

eMental Health

State-of-the-art & Opportunities for Ireland



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Acknowledgments & disclaimer

The research to prepare this report was grant-funded by Mental Health Reform & the Health Service Executive (HSE). It provides a resource on eMental health practice and evidence to support developments in this field in Ireland that can enhance mental health services, facilitate user access, and improve outcomes.

The report includes some examples of the many eMental health applications and services now becoming available. These examples are for illustrative purposes and it is not the purpose of this report to endorse, or otherwise, any particular offerings. The information synthesis, analysis and conclusions in the report are the author's. They do not necessarily reflect those of the funders, and the funders take no responsibility for the content or for any uses to which it may be put.

Foreword

Shari McDaid, Director, Mental Health Reform

As the national coalition promoting better mental health services, Mental Health Reform has a strong interest in exploring the potential of digital technology within the mental health sphere. An example of this is our participation in the eMEN Interreg project. The e-Mental Health innovation and transnational implementation platform North West Europe (eMEN) project is a six-country European Union partnership aiming to improve mental health in Europe through increased use of eMental Health interventions. Rooted in Mental Health Reform's value of empowerment of individuals who use mental health services, we are particularly interested in the possibilities digital technology can open up for this.

Our aim in participating in eMEN is to enable stakeholders to develop a shared understanding of the role of digital technology within the mental health system. This means engaging with all stakeholders, from people who may use eMental Health apps and family members/carers to clinicians and service providers (both statutory and non-statutory). Digital technology may benefit individuals with mental health difficulties in a variety of ways, including helping provide wider access to services, empowering service users, and therapeutic innovation. There are also possible risks to using digital technology, especially in a field where 'talking therapies', as well as human and social support more generally, are so important.

We welcome the publication of this report, presenting an overview and discussion of the state-of-the-art in eMental Health. It provides a very useful starting point for stakeholder engagement, helping interested parties to navigate digital technology's potential, its risks, and its current status in terms of evidence for efficacy.

Maurice Farnan, Programme Manager Mental Health, HSE

HSE Mental Health Services (M.H.S.) welcomes this timely report on eMental Health. As the report notes, eMental Health provides considerable potential for an improved service offering in Mental Health services and offers opportunities to provide information, supports and treatment to people with mental health issues and the wider population.

The M.H.S. working model of eMental Health is underpinned by a tiered approach to provision, including: extensive web enabled information, dynamic signposting and supports for the wider population; enhanced supports such as Instant Messaging / SMS / Live chat / Telephone support for those with greater need; and finally online counselling and potentially tele-psychiatry for those with greatest need. We are also particularly interested in the potential for enhanced self and joint management for service users in their treatment and recovery journeys. These various areas are addressed in some detail in the report, and M.H.S. is itself engaged in a range of initiatives in these fields. We also note and agree with the findings of the report that e-Mental Health is not a panacea. Care and consideration is required in the design and delivery of services, and it is imperative that the services offered are clinically appropriate.

Although the scope of the report did not include the field of mental healthcare informatics, the delivery of a national Electronic Record is a key enabler to support the development of eHealth strategies. HSE will shortly submit a business case for a national electronic health record that will include mental health services. This will be a critical lever to improve services and information on the effectiveness of services, and provide a firm foundation for delivery of enhanced services including eMental Health into the future.

M.H.S. looks forward to working with all stakeholders in the development of enhanced eMental Health services that will serve the needs of both service users and the wider population.

Contents

EXECUTIVE SUMMARY.....	5
1 INTRODUCTION	10
2 TELEMENTAL HEALTH – TREATMENT FROM A DISTANCE.....	13
2.1 Current developments.....	13
2.2 Evidence and practice guidance	20
2.3 Discussion	24
3 ETHERAPY: TECHNOLOGY-SUPPORTED THERAPY AT SCALE	25
3.1 Current developments.....	25
3.2 Evidence and practice guidance	27
3.3 Discussion	31
4 OTHER APPLICATION AREAS AND DEVELOPMENTS.....	33
4.1 Ongoing support for enduring mental health difficulties.....	33
4.2 Other innovative additions to the treatment toolkit.....	34
4.3 Crisis intervention and suicide prevention	37
4.4 Mental health information and psycho-education	39
4.5 Online peer support	41
5 CONCLUSIONS	43

Executive Summary

This report presents a rapid wide-angle review of the state-of-the-art in the eMental health field in Ireland and internationally, with the aim to provide an orientation and operationally useful guidance for the relevant stakeholders in Ireland. It provides an overview of the spectrum of eMental health applications already on offer and how they are used; summarises evidence on their effectiveness and contribution; and discusses their potential for helping to address challenges facing the mental healthcare system in Ireland. The report focuses on technology supporting direct provision of mental health services and supports. It does not specifically address the field of mental healthcare informatics; this is a focus of attention under the Irish eHealth strategy and within the HSE and other service provider organisations.

The report adopts a broad definition of eMental health as ***‘technology-supported provision of mental health services and supports’***. Relevant technologies include telecommunications (phone, video, online); online and computer-based programmes; mobile apps; virtual reality; gaming; social media; data analytics; and many more. The report organises and discusses the field around a number of important application domains. These have relevance across the different components of the overall mental healthcare and support ecosystem, including formal mental health services, third sector and peer support organisations, and self-help activity by people with mental health issues.

eMental health application domains covered in the report
<ul style="list-style-type: none">• Telemental health• eTherapy (technology-supported therapy at scale)• Ongoing support for enduring mental health difficulty• Other innovative additions to the treatment toolkit• Crisis support and suicide prevention• Information and psycho-education (self-help)• Peer support.

Many opportunities...

The report considers eMental health applications that may be helpful for the large numbers of people with common mental health conditions, as well as applications relevant for people with more severe and enduring conditions. Current evidence and practice suggests that eMental health offers considerable potential, and some fields of application are already quite mature. eMental health applications can help to empower people with mental health conditions to engage more effectively in their recovery through self-help, access to peer support, and new ways to participate in jointly managing treatment and recovery pathways with clinicians. They can also help mental health services to address the large treatment gaps that prevail for common mental health conditions as well as the current limitations on effective continuity of care for people with enduring conditions. More generally, traditional service models need to evolve in appropriate ways alongside the major societal trends associated with the pervasiveness of the internet, smart-phones and other technologies.

