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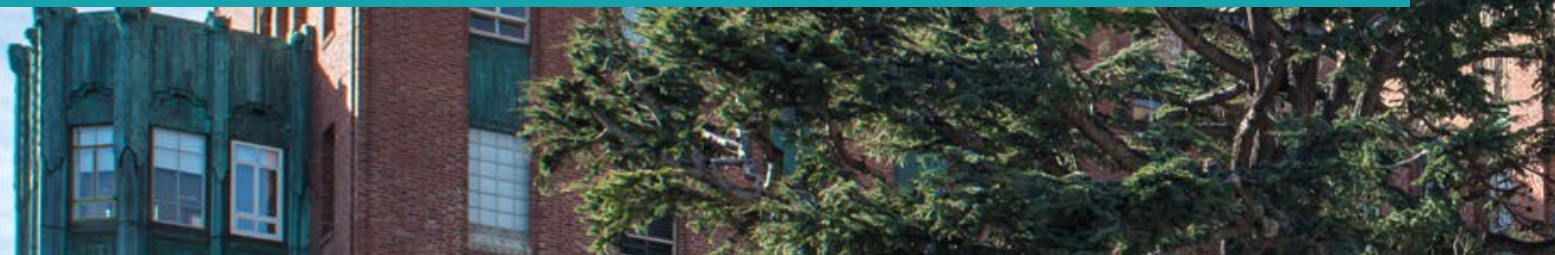


ZUCKERBERG  
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# Advancing Equity in Using Virtual Reality (VR) for Chronic Pain Management

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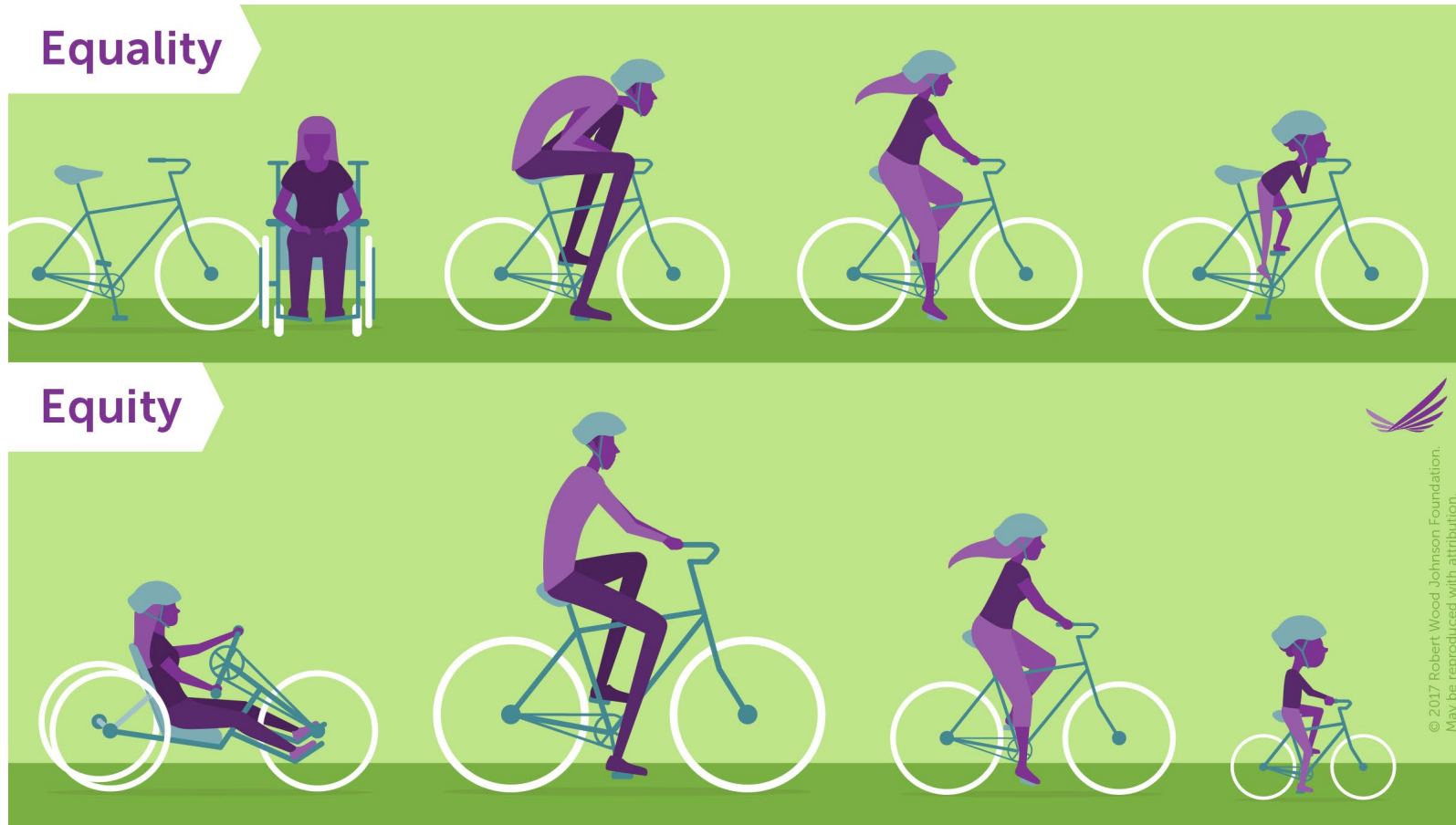
Associate Professor of Medicine and Epidemiology and  
Biostatistics



