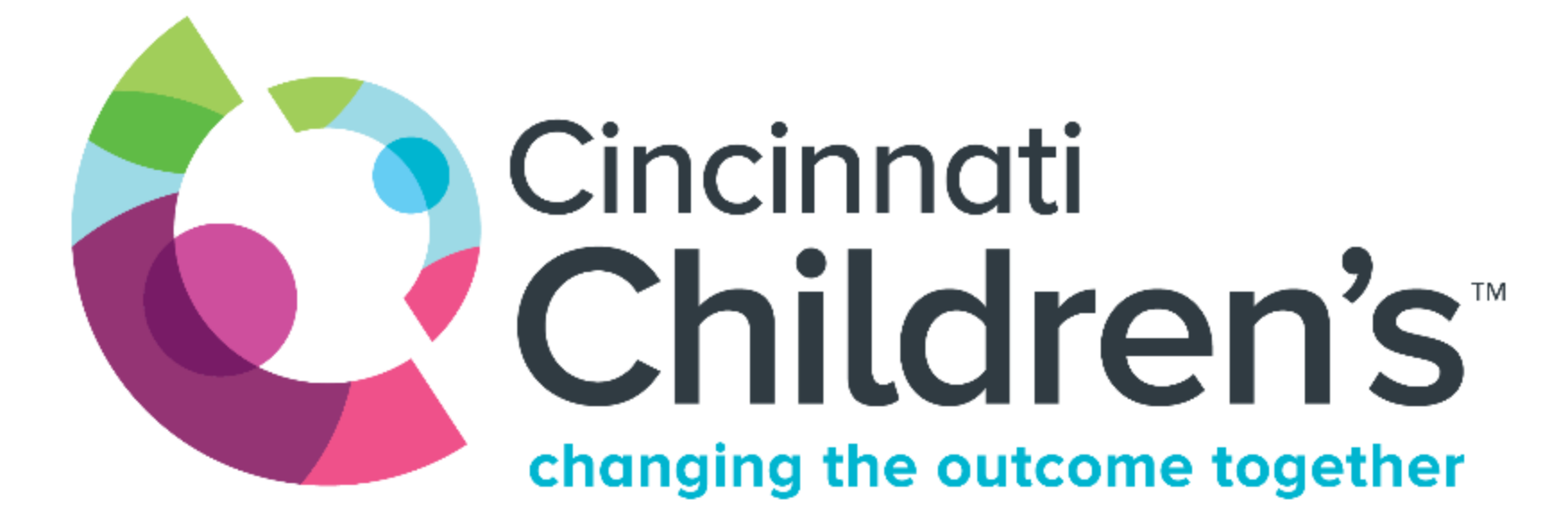


Usability Testing of a Virtual Reality Communication Curriculum to Address COVID-19 Vaccine Hesitancy