Telemental health is already in extensive usage in a number of countries. This includes telepsychiatry applications to provide improved access to specialists in primary care settings and emergency departments, and telepsychology/counselling arrangements enabling remote client-practitioner therapy sessions. Emerging communication modes, such as instant chat, are increasingly employed to reach and engage with the demographic groups that favour these. eTherapy applications, combining online self-administration with varying levels of therapist assistance, are beginning to be offered in programmes providing psychological therapies at scale for common conditions such as mild/moderate depression and anxiety. Mobile applications show promise in supporting ongoing care management and self-management for people with enduring/severe mental health conditions. Gaming applications are used to support treatment provision and engagement for young people, and virtual reality has important application in the treatment of phobias and other conditions. Online platforms are providing organised repositories of mental health information and psycho-education modules, as well as peer support fora and other group-based applications.

Potential benefits
<ul style="list-style-type: none"> • Wider reach of mental health services and access to these • Cost-efficiencies in delivering high-volume services • Treatment innovation and enhancement • More user involvement and empowerment • Expansion of self-help and access to peer support

...but not a simple ‘plug-and-play’ game-changer or panacea

Despite the undoubted opportunities presented by eMental health, it is not a simple ‘plug-and-play’ game-changer or panacea. Face-to-face therapy and in-person support will continue to remain centrally important. eMental health is not a replacement for these forms of support, but provides opportunities for innovation and service improvement. Ensuring user choice is important - some may prefer to access services in eMental health mode, others will prefer more traditional approaches; and provision of services through eMental health must target it towards those for whom it is clinically appropriate.

eMental health encompasses a wide range of technologies and domains of application. These vary in their functionality and in the purposes for which they are appropriate. This may be to increase reach and access to therapy, enable innovation in existing treatment approaches, support people to manage their mental health issues, or a variety other purposes. It is important to bear this in mind when considering the role of eMental health within the mental healthcare system; the key question is whether particular applications of eMental health are useful and add value for the purposes for which they are intended and used.

A growing body of evidence suggests the likely efficacy and effectiveness of a range of products and applications for particular purposes. Some of this is from Irish research but most comes from research conducted in other countries, so further Irish research and evaluation in this field is important. In addition, the research evidence in this field can be quite complex to interpret for purposes of guiding implementation of eMental health as part of mainstream services. Available evidence often comes from controlled studies with participants who are not necessarily representative of the wider potential user populations and settings. Selection of particular eMental health approaches, and of particular product

offerings on the market, requires careful and critical appraisal of their existing evidence base; and implementation in mainstream services requires ongoing assessment and review of fitness for purpose.

More generally, in promoting development and deployment of eMental health it is important to adopt a measured perspective. This includes circumspection about the hype that can surround technological innovations and about overly simplistic claims of dramatic cost efficiencies. Although eMental health has the potential to provide substantial economic benefits, the focus must be on effective implementation in ways that really improve the lives of people with mental health difficulties. This requires careful attention to embedding eMental health within well-functioning mental health systems, care pathways, and user journeys, supported by secure and stable IT infrastructures.

Progressing the appropriate exploitation of eMental health in Ireland

Notwithstanding the requirement for a careful and circumspect approach, a range of applications of eMental health are now mature enough to consider their incorporation within the mainstream repertoire of mental health services and supports in Ireland, and a number of examples can already be found in parts of the Irish mental health service and support ecosystem. The report suggests the most useful next steps might include development of an overarching strategic framework (an eMental health Strategy) and promotion of targeted actions in key areas. The listing of action lines suggested does not necessarily imply any particular sequencing, and some or all could usefully be addressed in parallel.

Possible action lines
<ul style="list-style-type: none">• eMental Health Strategy• Stakeholder engagement/consultation• Quality assurance; Guidance for users & practitioners• Implementation pilots• Supporting innovation• eMental health research

eMental Health Strategy

A number of countries have developed promotional and other initiatives to support wider deployment and utilisation of eMental health, most notably Australia. In Ireland, the programme of activity under the eHealth Strategy is giving some attention to eMental health. However, it may be helpful to develop and resource a dedicated eMental Health Strategy to encourage broad consideration of eMental health opportunities across the mental healthcare ecosystem and to support accelerated deployment of useful applications. This should be embedded within wider mental health policy/strategy, such as currently being developed in the refresh of A Vision for Change.

Stakeholder engagement/consultation

It is essential that all stakeholder groupings are involved in driving the future development of eMental health in Ireland. Effective mechanisms for engagement and informed discussion are necessary to support consultation with professional bodies, practitioners, user groups and service users, NGOs, and

other stakeholders. This might include broad-based exercises to identify stakeholder interests and priorities, followed by more focused and targeted engagement on specific themes (e.g. telepsychiatry, eTherapy to support delivery of psychological therapies at scale, mobile supports for people with enduring mental health issues, and applications supporting self-help and service user empowerment).

Quality assurance; Guidance for users and practitioners

Given the large and growing number of online and mobile services and applications on offer, development of Irish quality assurance systems and guidance for eMental health users and practitioners is also important. Quality assurance systems (e.g. official certification systems or listing of endorsed products) encourage development and offering of proven good-quality products and services, and help users and practitioners to select which to use.

Navigating the burgeoning array of resources in the eMental health field can be challenging for people seeking support and services. A one-stop-shop Irish eMental health website signposting to useful resources would be helpful in this context, drawing on well-developed examples in other countries such as the Australian *headtohealth* website. The most effective approach to development and ongoing maintenance of such a website might be through a collaborative arrangement between government, HSE, third sector organisations, practitioner bodies, and user groups.

