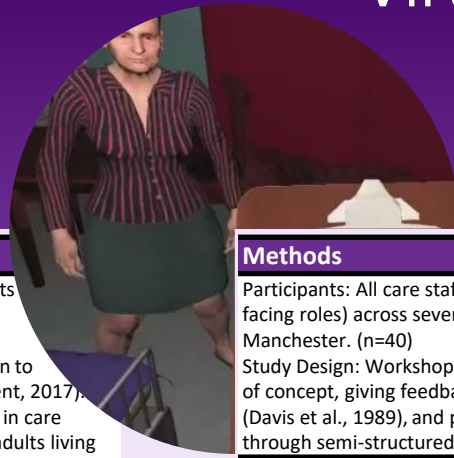


Virtual Reality Falls Awareness Training in Care Homes: A Feasibility Study

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Introduction

- Annually, 50% of all older adults in Care Homes are expected to fall (Cameron *et al.*, 2018a).
- Falls cost approximately £2.3bn to the NHS annually (NHS improvement, 2017).
- It is challenging to reduce falls in care home environments due to older adults living with co-morbidities, polypharmacy, and increased cognitive decline (Opara, 2012; Cooper, 2017).
- It is important to increase staff awareness of falls risk factors and prevention strategies in order to reduce falls and improve resident outcomes (NICE, 2013; Cameron *et al.*, 2018b).
- VR is being utilized as a training tool in other industries (including medical and nursing training) but not in social care.
- VR training specifically in falls prevention for healthcare staff has been developed.
- Little research has been conducted exploring training programmes for health care professionals on falls prevention, especially in care home environments.

Objectives

- OF the multi-phase project:
- Explore opinions of care staff on current training packages available.
- Determine interest of care staff in using VR as part of training package.
- Design and develop a VR falls training tool.
- Determine whether user-centred design assists in the acceptability of the training tool.

Methods

Part of a multi-phase study including demo creation from the evidence base, two research phases and a technology development phase, the *second* research phase was a pragmatic mixed-methods feasibility study.

Methods

Participants: All care staff (including non-resident facing roles) across seven care homes in Greater Manchester. (n=40)

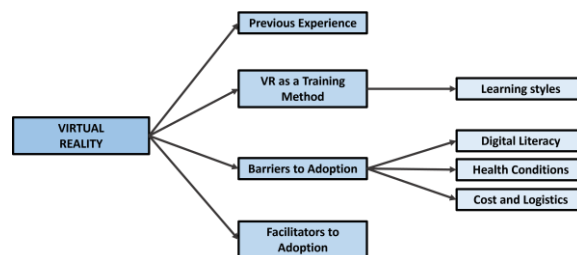
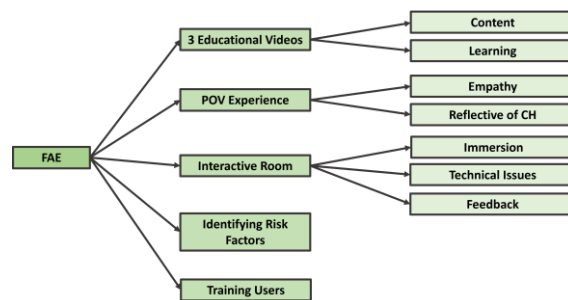
Study Design: Workshops including trying the VR proof of concept, giving feedback through survey (TAM) (Davis *et al.*, 1989), and providing further feedback through semi-structured interview.

Falls Awareness Experience

The proof-of-concept was developed from the evidence base, alongside relevant adult learning theory and user-centred design. There were three main elements of the FAE:

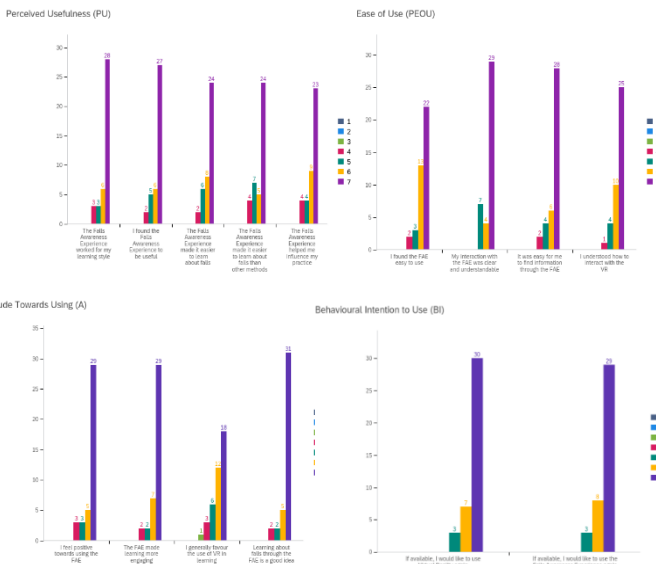
Three educational videos	Point of View Experience	Interactive Resident Room
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Phase II Qualitative Findings



Phase II Qualitative Findings (Cont'd) and Quantitative Findings

Engagement, immersion and enjoyment were key factors for acceptability of a training method. The three educational videos were informative, concise and provided enough information to remain engaging. Utilisation of a case study resident increased self-reported empathy for the resident experience. The interactive resident room was the most enjoyable aspect of the FAE, and users enjoyed it due to the immersion, and practical elements within it. Participants found the FAE to be a good way of learning about falls awareness, and felt that the knowledge could be transferred into practice. Participants reported of practical 'little things' which could be implemented into practice, such as ensuring adequate lighting, moving cables out of the way, and ensuring the call bell was within reach for the resident.



The FAE suited the learning styles of care staff, and VR was accepted and perceived to be effective as a training method, and reported to be preferred over other training methods. Feedback for development included additional locations, scenarios, and interactable items. Reported barriers to adoption include health issues, cost and logistics, and digital competency of users. Reported facilitators included remaining up to date in the use of technology.

Conclusion and Next Steps

- Identifying a potentially effective method of training for a complex intervention may influence the creation of future training programmes for care homes: to assist in increasing care staff knowledge, retention of information, and application of knowledge into practice. This in turn may improve the quality of care delivered and resident outcomes.
- Additional funding was obtained (C4T) to develop the VR into a minimal viable prototype, to test further.
- Workshopping with stakeholders to assist with new scenario development.

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