



Topic Brief: Effects of Virtual Reality and Gamification on Mental Health and General Wellbeing

Date: 10/11/2023

Nomination Number: 1047

Purpose: This document summarizes the information addressing a nomination submitted on May 15, 2023, through the Effective Health Care Website. This information was used to inform the Evidence-based Practice Center (EPC) Program decisions about whether to produce an evidence report on the topic, and if so, what type of evidence report would be most suitable.

Issue: The nominator of this topic would like to develop studies examining the use of virtual reality (VR) and gamification technologies on outcomes related to mental health conditions and general wellness.

[Link to nomination](#)

Findings: The EPC program develops systematic reviews to inform healthcare decision-making by clinical professional groups, clinicians, healthcare organizations, patients, and others. The EPC Program does not conduct primary research nor participate in the development of medical devices and/or diagnostic tests, therefore the program will not consider this topic further.

Background

Gamification is a trend to apply game mechanics to a traditionally non-game context. This idea has been used widely and successfully in business and marketing, and has begun spreading to the healthcare setting, especially as it regards to the digital healthcare that saw an enormous boom during the COVID-19 pandemic. Using game mechanics as a treatment mechanism has been shown to be approachable and effective for some mental health conditions, but requires more robust examination of its long-term effects.¹ Virtual reality (VR) technologies have been shown to be helpful for intervention and treatment of some psychological conditions,² allowing users to have greater control of their treatment environment, but similarly requires more evidence on its long-term benefits and harms in order to be more widely implemented into every day practice.

This is an important topic with no current, commonly adapted guidelines. The FDA has a list of medical devices³ which had received 510(k) clearance, granted De Novo request, or Premarket Approval for their use of augmented reality (AR) or VR, the majority of which are for orthopedic uses rather than mental health. A 2022 FDA Patient Engagement Advisory Committee Meeting⁴ included a summary of the use of AR/VR in diagnosing and treating some mental health conditions, such as schizophrenia, but concluded that questions about risks and benefits related to “devices, software, applications, and populations, and about how to best communicate guidance, warnings, and other information to patients, practitioners, and caregivers” warrant careful study and consideration.

There have been several systematic and scoping reviews related to this topic: gamification in e-Health;¹ VR in the treatment of mental health conditions during COVID-19;² potential uses of gamification for mental health in children;⁵ gamification via apps for general mental health and wellbeing;⁶ and gamification in apps for depression,⁷ to name a few. There are also hundreds of ongoing clinical trials around the world examining these technologies for both mental and general health.

References

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