Guidance material for both users and practitioners is important. The suggested officially-supported eMental health website would be one element of this, along with more detailed guidance material for specific groups. Mental health professionals need guidance on utilisation of eMental health in clinical practice, and GPs and other practitioners need guidance to help them to advise patients on utilisation of self-help apps and services. Users need guidance on what to look for when selecting mental health apps and online offerings, and how to assess quality and suitability for their purposes. Examples of useful approaches to guidance are available from other countries and may be suitable for tailoring and customising for the Irish context.

Implementation pilots

It would also be useful to consider design, implementation, and evaluation of pilots/trials of eMental health in targeted fields in Ireland. This might include large-scale pilots of telemental health and eTherapies for common mental health conditions and more targeted pilots of telepsychiatry for specific purposes. Such initiatives would require prior consultation and agreement with the relevant stakeholders.

A recognised need in Ireland is to increase the large-scale provision of psychological therapies for people with common mental health conditions. Telemental health and eTherapies offer considerable potential as part of these approaches. One of the challenges in implementing eMental health in these contexts is to find the most effective ways to incorporate it within the overall service delivery framework and associated care pathways. Set-up and maintenance of an appropriate IT infrastructure is also central. A carefully constructed Irish pilot programme would be very useful, with involvement of all relevant parties including service providers, therapy professionals, and users.

Telepsychiatry may offer important opportunities to increase access to psychiatric consultation in a range of settings. This might help alleviate some of the difficulties currently experienced in this area in Ireland. Following consultation with the College of Psychiatrists of Ireland and the other relevant stakeholder groupings, a series of pilot projects could be useful to explore the potential of telepsychiatry

in specific areas. Examples might include applications to support liaison/consultation models for mental health in primary care, access to psychiatric consultations in emergency departments, and applications in other relevant locations/settings.

Supporting innovation

More generally, it would be useful to establish a lasting support structure to lead knowledge-sharing, foster innovation, and support implementation of eMental health across the system in Ireland. The most effective way to foster useful innovation in eMental health is through collaboration between clinicians, technology developers, and people with lived experience of mental health issues. Establishment of a dedicated eMental health innovation 'hub' might be the most effective way to do this.

eMental health research

Finally, a range of important aspects of eMental health require attention in mental health research in Ireland. This includes efficacy and effectiveness evaluation of eMental health offerings, translational and implementation research on putting useful innovations into practice, eMental health user experience research, and wider population research on utilisation patterns and their implications.

1 Introduction

This report presents a rapid wide-angle review of the state-of-the-art in the eMental health field in Ireland and internationally, with the aim to provide an orientation and operationally useful guidance for the relevant stakeholders in Ireland. It addresses a topic identified as requiring further attention in the recent evidence review to inform the parameters for a refresh of *A Vision for Change* (Cullen and McDaid, 2017). The review applies a broad and pragmatic approach, collating developments and synthesising evidence to inform policy and practice. It provides an overview of the spectrum of eMental health applications already on offer and how they are used; summarises evidence on their effectiveness and contribution; and discusses their potential for helping to address challenges facing the mental healthcare system in Ireland.

Scope of the field

The report adopts a broad definition of eMental health as ***‘technology-supported provision of mental health services and supports’***. Many applications of technology already exist in the mental health field, with considerable ongoing innovation influenced by a mix of technology-led, service-led, clinician-led and user-led forces. Relevant technologies include telecommunications (phone, video, online); online and computer-based programmes; mobile apps; virtual reality; gaming; social media; data analytics; and many more. The report focuses on technology supporting direct provision of mental health services and supports. It does not specifically address the field of mental healthcare informatics; this is a focus of attention under the Irish eHealth strategy and within the HSE and other service provider organisations.

There are a variety of ways to classify or categorise the broad spectrum of application areas and technologies encompassed within the eMental health field. In Australia, for example, the government's citizen-facing eMental health sign-posting website organises available services and supports in four categories - websites; apps and programs; forums; and phone, chat and e-mail (www.headtohealth.gov.au). A policy-oriented review in the same country organised the domain into five categories - health promotion, wellness promotion and psycho-education; prevention and early intervention; crisis intervention and suicide prevention; treatment (e-therapies); and mutual support and recovery services (e-Mental Health Alliance, 2014).

In the US an expert panel reviewed evidence in the 'behavioural intervention technology' field, organising interventions according to 6 areas: extension of therapist reach (similar to telemental health as discussed in Chapter 2 of this report); web-based intervention; mobile technologies; social media; simulated places and people; and gaming (Mohr et al, 2013). In Ireland, a recent good practice guidance document on *Technology, Mental Health and Suicide Prevention in Ireland* organised the field into three main areas - mental health information; online support; and online therapy (Chambers and Murphy, 2015). The guidance also covered communication through social media, and crisis response and escalation protocols.

Drawing on these approaches where relevant, the report organises the field into a number of application areas (Exhibit 1). This is not a rigid framework as the domains overlap and the boundaries are not always sharply defined. Nevertheless, it provides a helpful way to map the territory in an operationally useful manner for policy and practice.

Exhibit 1.1: eMental health application areas & mapping to the mental healthcare ecosystem				
Application areas		Ecosystem players		
		Formal system	Voluntary sector	Users & carers
Telemental health				
eTherapy: technology-supported therapy at scale				
Other application domains	Other innovative additions to the treatment toolkit			
	Ongoing support for enduring mental health difficulties			
	Crisis support and suicide prevention			
	Information and psycho-education (self-help)			
	Peer support			

Some technologies are more relevant for particular application areas; others have cross-cutting relevance across most or all areas. A useful aspect of the framework is the recognition of the roles of both the formal (public and private professional mental health services) and voluntary sectors in the overall mental healthcare ecosystem. The formal public sector has a strong role in all areas, and the voluntary sector has an especially prominent role in some of these; this is also reflected in eMental health developments across the ecosystem. By definition, people with mental health issues (users) and carers are of course central players across all application areas, with a prominent role in 'delivery' of self-help and peer support applications.