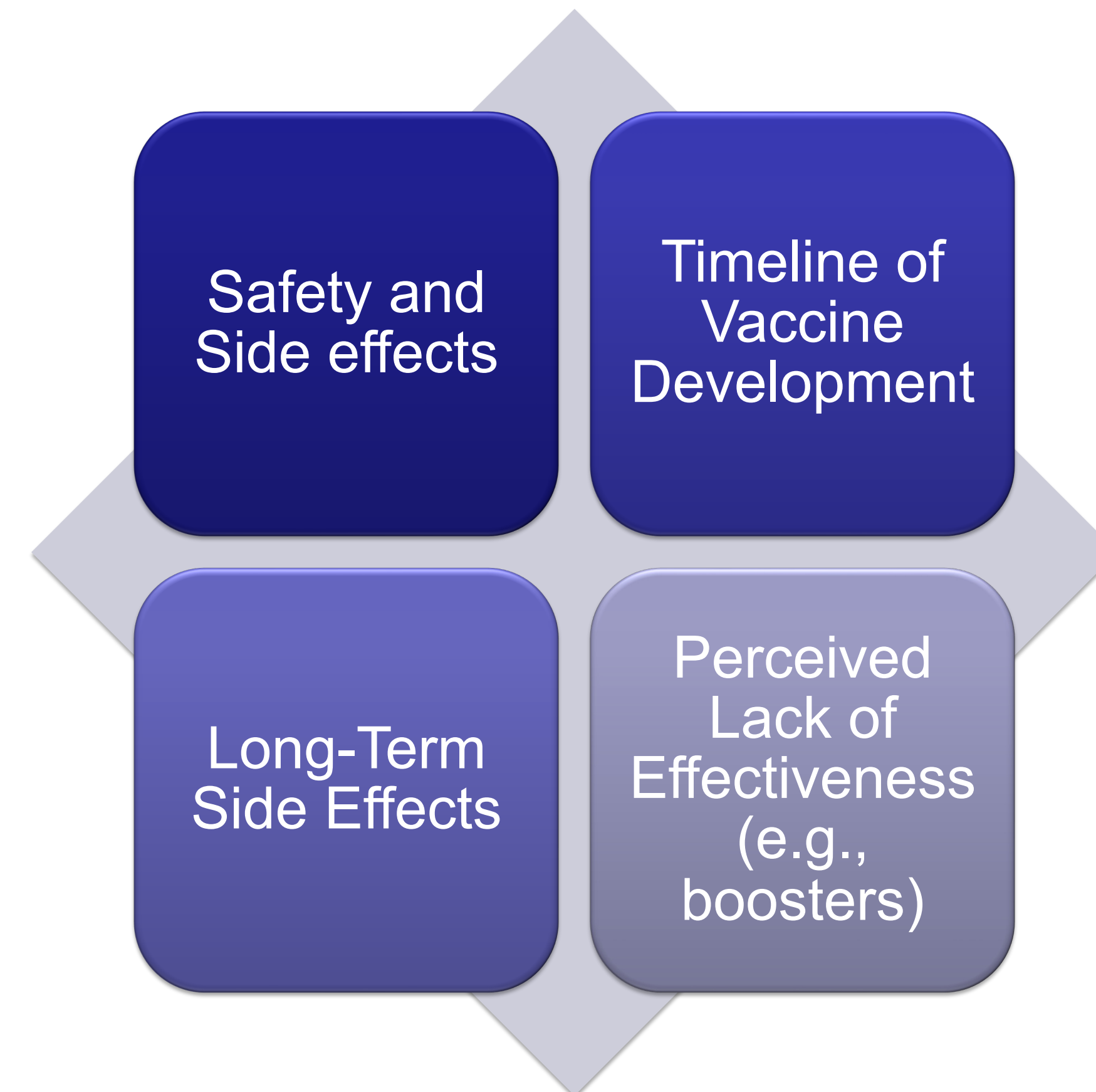
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Background

- Only 68% of eligible U.S. adolescents have initiated the COVID-19 vaccine series
- There is a **lack of training** to support pediatricians' COVID-19 vaccine communication skills to support uptake
- **Motivational interviewing** (MI), a collaborative communication framework that allows rapport building with families, may offer an effective approach to counseling on the COVID-19 vaccine
- Thus, we sought to develop and test the usability of a **virtual reality intervention** to allow pediatricians to practice COVID-19 vaccine communication skills
- Usability testing is a method of assessing how well an intervention serves its intended purpose

Curricular Sources of Hesitancy



Curricular Communication Skills

- **Participatory approach:** an opt-in approach to vaccination rather than a presumptive format
- Recommendation language
- Minimizing medical jargon
- Emphasizing timing of next dose
- **MI Skills**
 - Open-ended questions
 - Reflection
 - Asking permission
 - Affirmative statements

Curricular Demonstration



Objectives

Assess the usability of a virtual reality curriculum for pediatricians to deliberately practice addressing COVID-19 vaccine hesitancy using specific MI skills.

