**Immersive Reality Experiences (IRE) Technology for Improving the**

**Wellbeing of Young People in Hospital**

**STUDY PROTOCOL**

**Investigators**

Dr Hiran Thabrew, Consult Liaison Team, Starship Hospital, Auckland.

Email: [hirant@adhb.govt.nz](mailto:hirant@adhb.govt.nz)

Prof Christa Fouché, Faculty of Education, The University of Auckland. Email:[c.fouche@auckland.ac.nz](mailto:c.fouche@auckland.ac.nz)

**Project Summary**

This study aims to evaluate the effectiveness of IRE technology in improving wellbeing, social inclusion and social connectedness and to determine the acceptability of IRE by children attending Starship Hospital.

**Background**

Children and young people who are hospitalised can feel disconnected from their peer groups and usual environments, which can in turn predispose them to psychological problems such as anxiety and depression. Immersive Reality Experiences (IRE) technology, recently developed by the NZ Patience Project Charitable Trust may help to overcome these issues. IRE technology uses immersive 360-degree live streaming and a VR headset to allow children and young people to connect with cameras located in either their school or home environment during their hospital stay. A ‘proof of concept’ study with five teenagers who were receiving oncology treatment at Starship Hospital demonstrated preliminary acceptability of IRE technology (Fouché et al, 2018).

**Study aims**

This study aims to build on previous findings using a mixed method, open trial design over 6 weeks to: 1) quantitatively evaluate the effectiveness of IRE technology in improving wellbeing, social connectedness and social inclusion using validated scales for these concepts; and 2) expand the quantitative findings by exploring participants’ and their family’s or school staff’s views related to social inclusion, social connectedness and wellbeing, and to ascertain participants’ experience with the intervention as to determine whether IRE technology appeals to a wider group of children and young people at Starship Hospital.

**Study design**

An open trial of IRE technology will be undertaken with children and young people admitted to Starship Hospital. Participants will be recruited via their treating teams. Following the completion of consent procedures and pre-intervention measures, they will have access to IRE technology for a 6-week period, at the end of which they will complete post-intervention measures including the Warwick Edinburgh Wellbeing Scale (WEWBS), Social Connectedness Scale (SCS), and Social Inclusion Scale (SCOPE). Analyses will include basic descriptive statistics. Qualitative data regarding participants’ and their family’s or school staff’s views related to social inclusion, social connectedness and wellbeing will be gathered post-intervention (at 6 weeks) via semi-structured interviews. Participants’ experience with the intervention, including acceptability and usefulness of the technology, will also be sought at this time. Data will be audiotaped, transcribed and analysed using of thematic analysis.

**Study Population:**

Children and young people with any medical condition, aged between 13-18 years and admitted to Starship Hospital for more than a 2-week period or intermittently over a longer period will be eligible to participate in the study. Those under 13 years of age, those with a physical or mental health issue that prevents exposure to IRE technology, and those not able to provide informed consent (or assent with parental consent) will be excluded. A convenience sample of 40 young people will be recruited for the intervention and participation in the quantitative data collection. Up to 10 of these young people from the participant group, 10 family members/caregivers and 10 people in the chosen environment will be invited to participate in semi-structured interviews post intervention.

**Timeline**

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| **Period** | **Activity** |
| January to March 2019 | Study start up (including ethics approval)  Literature review and research team meetings  Contact with treating teams to facilitate recruitment  Initiate participant recruitment (40 young people) |
| March to July 2019 | Advance participant recruitment (40 young people)  Pre-assessment (0 weeks): WEWBS, SCS, SCOPE  Intervention: Equipment installed and use supported for 6 weeks  Post-assessment (6 weeks): WEWBS, SCS, SCOPE  Recruitment for interview participants (10 young people; 10 parents/caregivers; 10 nominated persons in the chosen environment) |
| July to September 2019 | Quantitative analysis  Post-intervention semi-structured interviews  Transcribing  Qualitative analysis |
| September to December 2019 | Combined data analysis and interpretation  Preparation of main report and dissemination |