Addressing a range of needs and challenges

Applications of eMental health in these various domains have relevance for a number of challenges facing mental healthcare and support systems in Ireland. One challenge shared with many other countries is the large treatment gap for common conditions such as anxiety and depression. This reflects the sheer scale of the numbers affected, as well as the difficulties to organize and finance sufficient provision of conventionally-delivered, face-to-face, talking therapies to meet the level of need. Based on international prevalence data, the estimated annual prevalence for common mental health conditions in Ireland is of the order of 400,000-500,000 persons and data from the QNHS in 2015 indicates high prevalence of self-reported depression in the adult population - mild (18%); moderate (5%); and moderately severe or severe depression (3%).

Some countries are actively deploying telemental health to help address this challenge, for example the extensive delivery of low intensity therapies by phone under the Improving Access to Psychological Therapies programme in England. Technology-supported therapy at scale (eTherapy) may now also be mature enough to make an important contribution. Although many commentators promote the widespread provision of these modes of delivery of therapy and support, others have voiced concerns about their appropriateness and about their reinforcement of trends towards commoditisation of talking therapy as a 'one size fits all' service. The report gives particular attention to reviewing developments in these fields, and examines the evidence and debate on the pros and cons of these approaches.

Other areas of potential contribution of eMental health covered include: increasing access to and reach of specialist mental health professionals in short supply (e.g. through telepsychiatry); exploiting technological innovations to enhance the therapeutic process and outcomes, including supports for people with psychoses and other more severe mental health conditions; crisis support and suicide prevention; mental health information and psycho-education; and supporting recovery through mutual/peer support. Each of these may offer considerable potential value for components of the broad mental healthcare and support ecosystem in Ireland. However, informed consultation with professional practitioners, service users, and other groups active in the ecosystem will be central to determining whether and how their development and deployment might best be encouraged to add value in the Irish context.

2 Telemental health – treatment from a distance

Much of mental health support and treatment involves ‘talking therapy’ and is therefore potentially compatible with delivery from a distance through audio and audio-visual media that support interpersonal interaction. The term telemental health is widely used to refer to mental health sessions/consultations from a distance enabled by telecommunications or other electronic media.

The rationale for these applications is to exploit the flexibility and potential efficiencies of remote consultations. These include reducing the need to travel, convenience in time and place, opportunities for more frequent/regular contact and follow-up, and offering a communication mode that may be preferable for some clients. This provides logistical flexibilities that can help address important challenges, including shortage of key professionals and prevailing treatment gaps in mental healthcare.

A primary original motivation for remote mental health consultation was to facilitate reach of specialist service to underserved rural areas. This was a driver for its emergence in the United States, Australia and Canada, as well as in the Scandinavian countries. The focus was especially on providing access to mental health specialist supports for primary care and non-specialist practitioners in geographical areas distant from the centres where specialists worked. There has been occasional interest and activity in this field in Ireland over the years, for example in providing services to island (Mannion et al, 1998) and rural communities (Browne et al, 2006). In some countries, this rationale of providing remote specialist liaison/consultation also extends to other application fields, including access in locations such as emergency departments and in judicial/policing situations.

2.1 Current developments

The review covers the three main media employed in this field: phone (audio), video, and text/chat. Communication modes may be synchronous (real-time interactive communication) or asynchronous (with a delay in the interaction, e.g. email).

The ubiquity of telephony positions this medium at the centre of telemental health, and phone-based counselling/psychotherapy is commonly provided in some countries. Video counselling is also quite commonly offered in countries such as the US. Having both audio and video connection facilitates interpersonal communication and may be important for some clients. Implementation can be via proprietary videoconferencing or videotelephony platforms or through generally available platforms such as Skype. In the US, compliance with health data privacy and protection legislation (HIPAA) is important, and there have been questions about the extent to which platforms like Skype are fully in compliance. Text-based ‘talking’ therapy is also beginning to feature as part of the mental health ecosystem. These media are natural modes of communication for many people, especially younger generations. Interaction may be synchronous (live chat) or asynchronous (email). Some users (both clients and therapists) appear to find the delayed element of email useful for reflection and for considered formulation of presenting issues and responses.

Without intending any rigid disciplinary segmentation, it is helpful to loosely distinguish two sub-domains of application and activity in the telemental field: telecounselling/telepsychology¹ and

¹ The terms ‘telecounselling’ or ‘online counselling’ are commonly used as a shorthand in this area, referring to any ‘talking therapy’ delivered remotely; in practice it most commonly involves sessions delivered by psychologists or by counsellors with other training/qualifications

telepsychiatry.² The former refers to direct practitioner-to-client therapy sessions; the latter refers to consultations by specialists (especially psychiatrists) to support other practitioners (e.g. generalists such as GPs) with assessment and care of clients with particular mental health presentations.

Although the focus has been especially on one-to-one consultation and sessions, group therapy can also be provided remotely. Discussion-forum type platforms can support structured and facilitated group therapy, typically text-based. Voice and/or videoconferencing can also support group therapy, for example to deliver family therapy for widely dispersed family members.

2.1.1 Ireland

Although it is more prominent in a number of other countries, telemental health is beginning to develop in a patchy manner in Ireland.

Phone (audio)

In countries such as England, telephone-based delivery of counselling/therapy is an important component of efforts to scale up provision of talking therapies and to reduce the large treatment gaps for common mental health conditions. This field has not yet figured much in policy or practice developments in Ireland, although the Irish Association for Counselling and Psychotherapy does give some attention to the topic in a broader guidance document on online counselling and psychotherapy (IACP, 2017). Nevertheless, there are a number of examples of usage in various parts of the Irish mental health ecosystem. The following is not an exhaustive coverage of Irish activity but serves to illustrate some of the core current areas of usage.