# Agenda

- I. Health equity and virtual reality
- II. Findings/Recommendations from our work

# Health equity: the opportunity for everyone to live the healthiest life possible



The Robert Wood Johnson Foundation

# Disparities in chronic pain management



Black patients report greater pain severity compared to White patients<sup>1</sup>

Black patients are 22% less likely than White patients to receive pain medication<sup>2</sup>



Patients who are uninsured, are low-income, or identify as a minority are:

- More likely to experience delayed care<sup>3</sup>
- Less likely to have access to primary care<sup>3</sup> (where most chronic pain is managed in the U.S<sup>4</sup>)

<sup>1</sup>Green CR et al. *J Pain* 2003.    <sup>3</sup>Meghani SH et al. *Pain Med* 2012.  
<sup>2</sup>Riley JL et al. *Pain* 2002.    <sup>4</sup>Wasiak R et al. *J Eval Clin Pract* 2008.

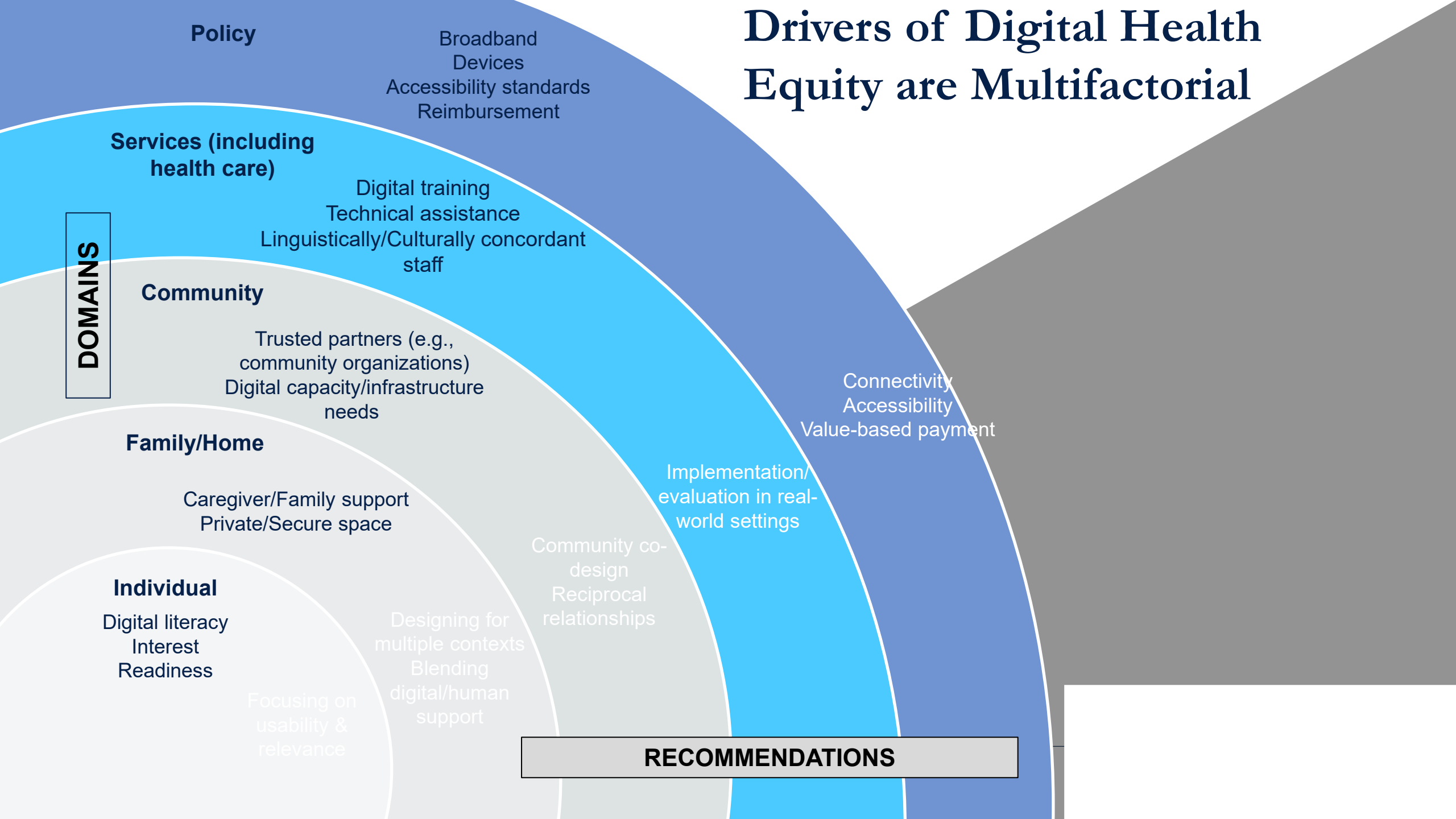


# Virtual reality (VR) to reduce disparities in chronic pain management



- Only 5 studies assessed VR usability among a historically marginalized patient group
  - 4 studies found VR to be usable by their respective study population
  - 3 studies examined VR usability as a primary outcome
  - 1 study found a significant improvement in pain levels post-VR intervention
- No studies were conducted in a safety-net setting

# Drivers of Digital Health Equity are Multifactorial



**DOMAINS**

**RECOMMENDATIONS**

# Example of one study focusing on digital health equity for VR

Setting



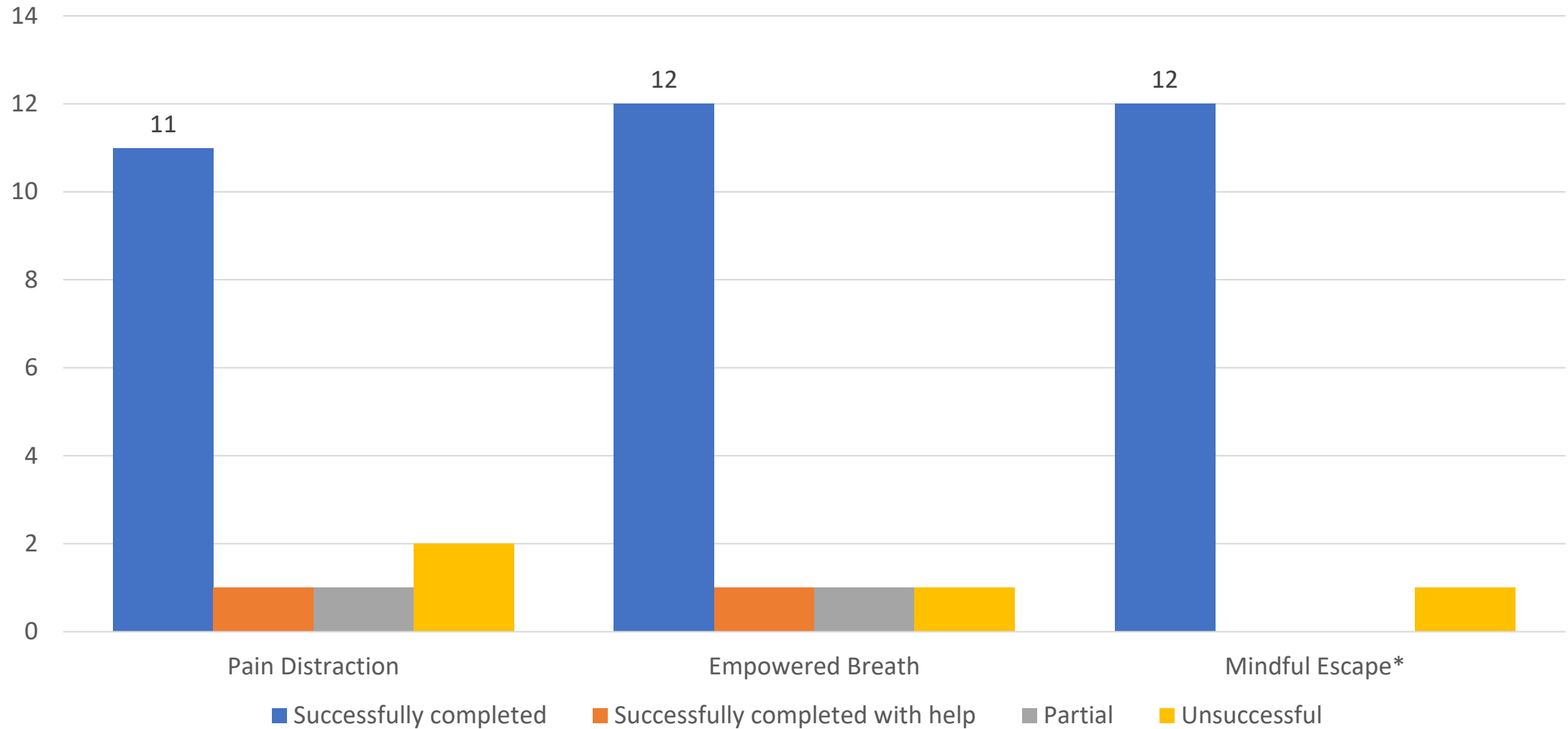
Interviews & usability tests with 15 patients



