Background – What is AR, What is VR?

AR or Virtual Reality involves the use of a headset that overlays information on top of the real world. User interaction with this can be largely passive, where they only read information, but the use of controllers or verbal commands can allow for the changing of information seen by the user.

VR or Virtual Reality uses a headset to show an image of a virtual or recreated world to the user.

AR/VR to play a larger role in the future of medicine. While some studies have been conducted to assess how these technologies in a surgical setting can prove beneficial to patients, physicians, and healthcare centers, there is little data concerning the level of intent, and the factors that modulate that interest in using AR/VR in medicine.

Previously, AR/VR has been used in 3 major areas in medicine: training, surgical planning, and surgical navigation. In training, users can simulate procedures repeatedly in a virtual environment with little cost or risk [1, 2]. In preoperative planning, surgeons can use 3D models to explore the surgical field, potentially more so than with traditional imaging [3]. Finally, in surgical navigation, augmented reality (primarily used to overlay pertinent information in a surgeon’s field of view that could contain imaging, comments from colleagues watching a live-stream, or any number of tailored items to improve the surgical experience) [4, 5].

Aims and Hypothesis

1. To examine the level, specialties, and interest in AR/VR imaging modalities for clinical use in physicians and allied health professional practice

Hypothesis: Augmented Reality/Virtual Reality (AR/VR) interest will be inversely related to the number of years that a health professional has been practicing.

Outcome measures

Outcome measures will be based on comparison of the survey data from medical professional participants to UHealth. Primary outcome measures in this study will be survey responses, with emphasis on whether the subject is interested in integrating AR/VR technology in their future practice. Other survey results will assess general demographics information, as well as other responses that characterize opinions on multiple facets of AR/VR use in medical practice.

Study Design

Study participants will be identified and contacted during their working hours at a UHealth entity, or affiliate, facility. Once consented, participants will be invited to complete the online survey via REDCap. REDCap is a 21 CFR Part 11 ready platform. Participants will be able to access the survey on an electronic device, watch the accompanying demo videos for AR/VR technology, and then complete the provided questions. No further participation is required after submission of the survey, but participants will have the option to provide information that can be used to identify them for a future study examining AR/VR use.

Population

Participants to be enrolled in this study focus on medical professional or allied health providers who perform professional services within a UHealth, or affiliate, facility. Inclusion criteria for this study will be in part to provide a 10% sample of the total target population and will allow for the exploratory nature of this study.

Inclusion Criteria:

- UHealth, or affiliate, employee

Exclusion Criteria:

- People under the age of 10, as well as people who do not fit the above inclusion criteria will be excluded from the study.

References