Connect - professional telephone counselling & support

This is probably the most prominent example of purposive deployment of the approach within the public mental healthcare system in Ireland. The *connect* phone counselling service (Exhibit 2.1) is an additional service to the HSE's National Counselling Service which provides free face-to-face counselling for people who have suffered abuse, trauma or neglect in their childhood. The phone service is open 20 hours weekly, 6-10pm, Wednesday through to Sunday, with extended opening during the Christmas period and after media coverage of issues that may trigger increased demand. It can be accessed on a once-off 'call-in' basis during opening hours, and is also offered on a more regular and structured sessional basis at lower intensity (supportive counselling) and higher intensity (therapeutic counselling).

Published utilisation data for 2013-2014 indicated the Connect Counselling Team answer about 20 or more calls nightly, with most callers phoning in from Ireland and smaller numbers calling from Northern Ireland and the UK (Connect, 2015). In 2014, 5,276 calls were answered and 470 individuals received services. The main sources of referral or ways callers heard about the service were from the National Counselling Service waiting lists (24%), referrals from the Samaritans (20%), and self-referrals triggered by media/TV/newspapers (18%).

² The term 'telepsychiatry' is commonly used as a shorthand in this area because of the focus on providing access to scarce psychiatric specialists; in practice this may also be relevant for provision of remote support by other professionals, such as clinical psychologists

Exhibit 2.1: Connect - professional telephone counselling & support



Source: <http://connectcounselling.ie/>

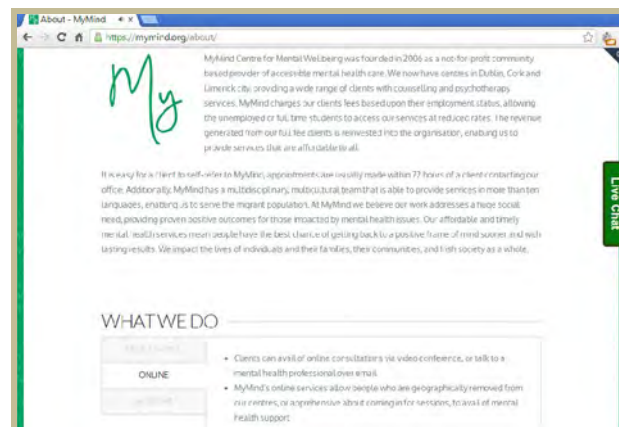
Mainstream everyday mental health services & practitioners

There is currently limited purposive application of telecounselling and telepsychotherapy in mainstream everyday mental health services in Ireland. Some individual and group counselling practices offer telephone sessions as an option, and a small number appear to operate only in this way. Jurisdictions with more activity in this area include England and Australia, as described in more detail below.

Video

The Irish Association for Counselling and Psychotherapy recognises the growing relevance of video and other online delivery media for counselling and psychotherapy (IACP, 2017), although so far few mental health service providers or practitioners/practices offer sessions in this manner. One provider active in this area is the non-profit *MyMind* Centre for Mental Wellbeing (Exhibit 2.2).

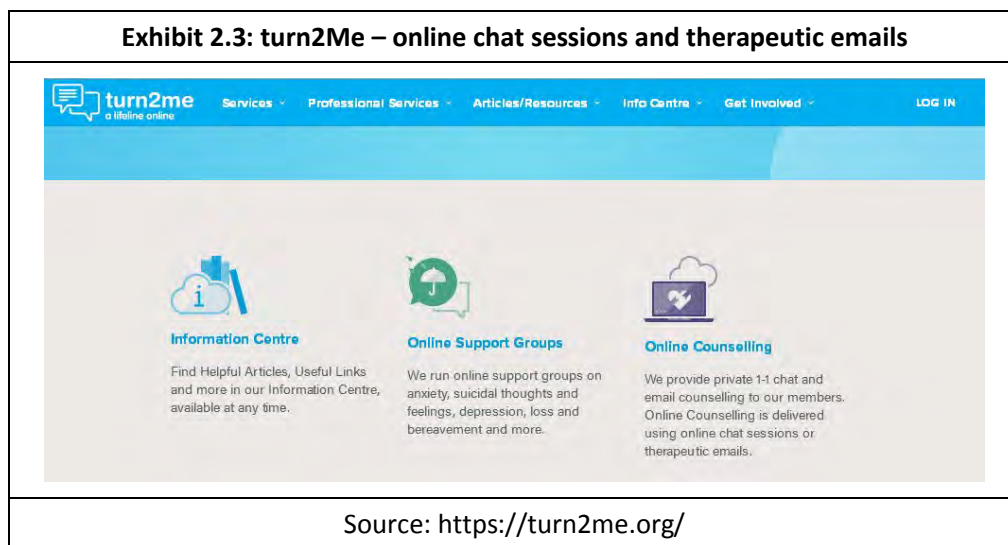
Exhibit 2.2: MyMind online (video) counselling



Source: <https://mymind.org/about/mymind-online/>

Text - chat/email

The Irish Association for Counselling and Psychotherapy guidance recognises the growing relevance of text-based communications through email and other text-based media for counselling and psychotherapy. There is some activity in this field in Ireland although there does not yet appear to be any strong interest from mental health service providers or practitioners/practices to offer sessions in this manner. One provider active in this area is the non-profit mental health support organization *turn2Me*. As well as professionally facilitated support groups on a range of topics, it offers online counselling via private 1-1 chat or by email (Exhibit 2.3). Crisis line services in Ireland are also increasingly offering interactive chat as an option and section 4.3 discusses this in more detail.



2.1.2 Other countries

This section presents an overview of some telemental health approaches in other countries which may provide ideas for applications in the Irish context. These include examples from England, Australia and United States.


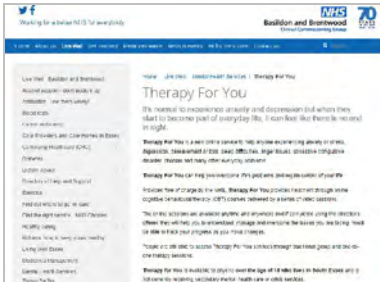

England (NHS)

Two areas of application in England provide potentially useful insights - telemental health in the nationwide Improving Access to Psychological Therapies (IAPT) programme, and telepsychiatry applied on a local basis.

