Using Virtual Reality (VR) as a non-pharmacological intervention on a behavioral support unit

BSOT Rounds

Thurs June 23rd, 2022 @ 2:00 – 3:00 pm

Baycrest

Faculty/Presenter Disclosure

- **Presenters:** Mara Swartz and Grace Chung
- **Relationships with commercial interests:**
  - Grants/Research Support: None
  - Speakers/Bureau/Honoraria: None
  - Consulting Fees: None

Disclosure of Commercial Support

- This program has **NOT** received financial support other than the support of the MOHLTC
- This program has **NOT** received in-kind support
- Potential conflict(s) of interest:

  None to be disclosed, however:

  - Baycrest currently works with a vendor, Rendever VR, as a technology partner (made possible due to the generous donation of the Scheinberg Relief Fund) and uses standalone Oculus Go headsets where appropriate
  - Baycrest is not sponsored by Oculus or Rendever VR, nor do we claim any conflict of interest or endorsement of any other products, devices, or services mentioned in this presentation unless otherwise stated

Mitigating Potential Bias

The information presented in this program is based on recent information that is explicitly “evidenced-based”.

The Behavioural Support Rounds Program and its material is peer reviewed and all the recommendations involving clinical medicine are based on evidence that is accepted within the profession; and all scientific research referred to, reported, or used in the BSR Activity in support or justification of patient care recommendations conforms to the generally accepted standards.

Agenda

- An overview of Baycrest's TBSU
- Therapeutic recreation on the TBSU
- Introducing VR
  - The "Why" and "How"
  - Overview of the TBSU's VR protocol
  - Equipment used
- Identifying successful and unsuccessful interventions
  - Case Studies
- What's next?

Learning Objectives

1) Understand the benefits of VR in various use cases
2) Understand how VR can be introduced into a behavioral support unit
3) Differentiate between successful and unsuccessful VR interventions

An overview of Baycrest's TBSU

Baycrest

TBSU at Baycrest

24 dedicated TBSU + 3 LTC beds at Baycrest's TBSU

Diverse clientele

Residents who have noted behaviors that will not allow them to be admitted to LTC

Goals of the TBSU

To stabilize behaviors and provide care until residents can return to their original setting or be placed in LTC

It always starts with “Why” – Why VR?

A new way to create an immersive environment for clients to produce a positive change in behavior, even for a short period of time

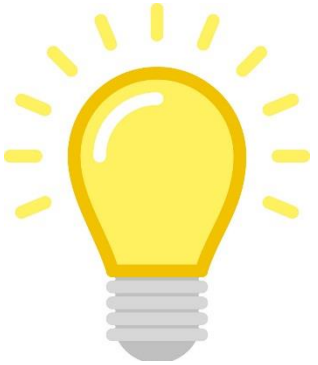
It always starts with “Why” – Why VR?

Potential benefits of VR as a recreational intervention:

- Connect to a part of who they are and their life stories
- Create moments of lucidness and opportunities to engage in meaningful ways
- Create new ways to engage with the world and experiences
- Mitigate social isolation
- Mitigate responsive behaviors
- And much more

“[Therapeutic] Recreation’s purpose is not to pass time, but to make time live; not to keep a person occupied, but to keep him or her refreshed; not to offer an escape from life, but to provide a discovery of life.”

