

Introduction

- 86% of patients report post-operative pain (1).
- Treatments focus on medications such as opioids (2,3).
- Research suggests immersive virtual reality (IVR) as an emerging tool that can be used to help reduce acute pain in a variety of patient populations (4,5) (6) (7) (8) (9).
- IVR uses a computer headset to make users feel present in a simulated environment.
- Encompass Health Rehab Hospital of Braintree is an inpatient acute rehab hospital that specializes in brain injury (BI), stroke, & ortho rehab. There is a need for non-pharmaceutical based treatments for patients to help reduce pain & improve quality of life (QoL).
- Occupational Therapy Practitioners (OTPs) can work to address acute pain by providing patients with meaningful experiences that are motivating & help to reduce pain. (10) (11)

Purpose: Determine feasibility of using immersive virtual reality at Encompass Health Rehabilitation Hospital of Braintree

Aim 1: Develop and implement an IVR training protocol for therapists

Create training materials Train interested therapists Create reference tools

Aim 2: Develop and trial patient IVR experiences to improve quality of life

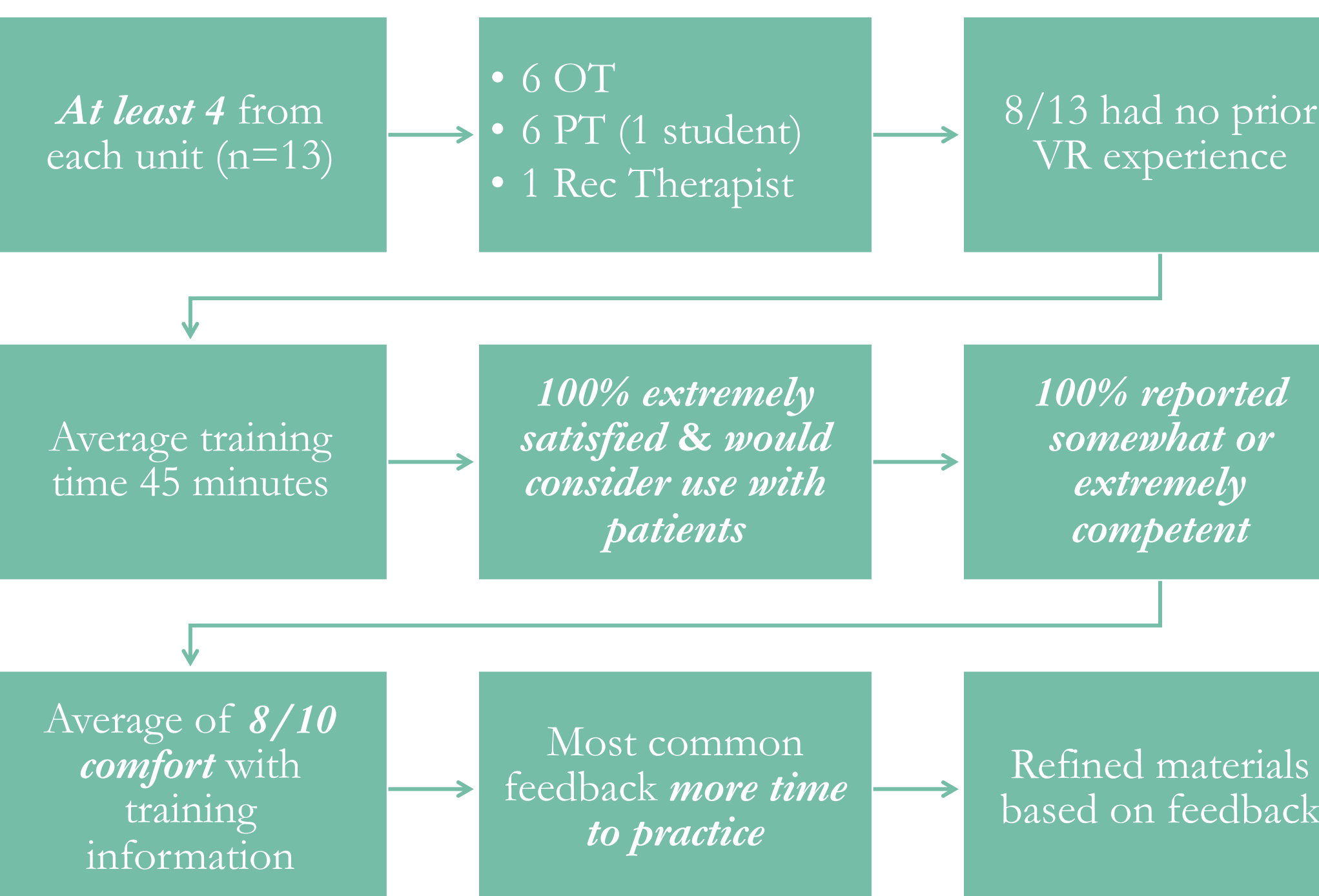
Activity Analysis Game Catalog Patient Experiences