Methods

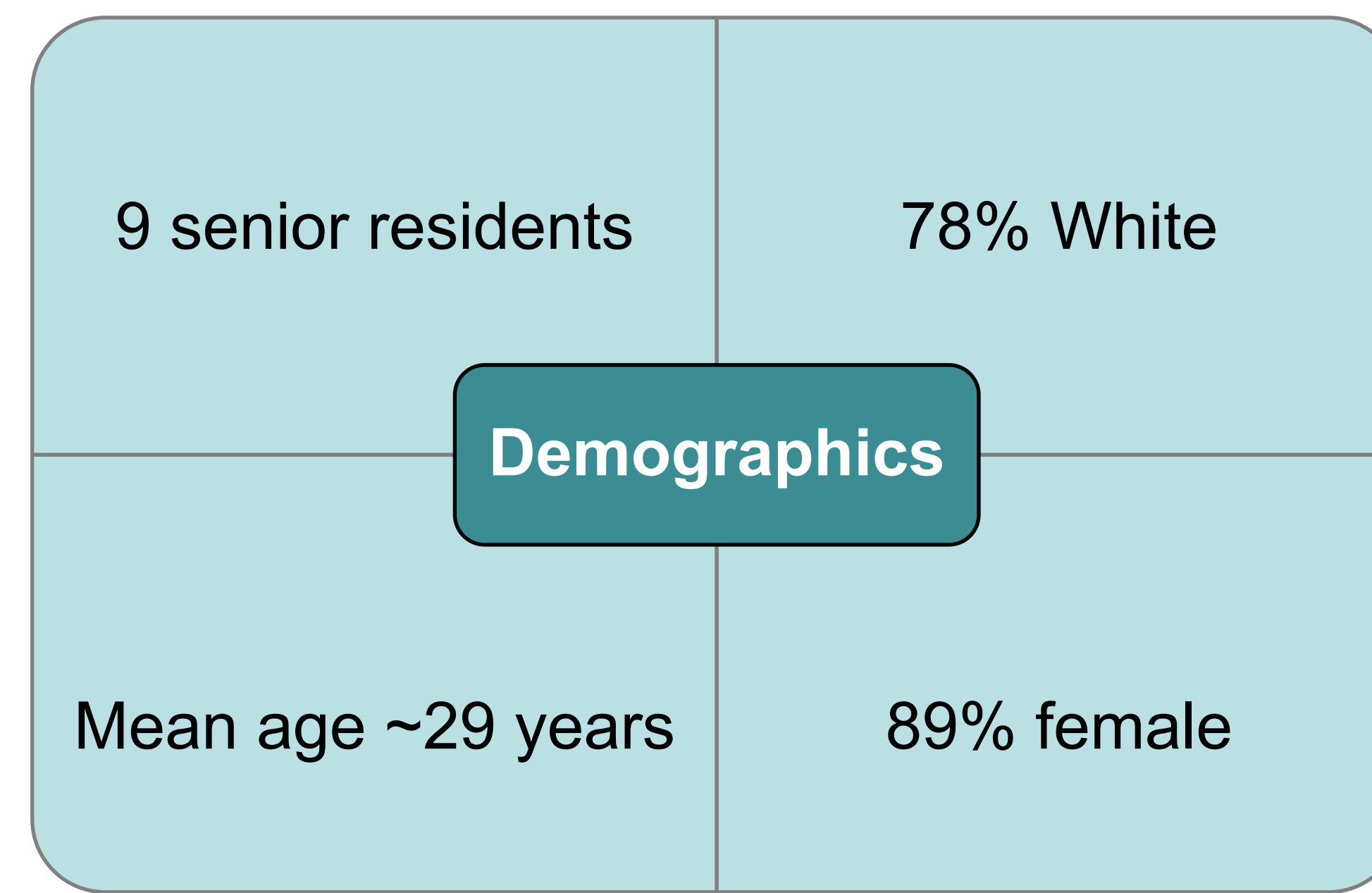
Procedures

- Intervention Mapping, a systemic process of engaging stakeholders in intervention development, was used to co-create a VR curriculum with community partners
- The curriculum was operationalized through a screen-based teleconferencing service allowing screen sharing of a virtual clinic environment
- Learners verbally counseled graphical caregivers (avatars) hesitant to vaccinate their adolescent against COVID-19 in four different cases
- A facilitator controlled the verbal and non-verbal language of avatars who responded to the learner's counseling using a specific algorithm, and then subsequently received feedback regarding their use of specific MI skills
- Semi-structured interviews were conducted to assess learners' overall perceptions of the curriculum

Analysis

- Interviews were transcribed and rapid qualitative analysis procedures were used to characterize the data

Results



Principal Themes

Three principal themes were identified from the interviews regarding the usability of the curriculum:

1. **Appreciation of curricular scaffolding** of MI skills within the curriculum that included "bite-sized pieces"
2. **Opportunity to practice** skills in the virtual environment
3. **More equipped for clinical practice** to address concerns regarding the COVID-19 vaccine

Supporting Quotes

Appreciation of curricular scaffolding

"I like the way it like **builds on a skill** and then keeps incorporating like more complexity." (P3)

"I also appreciated the **step-wise approach** because there are so many things to factor in, and it would have been overwhelming to get them all at the beginning." (P6)

An opportunity to practice

"I think it's **helpful to be able to practice** in a simulated environment when you're not stressed about time or other things going on and develop those skills before having to actually do it like in the real clinic setting." (P5)

"I think it's **important to practice** having these kinds of conversations, and you get better at it the more often you have them." (P9)

More equipped for clinical practice

"I leave a better doctor. I'm like, okay, **I'm more equipped** with skills to have this conversation." (P2)

"I thought it was very helpful for me and **very practical** and applicable to what I would do in my typical clinic setting." (P6)

"I have clinic this afternoon, and **I can't wait to try** some of the things from this session." (P4)

Next Steps

- The curriculum was implemented in Adolescent Medicine clinics during the Fall 2022 and implementation outcomes (e.g., acceptability, appropriateness, feasibility) are currently being collected.
- Next steps include assessing the impact of this curriculum on COVID-19 vaccination rates.