– Author unknown



Introducing VR to Baycrest: the How

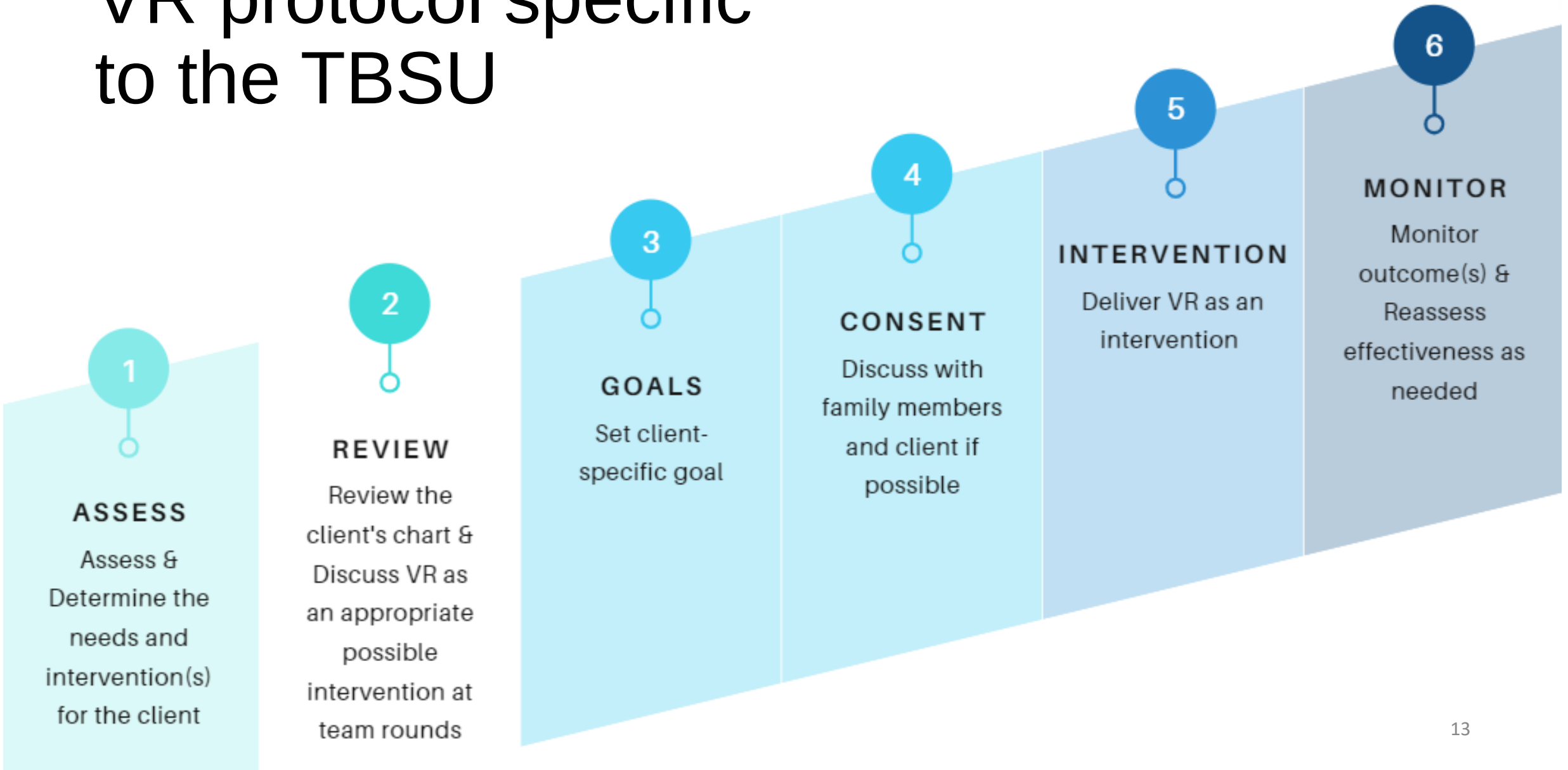
- Acknowledging that innovation adoption can be challenging for a number of factors, and understanding those challenges

- Starting with implementation based on existing research and practices
  - Instead of starting as another research project or “re-creating the wheel”

Introducing VR to Baycrest: the How

- Setting that stage for successful adoption
  - Cross-disciplinary approach to develop guidelines and protocols on how to safely use VR with our population
  - Fostering interest and dedicated Champions to help launch the initiative
  - Involvement of the vendor in training and understanding the platform, and regular communication for any issues or updates, as needed
  - Internal VR Rounds to share practices, tips, etc.

VR protocol specific to the TBSU



Equipment that we use to deliver VR on the TBSU

Since Fall 2020, we have been using:

Time to set up	Approximately 20 minutes ***In addition to time spent to curate VR content
Level of Difficulty	Medium level of difficulty
Other resources	Additional support may be required to facilitate VR session

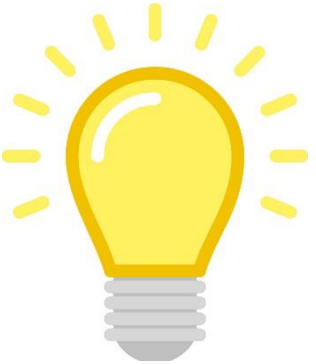
NOTE: All IPAC approved protocols are followed during the delivery of VR sessions

Identifying successful and unsuccessful VR interventions

FACTOR	POSITIVE INDICATOR	NEGATIVE INDICATOR
MOOD	Smiling, nodding, upbeat visual demeanour	Signs of anger, agitation
VERBAL RESPONSES	Chatting, exclamations of surprise/ wonder	Yelling, negative verbal responses, asking for headset to be removed
PHYSICAL RESPONSES	Engaging in the VR environment (e.g., reaching out for objects, turning head to see things) Relaxed body language Reduced wandering	Wandering, removing the headset, becoming physically aggressive

"Not all leisure experiences in community settings need to be successful, but the privilege to achieve or fail is a part of a learning process that for too long has been denied individuals with disabilities."