**Goal:** Investigate the usability of VR for opioid-sparing pain management among San Francisco Health Network patients (public delivery system in SF)

Icons by Gan Khoon Lay and Ben Davis from the Noun Project

# VR Usability was High



*\*Two participants decided to stop and did not complete the module.*

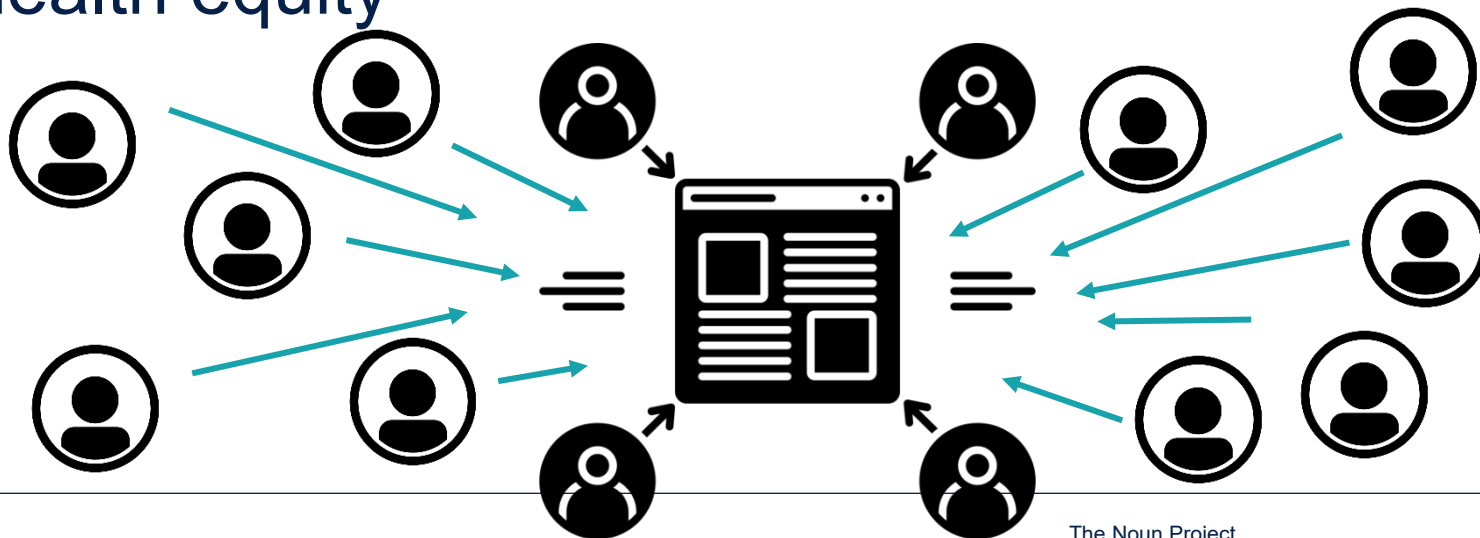


# Additional Study Findings

- Participants faced challenges with current pain management strategies  
→ Motivated to seek other alternatives like VR
- Majority would use VR in the future as a supplement to existing care
  - Use of VR must complement ongoing care (not used without integration into existing treatments and conversations with their providers)
- **These examples from participants give insight into usability in the home and services domains**

# Bridging the gap

1. Design digital platforms based on community needs and preferences
  - a. Engage stakeholders in co-design and usability testing
2. Ensure technology is accessible based by digital skills, literacy levels, and language
3. Partner and collaborate in new ways and across sectors to advance digital health equity



Lyles CR et al. Bridging the Digital Health Divide. Feb 2022. California Health Care Foundation.

# Thank you!



UCSF Center for Vulnerable Populations Mural: Precita Eyes Muralists