Improving Access to Psychological Therapies (IAPT)

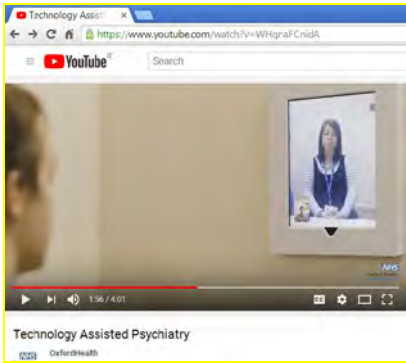
The NHS-funded Improving Access to Psychological Therapies (IAPT) programme is a major initiative to increase access to mental health services for common conditions. In the year 2016-2017 almost one million people entered treatment. IAPT services are provided by a wide variety of accredited organisations and practitioners across England. For low intensity therapy (delivered by Psychological Wellbeing Practitioners - PWP's,) NHS/IAPT guidance expects that providers/commissioners make 'large-scale use of telephone treatment sessions at low intensity where appropriate (up to 75 per cent of treatment sessions)' (NHS/IAPT, 2011). There is extensive provision of low intensity talking therapy by

phone, as well as increasing examples of utilisation of other media including video and instant chat (Exhibit 2.4).

Exhibit 2.4: Examples from IAPT programme (England)		
Telephone	Video	Instant Chat
 <p>The screenshot shows the 'TalkingSpace PLUS' website with a focus on 'Telephone-based help'. It includes a sidebar with 'Other treatments are available' and a main content area with a video player and text about the service.</p>	 <p>The screenshot shows the 'Basildon and Brentwood' website with a focus on 'Therapy For You'. It includes a sidebar with 'Live Well, Basildon and Brentwood' and a main content area with a video player and text about the service.</p>	 <p>The screenshot shows the 'NHS Let's Talk' website with a focus on 'Talking Your Way To Better Mental Health'. It includes a sidebar with 'Who we are' and a main content area with a video player and text about the service.</p>
https://www.oxfordhealth.nhs.uk/talkingspaceplus/about-us/step-2-interventions/telephone-based-treatments/	http://basildonandbrentwoodccg.nhs.uk/your-health/mental-health-services/therapy-for-you	http://www.lets-talk-iapt.nhs.uk/who-are-we/

Telepsychiatry

There has been some telepsychiatry activity in parts of the UK (e.g. Scotland) but it is not a very visible feature of the mental healthcare landscape in general, probably reflecting an absence of the especially strong geographical imperative found in countries such as the United States, Australia and Canada. The TAP (Technology Assisted Psychiatry) programme in Oxford shows a practical local application to facilitate more efficient delivery of psychiatric expertise to an Emergency Department (Exhibit 2.5).

Exhibit 2.5: Technology Assisted Psychiatry (TAP)
 <p>The screenshot shows a YouTube video player with the title 'Technology Assisted Psychiatry' and the channel 'OxfordHealth'. The video content shows a remote consultation between a clinician and a patient via a video screen.</p>
Source: Lange and Kelly (2017)

This programme enables psychiatric consultants from an urban centre to provide remote consultations to a regional hospital Emergency Department located about 30 miles distant, with substantial savings reported in clinician travel time.

Australia

In Australia, the national Teleweb programme supports the implementation of both telephone and online mental health programmes (Exhibit 2.6).

Exhibit 2.6: Teleweb

The screenshot shows the 'Teleweb' page from the Australian Government Department of Health. The page header includes the Australian Government logo and the Department of Health name. The main content area is titled 'Teleweb' and provides an overview of the program. It states that Teleweb provides evidence-based telephone and online mental health programmes for individuals with common mental health disorders and those in psychosocial crisis. The page also lists several digital mental health elements and provides a list of funded services, including Blue Knot Foundation, Black Dog Institute, and The Butterfly Foundation.

Source: <http://www.health.gov.au/internet/main/publishing.nsf/content/mental-teleweb>

United States

Telepsychiatry in various forms has a long history in the United States. This section presents two examples - a major system-wide approach in the Veterans Health Administration and a State child and adolescent psychiatric service providing consultations to primary care physicians.

Veterans Administration

The Veterans Health Administration (VHA) is a major innovation leader in a variety of healthcare fields, including telehealth, and the VHA's TeleMental health programme is one of the largest programmes in this field internationally (Exhibit 2.7). This programme is delivered via videoconferencing and other platforms. It encompasses a range of telemental health applications including medication management, individual psychotherapy with or without medication management, group psychotherapy, and diagnostic assessment (Godleski, 2012).

In 2014, the service reported approximately 325,000 telemental health encounters for 106,000 patients. The service is delivered by clinicians from a range of mental health professions and specialities including psychiatrists, psychologists, and advanced practice clinical nurse specialists, as well as physician assistants, social workers, RNs, addiction specialists, and vocational rehabilitation specialists.

Exhibit 2.7: VHA Telemental Health



U.S. Department of Veterans Affairs

Get help from Veterans Crisis Line

Health Benefits Burials & Memorials About VA Resources Media Room Locations

Contact Us

VA » Health Care » VA Telehealth Services » Clinical Video Telehealth » Real-Time Clinic Based Video Telehealth

VA Telehealth Services

▼ Telehealth
► More Health Care

QUICK LINKS

- Hospital Locator
- Health Programs
- Protect Your Health
- A-Z Health Topics
- Veterans Crisis Line 1-800-273-8255 PRESS 1
- MyHealthVet My Health, My Care, 24/7 Access to VA
- eBenefits My Gateway to Benefits Information

Real-Time Clinic Based Video Telehealth

Traditionally, Veterans seeking health care traveled to the VA hospital or medical center. In order to increase Veterans' access to health care, VA has so far created over 700 hundred of community-based outpatient clinics to bring VA care closer to home for veterans. However, the nearby clinics may not have all of the specialty services and staff found at the regional medical center. For example, if specialty care is needed from a cardiologist (heart physician), neurologist (nervous diseases specialist), surgeon for follow-up after surgery, or psychiatrist for mental health care, the clinic provider may need to refer the veteran to the VA medical center.