Stuart Schleien & M. Tipton Ray



Case Study 1

Female, 71

Restlessness, agitation, Alzheimer's disease, unspecified behaviors

VR intervention: Unsuccessful

Intervention Goal	Provide resident with visual stimuli to help reduce leg movement and pacing
# of sessions	4 - e.g., garden walking tour, Arctic and Northern lights
Intervention Observations	Seemed to be working at first (i.e., decreased vocalizations) but leg movement did not decrease and attempts to remove headset
Comments	Discussed reason to discontinue VR sessions with client's spouse

Case Study 2

Female, 79

History of stroke, reflux disease, behaviors, unspecified dementia, agitation and restlessness

VR intervention:
Very successful

Intervention Goal	De-escalate behaviors to allow pleasure and enjoyment
# of sessions	6 - e.g., puppies, gallery and garden tours, UBC tree walk, kittens, China
Intervention Observations	Able to have headset on without attempts to remove, comments and positive reactions during VR, engaged in conversation, less agitation and decreased behaviors for a period of time post-VR, engaged in other activities of interest post-VR
Comments	Discussed with resident first on the iPad

Case Study 3

Male, 70

Unspecified AD, responsive behaviors incl. physical and verbal aggression, chronic behaviors, sensory impairment related sleep disturbance

VR intervention:
Ongoing, successful

Intervention Goal	Have resident relax arms and legs during intervention
# of sessions	6 sessions to date; scuba diving, sky diving - very adventure-driven
Intervention Observations	Initially very tense - VR helped with relaxing client Addition of medication change - client more verbal / expressive and continued positive responses to VR stimuli
Comments	Resident was very active in scuba diving


Coral World. Underwater Paradise
360° 8K

Case Study 4

Male, 62

Early onset AD and cognitive loss, limited vocalization and communication, behavioral symptoms when not wanting to engage, wandering

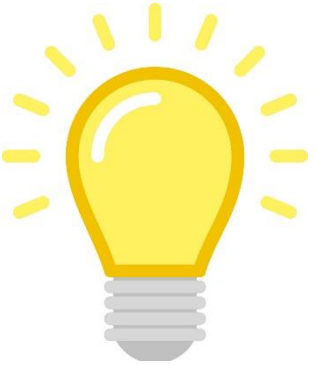
VR intervention:
Ongoing, successful

Intervention Goal	Provide opportunity to reduce pacing and wandering
# of sessions	4 sessions to date - golf, flying
Intervention Observations	Allows headset to remain on and will remain seated for the duration of the VR session (avg. 15 min) Will respond to what client is seeing in the headset, shows positive reaction and will engage in vocalization during the VR session
Comments	Resident was a pilot


360°
5K
ULTRA HD

“Therapeutic recreation is about providing opportunities to engage in meaningful recreation and leisure, and removing barriers to do so. It focuses on improving well-being in all domains of health: physical, mental, emotional, social, and spiritual.”

TRO website



What's next for VR on the TBSU?

POTENTIAL

The journey is a unique one in the LTC sector with many possibilities

MEDICATIONS

Use of VR as a non-pharmacological intervention to reduce antipsychotic use

CONTINUE TO EXPLORE OTHER USE CASES

Physical therapy or rehab, management of chronic pain, treatment for anxiety, etc.

BENEFITS

Promote and enhance QOL, socio-psychological well-being and facilitate personalized care

SLEEP

Impact of VR on sleep, sleep patterns and cognitive/mental health

OTHER (?)

Identify previously unknown ways VR can impact OA and PWD?

Conclusion: Key takeaways

1

VR CAN BE A VERY USEFUL TOOL

VR is a technology that can be leveraged to have meaningful impact, but it's not for everyone and that is OK

2

IMPLEMENTATION IS A TEAM EFFORT

Success requires patience and collaboration to account for the many different parts involved

3

THE JOURNEY IS JUST BEGINNING

There are many possibilities (use cases) yet to be explored

4

ALWAYS KEEP THE INDIVIDUAL CENTRAL

Get to know the person and tap into who they are to create meaningful experiences

Baycrest is creating a world where every older adult enjoys a life of purpose, inspiration and fulfilment.

Using technology and innovation, we are helping older adults discover a new world full of possibilities.

Special thanks

The success and progress around using VR an a non-pharmacological intervention could not be made possible with key team members and supporting staff – special thanks to:

- **Kristal Kong,** former Georgian College intern in 2020
- **Cyrelle Muskat**, Director of Quality, Systems and Wellness, Manager of Apotex TR team and SQLI Lead
- **Tejas Patel**, Clinical Manager, Apotex 3rd floor and TBSU
- **Arianne Palmares**, Feeding Assistant
- **Families and residents of the TBSU**
- **Baycrest Innovation Office (BIO)**

Questions?

To learn more, contact us at:

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References

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