

## PERSPECTIVE

## College of Psychiatrists of Ireland Medical Student and Intern Essay Prize 2021 Runner Up

# Optimising Mental Health in a Virtual World – Connecting from a Distance

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### Key Points

- The use of modern technology and virtual approaches to mental health therapy is growing in importance across a diverse range of disorders.
- While existing mental health therapies have been successfully adapted to virtual modes of delivery, modern technology is also driving exciting novel therapies.
- Studies suggest virtual approaches to mental health care have both advantages and disadvantages. Further study and a cautious, evidence-based approach is key.
- The complex and co-morbid nature of psychiatry means that patients will continue to require assessment and management by specialists. Virtual therapies are useful components of a stepped-care model, however patients with severe mental health problems will continue to require in-person care.

**Keywords:** Mental health, Technology, Internet-based cognitive behavioural therapy (iCBT), Virtual therapy, Evidence-based psychiatry

### Introduction

Our modern world and its consequences for mental health have been extensively discussed of late<sup>1</sup>. While some studies have highlighted the negative aspects of modern technologies such as social media<sup>2</sup>, others have focused on the positives<sup>3</sup>. The question of how we can optimise our mental health in a fast-changing world is an important one. In this essay, I will explore where we stand with technology and mental health, outline some exciting new developments, and ultimately seek to address how we can optimise mental health in a virtual world.

### Virtual Cognitive Behavioural Therapy (CBT)

Since its development in the 1960s, Cognitive Behavioural Therapy (CBT) has become a mainstay of mental health treatment<sup>4</sup>. There is now a wealth of evidence for its effectiveness in the treatment of depression<sup>5</sup>, anxiety disorders, and other mental health disorders<sup>4</sup>. Despite this, many patients with mental health disorders remain untreated<sup>6</sup>. The potential for modern technology to broaden patient access to CBT has been recognised for almost 20 years, with the development of internet-based CBT (iCBT) programmes<sup>4</sup>. There is now good-quality evidence to support the effectiveness of iCBT in both adults<sup>7</sup> and children<sup>8,9</sup>. The ability of virtual therapies to improve access to mental health treatment is therefore well-established, but has become even more evident during the COVID-19 pandemic. In November 2020, Ireland's Health Service Executive (HSE) published its online *Mind Your Wellbeing* programme<sup>10</sup>. This is a virtual, video-based wellbeing programme consisting of 5

sessions. In the UK, the National Health Service (NHS) promotes the delivery of virtual CBT-based therapy via smartphone apps<sup>11</sup> such as *Calm Harm*<sup>12</sup> and *ThinkNinja*<sup>13</sup>. Besides offering improved public access to CBT, virtual therapies have the added advantages of greater cost-effectiveness than face-to-face therapy and greater potential for patient retention<sup>14</sup>. While virtual CBT and CBT-based therapies have become accepted approaches in the management of depression and anxiety disorders, virtual approaches in other mental health disorders are less well-established<sup>14</sup>. However, mental health means much more than just depression and anxiety. We must also look at how technology can be applied to other disorders, if we are to fulfil its potential in advancing mental health in our modern world.

### Other Virtual Therapies

It is becoming clearer that there is indeed potential for virtual therapies beyond depression and anxiety. Recently, there have been small studies supporting virtual Acceptance and Commitment Therapy (ACT) in the management of somatic symptom disorders such as fibromyalgia<sup>15,16</sup>. Another area of research of late has been in the development of Virtual Reality Exposure Therapy (VRET) for the treatment of phobias<sup>17</sup>. While these are examples of how existing treatments (i.e. ACT and exposure therapy) can be adapted to new technologies, there are also exciting novel approaches to virtual mental health therapies. The front-cover of *Nature* issue 7465 was emblazoned with the words "GAME CHANGER", heralding the first video game

developed as a medical intervention<sup>18</sup>. Playing this video game, *NeuroRacer*, resulted in cognitive improvements in a cohort of older adults<sup>19</sup>. In June 2020, the US Food and Drug Administration (FDA) authorised *EndeavorRx*, the first video game-based therapeutic<sup>20</sup>, which is designed to treat inattention in children with attention-deficit/hyperactivity disorder (ADHD). In a randomised control trial, this game demonstrated improvements in symptoms of ADHD in a cohort of children aged 8–12 years<sup>21</sup>. A recently published randomised control trial of a different, mindfulness-based video game also demonstrated improvements in cognition and behaviour in a cohort of adolescents who had suffered adverse childhood experiences<sup>22</sup>. However, these developments are not without controversy: a 2015 meta-analysis of similar cognitive training approaches found minimal benefits in children and adolescents with ADHD<sup>23</sup>. As the exciting new field of virtual mental health therapies develops, it is important to apply the rigorous scientific method and not overstate the benefits of novel therapies<sup>24</sup>. While virtual therapies show promise for many mental health disorders, there is still a strong case for an approach utilising cautious optimism and evidence-based medicine.

### Current Issues with Virtual Approaches

A recurrent theme in the literature surrounding virtual approaches to mental health is the need for further research<sup>14,16,24</sup>. While there are clear advantages to virtual therapies such as improved access and cost-effectiveness<sup>14</sup>, there are also disadvantages. To truly optimise virtual approaches to mental health care, we must recognise these disadvantages and address them. To date, most of the research on virtual mental health treatments has focused on CBT<sup>25</sup>. Two recent meta-analyses have found lower rates of deterioration among patients who received iCBT than controls<sup>26,27</sup>, and it appears that these rates of deterioration are similar to patients who receive face-to-face treatments<sup>28</sup>. However, another meta-analysis found that there was a significantly higher dropout rate among patients receiving iCBT compared to patients receiving face-to-face therapy<sup>29</sup>. There remains a lack of research on other negative outcomes from virtual therapies, and there is little research on emerging virtual therapies for disorders other than depression and anxiety<sup>25</sup>. There is also evidence that some patients are less willing to engage with internet-based therapy: a 2010 study in the US found that 91.9% of patients would consider face-to-face therapy, while only 48% would consider internet-based therapy<sup>30</sup>. Unsurprisingly, older patients were less willing to engage with internet therapy than younger patients.

To date, most virtual therapies are targeted at specific disorders<sup>14</sup>. However, comorbidities in patients with mental health disorders is common. For example, mood and anxiety disorders commonly present together<sup>31,32</sup>. Virtual therapies may be more suited to some patients, and less suited to others; patients with severe mental health problems will continue to require face-to-face services. Recent studies have sought to

address how internet-based mental health therapies can be integrated into existing care systems; for example, as a step in a stepped-care model<sup>33,34</sup>. At a September 2018 conference titled “Changing Direction: Augmenting Mental Health Solutions”, Dr. John Hillery, President of the College of Psychiatrists of Ireland, emphasised the continued need for trained specialists to assess and manage patients, regardless of the technology being used<sup>35</sup>. The many complexities and comorbidities seen in mental health underpin the need for highly trained and well-funded specialists to be at the forefront of implementing exciting new technologies. A careful, evidence-based approach led by experts is key.

### Conclusion

In summary, virtual approaches to mental health therapy are becoming more and more accepted. Exciting new technological developments have made many novel interventions in a variety of mental health disorders possible. These are exciting times for mental health, and the importance of new technologies will likely grow in years to come. Moving forward, we need to have research and ongoing discussions about the advantages and disadvantages of different strategies and an evidence-based, expert-led approach. These considerations will allow us to make steady progress towards the goal of optimising mental health in a virtual world. ◀

### Declarations

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