- This poster will address therapists' training and patient experiences

Aim 1: Therapist Training

Develop training materials	Recruitment	Session 1	Session 2	Post Training
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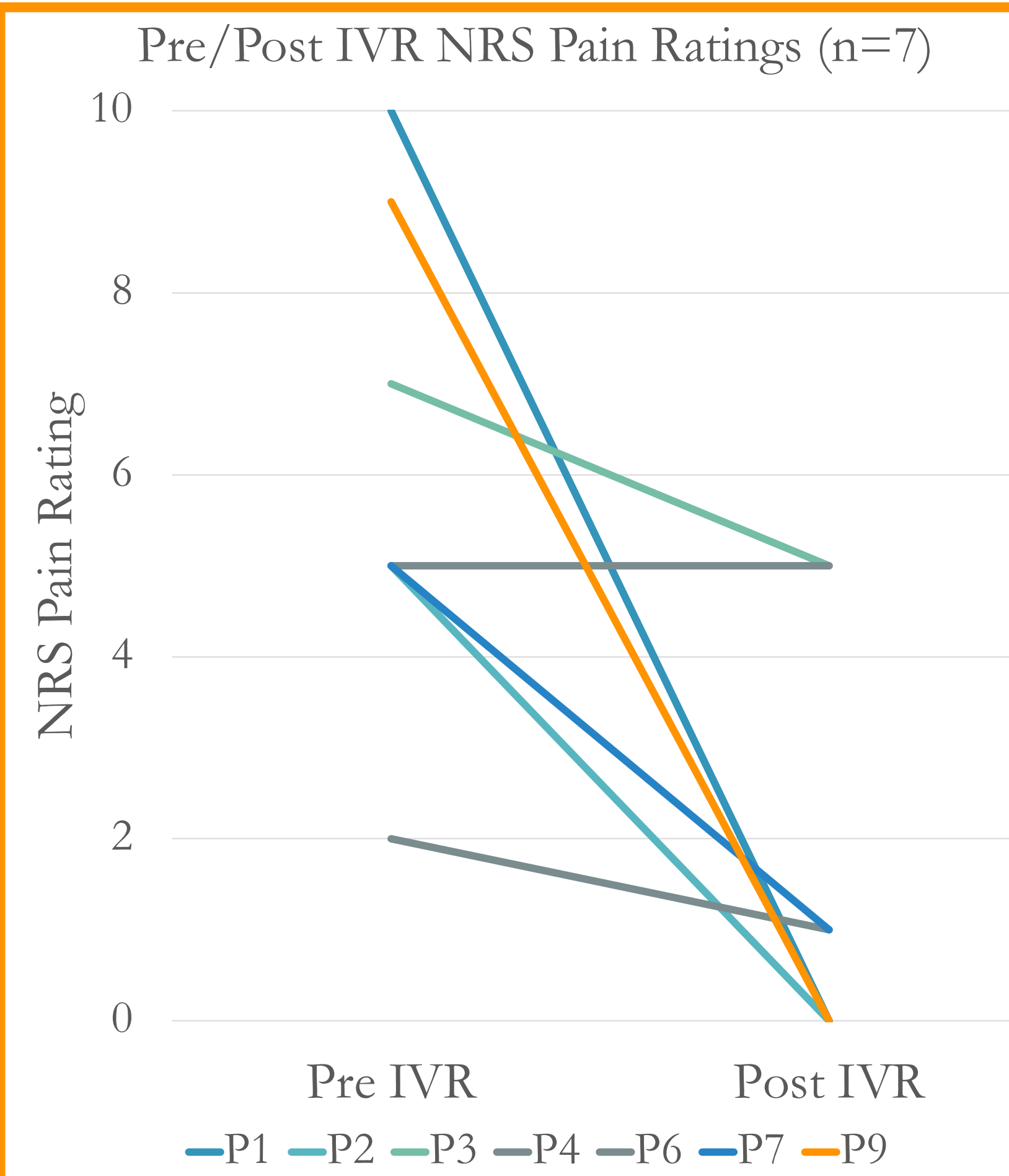
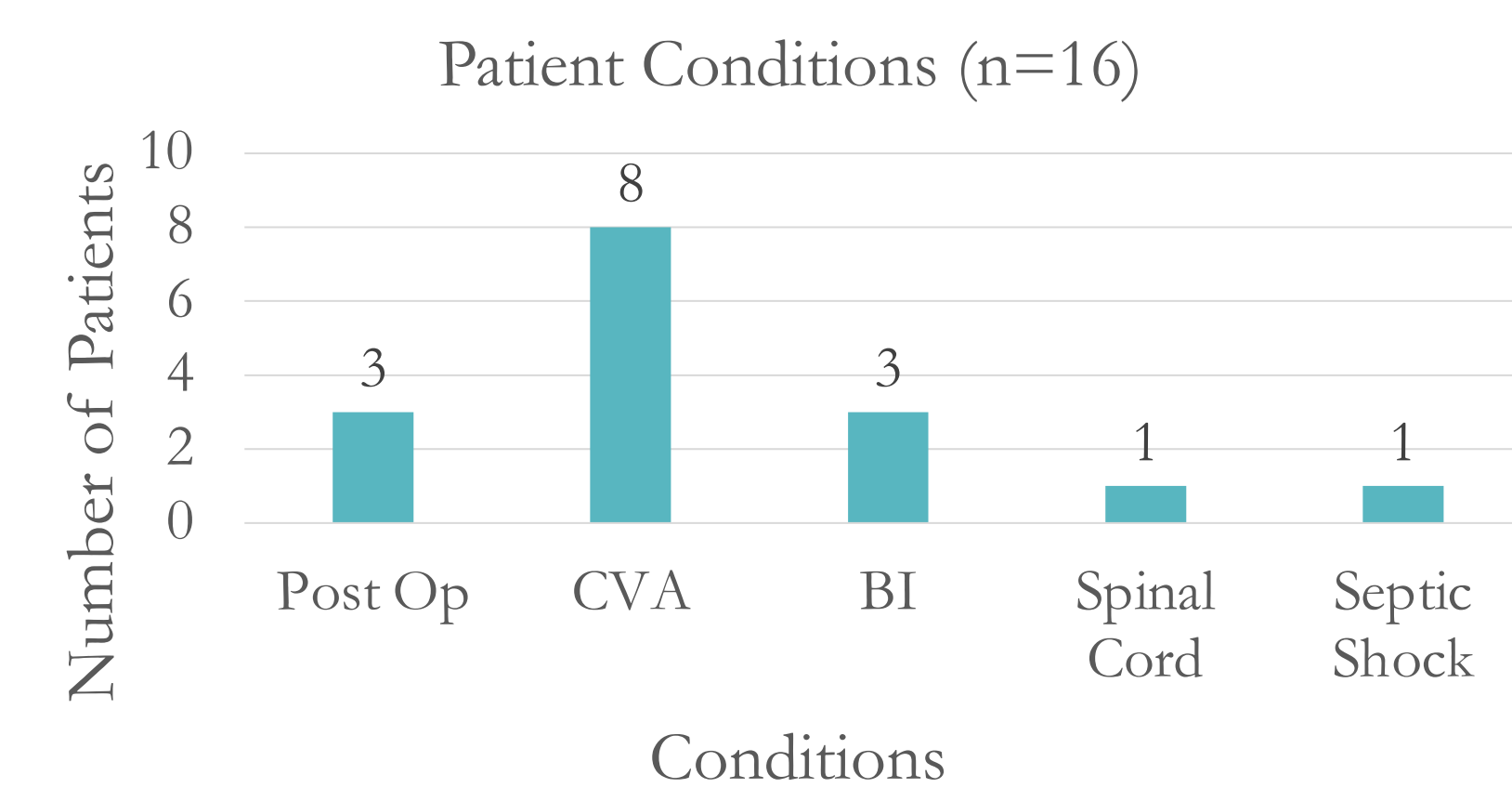
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| <ul style="list-style-type: none"> PowerPoint Therapist Guides Manual of Operating Procedures (MOP) | <ul style="list-style-type: none"> Interest survey Schedule trainings | <ul style="list-style-type: none"> 30 min IVR with Meta Quest II | <ul style="list-style-type: none"> Operating Meta Quest II Q&A Feedback | <ul style="list-style-type: none"> Data analysis Refine based on feedback |
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Aim 2: Patient IVR Experiences

