



## Community level digital mental health interventions

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# Community level digital mental health interventions

**A policy and practice brief**  
January 2024



This policy briefing describes research examining mental health interventions and services underpinned by digital technology and offers key policy recommendations.

## INTRODUCTION

The prevalence of mental ill-health is increasing worldwide and brings adverse consequences at both the individual and societal level<sup>1</sup>. Mental ill-health may be related to biological, psychological, and social factors. Treatments and interventions for the symptoms that represent mental disorders may target biological, behavioural and cognitive factors. Traditionally, treatments have included psychotropic medication, and/or psychological therapies which are delivered on a one to one or group basis. Both have a high economic cost, and efficacy varies<sup>2</sup>. In addition, help seeking behaviour is impacted by stigma, symptom recognition and a host of factors associated with the disorders themselves, such as avoidance behaviour. The delivery of face-to-face interventions for those who are most marginalised and most at risk from mental ill-health, can also be impacted by physical barriers such as knowledge of the services available and time or travel constraints.

As an alternative and/ or complementary offering, **digital mental health interventions can bring many potential benefits**<sup>3</sup>. They can be deployed flexibly and can be accessed anonymously if preferred. Digital technology can be used to schedule appointments, allowing people to self-refer, or reschedule appointments to avoid absences. A more advanced level of use is to employ technology such as video for talking therapy or text lines for typed therapy.

Advanced use of digital mental health technologies centres on using data to improve and personalise services based on the application of machine learning and artificial intelligence techniques. Digital mental health interventions also show promise in terms of promoting wellbeing within the general population through promoting self-monitoring and the management of physiological and psychological symptoms and behaviours.

Internationally and nationally, leading bodies such as the World Health Organisation (WHO) and the National Institute for Clinical Excellence (NICE) all acknowledge the potential benefits associated with digital mental health interventions<sup>4,5</sup>. Accordingly, governments are recognising the need to incorporate digital mental health models into overall mental health policies and services.

For example, Northern Ireland's Mental Health Strategy sets out the key action to "develop and implement a comprehensive digital mental health model that provides digital delivery of mental health services at all steps of care."<sup>6</sup> Similarly, the Republic of Ireland's implementation plan outlines that "opportunities for mental health promotion, prevention and early intervention using digital channels and social media need to be considered and researched."<sup>7</sup>

The research presented here is co-produced with end users and academic experts across the disciplines of psychology, business, medicine, healthcare, interaction design and computer science.

This briefing is based on the findings from our research programme on a community level digital mental health intervention.

## COMMUNITY LEVEL DIGITAL MENTAL HEALTH INTERVENTIONS

### *What is the challenge?*

A challenge in the implementation of digital technologies is to firstly understand whether digital interventions can improve wellbeing, and secondly whether these interventions are considered usable and acceptable by the general population. Acceptability and usability are key to whether individuals will initially engage with these technologies, and secondly whether they will maintain engagement with the intervention. Continued engagement, or adherence, is critical to the maximum potential being reached.

### *What did we do?*

Within a major study led by Ulster University with Action Mental Health and others, a multilingual mental health and wellbeing chatbot app called 'ChatPal' was co-designed and developed to meet the needs of individuals living in rural areas of Europe. The Ulster University group led several studies around (i) the usability of the app, and (ii) its effectiveness in influencing mental wellbeing. The major study lasted 12 weeks, and recruitment was international, with participants from Northern Ireland, Scotland, Republic of Ireland, Sweden, and Finland. The study involved a total of 348 people aged between 18-73 years old <sup>8</sup>. Other studies have examined insights into usage of the intervention with a larger group of 579 app users <sup>9</sup>.

### *What did we find?*

Results showed improvement in wellbeing scores over the study period for those that used the app; however, these improvements were not statistically significant <sup>8</sup>. Findings regarding the acceptability showed that participants enjoyed the overall experience of using the app and positively evaluated many of the exercises within it. Feedback did however note that there are technical or performance errors which need to be overcome. Examples of issues include determining the optimum speed and quantity of delivery content and establishing trust within the chatbot. Injection of personality into the chatbot also came through as a strong recommendation. In terms of app users, results showed three distinct groups, "abandoning users", "sporadic users" and "frequent transient users" <sup>9</sup>. Abandoning users were the most dominant group (81.7%). Further examinations identified patterns of usage and considered the features most accessed by users <sup>9</sup>.