For many Veterans travel to the medical center can be a very complicated and sometimes arduous task, particularly if the Veteran lives in a very remote or rural area, an area with sometimes severe weather, or even an urban area where congestion and traffic makes travel difficult. Some injuries such as traumatic brain injury or spinal cord injury further complicate travel. Travel time is time away from the Veteran's work or family.

VA is now recognized as one of the world leaders in this new area of health care. Clinical Video Telehealth (CVT) uses these telehealth technologies to make diagnoses, manage care, perform check-ups, and actually provide care.

Polytrauma:

Linking the four Polytrauma Rehabilitation Centers (PRC's) in Minneapolis, Palo Alto, Richmond and Tampa with each other and the 17 Polytrauma Network Sites (PNS's) with the express intent of improving access to care for combat wounded. Polytrauma Rehabilitation Centers bring together a critical mass of relevant clinical expertise to assess, treat and rehabilitate the physical, mental and psycho-social problems that accompany polytrauma.

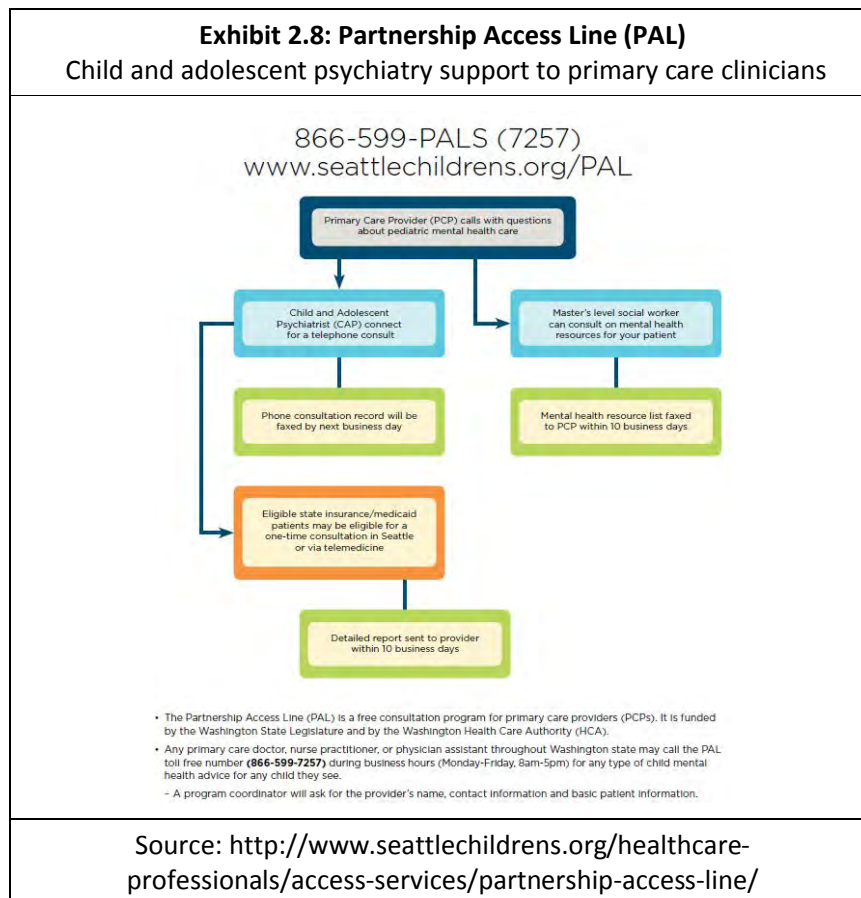
TeleMental Health:

VHA uses information technology and telecommunication modalities to augment care provided by its Mental Health clinicians to Veterans throughout the United States. VHA TeleMental Health is the delivery of services using virtual linkages between VHA patients and Mental Health providers separated by distance or time.

Source: <https://www.telehealth.va.gov/real-time/>

Child and adolescent telepsychiatry

The Partnership Access Line (PAL) example from Washington State (Exhibit 2.8) shows how telemental health is used to provide child and adolescent psychiatry consultation support to primary care services across the State. It is primarily phone-based but may also include a one-time videoconferencing consultation. Most common consultations include medication guidance and psychosocial treatment advice.



2.2 Evidence and practice guidance

Telemental health is a logistical innovation where the traditional face-to-face (FTF) consultation process occurs remotely via telecommunications media. It offers a variety of potential benefits for mental health services and users, including extending reach and avoiding unnecessary travel. In considering deployment, a central issue is the extent to which it can provide acceptable consultation quality and ideally this would be 'as good as' FTF situations. If evidence indicates any decrement in effectiveness, the question then becomes whether it is 'good enough' for the intended purposes under the circumstances. Some decrement in quality in comparison to FTF may be acceptable if it is impossible or impractical to provide the service in the traditional manner.

More generally, client comfort with the mode of consultation utilised and its acceptability to them is important. A systematic review of studies comparing video- or phone-based therapy to face-to-face therapy concluded that findings generally show comparable treatment satisfaction and similar ratings of therapeutic alliance (Jenkins-Guarnieri et al, 2015), although this may not always be the case for group treatments. However, these studies tend to be with selected client groups in specific settings, and results may not always generalise to the wider population. General population studies tend to find face-to-face treatment approaches are rated more favourably in perceived helpfulness and in intentions to use if needed (Apolinario et al, 2017).

2.2.1 Phone

A range of evidence is available on the effectiveness and acceptability of phone-based consultations and counselling, including systematic reviews and large-scale studies of outcomes in real-world settings.