Develop Game Catalog	Recruitment	Experience	Data Collection
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Participants	Results
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Therapists reported **improved function, affect, & motivation** compared to standard therapeutic activities for all patients (n=16)

4 patients with **high anxiety** had **reduced symptoms** following IVR. 1 patient demonstrated improved affect for 36 hours post IVR

100% of patients said they felt **present** in IVR & **would use again** if given opportunity

7/16 patients reported pain at start of session

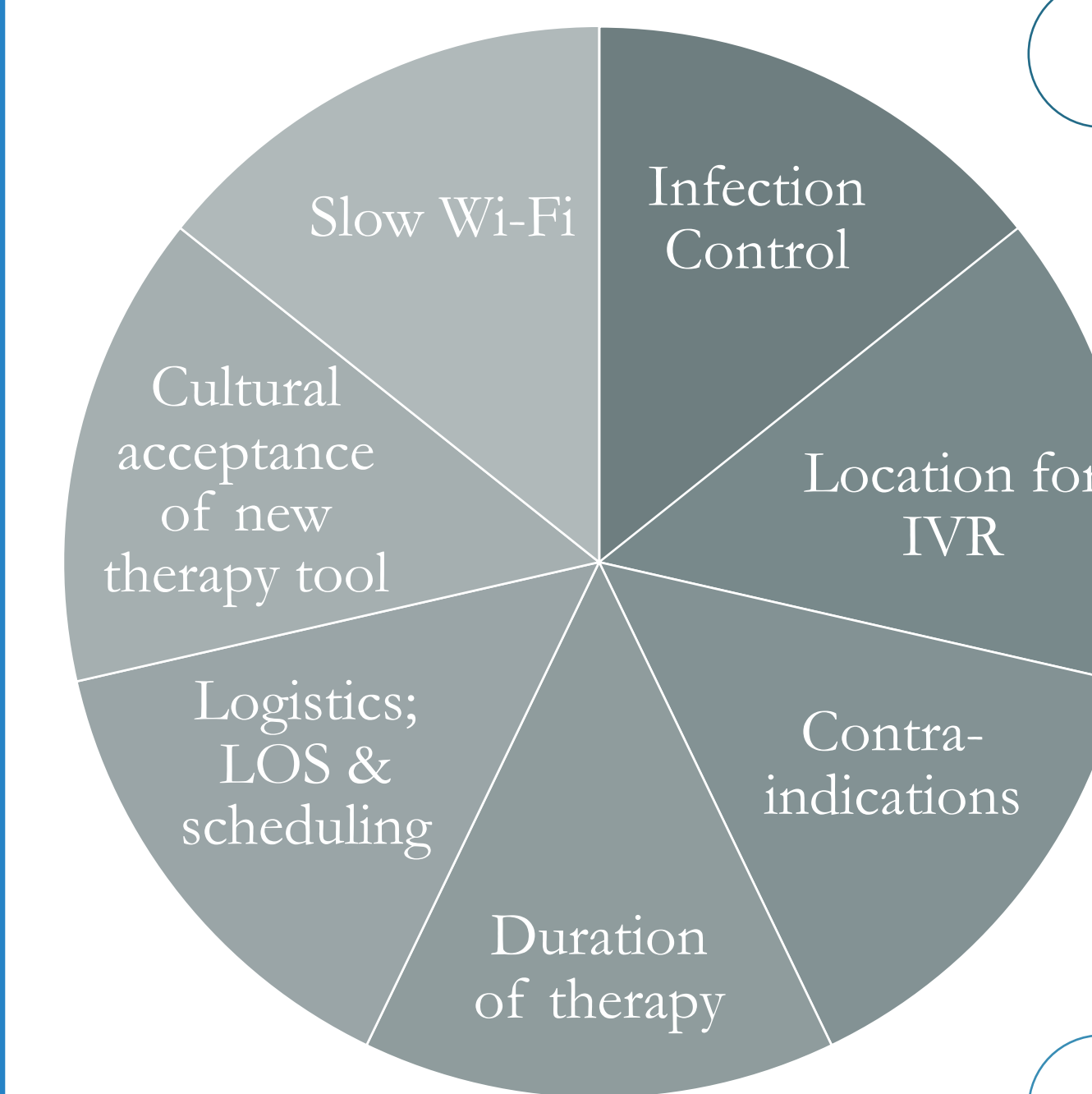
Patients' (n=7) **average change in pain=4.2 points** on NRS (**66% reduction**)

6/7 Patients reporting pre/post pain had a 2+ point drop on the NRS [**clinically significant change** (12)]

3/7 patients had **100% reduction in pain**

Challenges and Outcomes

Challenges to Practice



Positive Outcomes

- Possible & beneficial to use IVR
- 13 therapists trained
- Patients had **positive experiences** with IVR
- Patients reported **would use IVR again**
- Reductions in pain**
- Positive emotions & improvements in affect**
- Therapists reported **increased patient engagement**

Facilitators

- MOP, therapist quick look tools, training ppt, & game catalog
- Provide adequate information & evidence to therapists/patients to support learning & acceptance of IVR

Conclusion

IVR can be an **effective tool** for therapists to use to **increase patient motivation to participate in therapy, reduce acute pain, & increase quality of life**

Feasibility	<ul style="list-style-type: none"> Able to set up & implement IVR use in an inpatient acute rehab Logistical challenges can be overcome
Outcomes	<ul style="list-style-type: none"> Clinically significant decrease in pain Increases in function, QoL, & participation during therapy
Limitations	<ul style="list-style-type: none"> Small sample size of patients with pain Scheduling logistics
Future Steps	<ul style="list-style-type: none"> Continue to train interested therapists Continue data collection of patient IVR experiences Explore other positive effects & duration of IVR use

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For IVR Game Menu & References