### *What needs to happen now?*

## POLICY & PRACTICE RECOMMENDATIONS

### POLICY & PRACTICE RECOMMENDATION

**Considerably more research is needed to develop digital mental health interventions that are effective at improving mental wellbeing and cost effective in supporting people, especially those who are marginalised.**

New digital methods offer much promise alongside other services, such as in-person sessions, to provide a more well-rounded approach to mental health support where the service is matched to an individual's treatment need. As mental health services are being digitally transformed with more digital mental health interventions such as apps available directly from app stores and public healthcare organisations such as the NHS, accredited mental health apps should be part of the available services.

Digital mental health interventions also have the potential to provide learning and education about what it means to be in a good state of mental wellbeing and act as a preventative tool to stop mental health problems escalating. Public health promotion of apps to help educate people about mental health may also help to minimise stigma and increase confidence in self-care and taking appropriate action.

### POLICY & PRACTICE RECOMMENDATION

**Funding must be directed towards understanding the usability and acceptability of digital mental health interventions in order to allow them to yield maximum potential within society.**

Acceptability and usability are key to the efficacy and effectiveness of digital mental health interventions. Society needs to be supported through the scepticism associated with new approaches. In terms of acceptability, digital tools are often seen as a substitute offering of lesser value due to the lack of available face to face services, rather than as an evidence-based treatment approach which is recommended by leading organisations such as the World Health Organisation (WHO) and the National Institute of Clinical Excellence (NICE). Public education campaigns would be beneficial, and signposting by professionals towards digital technologies that are evidence-based.

### POLICY & PRACTICE RECOMMENDATION

**Service providers need to consider how to design digital services so that clients continue to use the services.**

Client disengagement with digital mental health interventions is a significant concern. Service providers need to use client co-production when designing or redesigning services. In doing so, retention issues should be examined and addressed, including ease-of-access to the intervention, content personalisation, cultural adaptations, and making client achievements tangible; all based, where possible, on the intervention's

anonymous, aggregate behavioural usage data. Service providers should strategically explore and adopt digital transformation strategies at board level to facilitate fundamental changes and improvements in how digital data on clients are collected, analysed and used by the organisation, to inform day-to-day service monitoring and improvement as well as strategic use.

## FURTHER READING

- <sup>1</sup> World Health Organization (2022) [World mental health report: transforming mental health for all](#). Geneva.
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- <sup>3</sup> Bond, R.R., Mulvenna, M.D., Potts, C., O'Neill, S., Ennis, E. and Torous, J., 2023. [Digital transformation of mental health services](#). *npj Mental Health Research*, 2(1), p.13.
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- <sup>5</sup> NICE (2023) [Digitally enabled therapies for adults with depression: early value assessment](#).
- <sup>6</sup> Northern Ireland Department of Health (2020) [Mental Health Strategy 2021-2031](#).
- <sup>7</sup> Government of Ireland Department of Health (2020) [Sharing the Vision: A Mental Health Policy for Everyone](#).
- <sup>8</sup> Potts, C., Lindström, F., Bond, R., Mulvenna, M., Booth, F., Ennis, E., Parding, K., Kostenius, C., Broderick, T., Boyd, K. and Vartiainen, A.K., 2023. [A multilingual digital mental health and well-being Chatbot \(ChatPal\): pre-post multicenter intervention study](#). *Journal of Medical Internet Research*, 25, p.e43051.
- <sup>9</sup> Booth, F., Potts, C., Bond, R., Mulvenna, M., Kostenius, C., Dhanapala, I., Vakaloudis, A., Cahill, B., Kuosmanen, L. and Ennis, E., (2023) [A Mental Health and Well-Being Chatbot: User Event Log Analysis](#). *JMIR mHealth and uHealth*, 11, p.e43052.

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