A systematic review and meta-analysis of the impact of telephone-administered psychotherapy on symptoms of depression, and on attrition rates, provides useful evidence (Mohr et al, 2008). This found that the approach can produce significant reductions in depressive symptoms and that attrition rates were considerably lower than in FTF therapy. The extent of symptom reductions achieved appeared not to be as high as in some other studies of FTF, but the authors note that this may reflect differences in control groups used - controls in the FTF studies were generally 'no-treatment' groups but not in many of the telephone-administered studies. An earlier systematic review concluded that telephone-based interventions may be effective, but there was not enough evidence and further research is necessary (Leach and Christensen, 2006).

In the UK, a prospective cohort study (Phase IV) of the IAPT included service users who had various mixes of FTF and phone-based counselling sessions (Richards and Suckling, 2009). The mean number of sessions received was 5.15 with a mean total consultation time of 2 hours and 45 minutes. On average, users had received at least three of the contacts by telephone. The reported combined remission and recovery rates were 76% for depression and 74% for anxiety, and the authors concluded that these outcomes are comparable with benchmarked trials, reviews, and routine datasets.

Another more recent large-scale study in the UK focused on comparing outcomes for IAPT service users receiving phone sessions only or FTF sessions only (Hammond et al, 2012). The authors concluded that the clinical effectiveness of low intensity CBT-based interventions delivered over the telephone for people with mild to moderate conditions was not inferior to those delivered FTF, but FTF was superior for people with more severe mental health difficulties.

An IAPT study published in 2018 looked at implications of telephone-based CBT for the therapeutic relationship (Turner et al., 2018). The findings suggest that telephone work in IAPT can accommodate a working alliance, but not other types of therapeutic relationship that practitioners and service users may hope for or expect. The authors concluded that this points to a need to address expectations of clients and counsellors on the strengths and weaknesses of phone-based sessions in relation to these aspects.

In the UK there has also been a more critical discourse around phone-based counselling at scale through the IAPT, as well as around the IAPT programme overall in its approach to delivery of talking therapy at scale. Media articles have highlighted critical perspectives on IAPT 'call centres' (The Guardian, 2016).

Apart from potential issues of poor service quality for users under some circumstances, some research has begun to examine impacts on staff of delivering high volume counselling under the IAPT (Westwood et al, 2017). This found high prevalence of burnout among IAPT therapists, especially among psychological wellbeing practitioners (PWP) delivering the low intensity service (68.6%) but also among high intensity therapists (50.0%). For PWPs, hours of overtime predicted higher odds of burnout and hours of clinical supervision predicted lower odds of burnout, and the odds of burnout increased with telephone hours of patient contact among PWPs who had worked in the service for two or more years. The authors concluded there is a need for strategies to reduce burnout among PWPs.

2.2.2 Video

Videoconferencing is a core component of telepsychiatry services, in particular. As telepsychiatry has been around for many years, the substantive evidence base tends to be somewhat older than for the newer innovations of technology-supported mental healthcare covered in subsequent chapters. Although the evidence remains relevant and helpful in guiding policy and practice in this field today, it is an area that warrants further research in the light of technological advances and the wide availability of inexpensive video communication today.

An earlier Canadian and Finnish cooperation conducted an extensive systematic review of telemental health evidence in 2007 (Hailey et al, 2007). The review covered the broad spectrum of telemental health applications, with many involving telepsychiatry delivered via videoconferencing. Application fields included general psychiatric and mental health services; child psychiatry; depression; dementia and cognitive disability; obsessive-compulsive disorder; panic disorder and phobias; schizophrenia; suicide; alcohol and substance abuse; eating disorders; and smoking. Overall, the review concluded that telemental health was successful in clinical use in 55% of the studies and, subject to follow-up, was potentially successful in a further 25% of studies. The authors judged about one-half of the studies to be of high or good quality.

The American Telemedicine Association has published an evidence review in this field, focusing on interactive videoconferencing applications (ATA, 2009). It provides a very detailed reference source on evidence across a wide range of applications of telemental health, with the aim to support those engaging in or about to engage in telemental health. In general the evidence reviewed is supportive of utilisation of interactive videoconferencing for many purposes. The review is useful in the very wide range of application fields covered, and in the effort to include technology parameters wherever available, especially video transmission bandwidth, which is important for the quality of communication in a consultation or therapy session.

A more recent systematic review of videoconferencing application for psychotherapy covered a variety of aspects. It found the evidence indicated feasibility for a range of conditions and settings, and the approach was generally found to be effective for the intended purposes (Backhuus et al, 2012). Clinicians and users tend to report satisfaction with this mode of delivering therapy, although technological glitches can be frustrating and sometimes disruptive. However, studies have tended to be small-scale and there is a need for larger-scale research on utilization of video communications for psychotherapy across different condition groups and broad user populations. This would provide guidance on when utilization of this medium is indicated and when it may not be appropriate.

A very recently published systematic review examined evidence on home-based support group videoconferencing offered by mental health services (Banbury et al, 2018). User acceptability was generally high, although some reported a preference for face-to-face group settings. Available evidence on outcomes appears similar to in-person groups, but further large-scale research is necessary as well as research on the most effective mediation processes. The authors concluded that this approach is feasible and potentially can improve the accessibility of group interventions, for example, for people who live in rural areas, have limited mobility, are socially isolated, or fear meeting new people.

2.2.3 Text

There has been less research to date on delivery of therapy via text-based media. A systematic review examined the evidence for synchronous interventions using text chat and found six studies meeting the

inclusion criteria, including two randomized control trials (RCTs) and four naturalistic comparisons (Dowling and Rickwood, 2013). Two studies compared online chat with face-to-face counselling, three compared online chat with telephone counselling, and one study compared online chat with a waitlist control group. The studies were from the US, Australia, Canada, England, and the Netherlands (2 studies).

Despite the small number of studies, the review concluded the results were promising. All six studies reported a significant positive effect of online chat counselling, of which two found that individual online synchronous chat was equivalent to face-to-face help; one found that it was better than telephone delivered care; one that it was equivalent to a phone delivered service; one that it was better than a wait-list control; and one that it was effective but less so than a phone delivered service. The reviewers suggest that positive features of chat (anonymity and invisibility) may compensate for drawbacks such as the relatively slow pace of sessions and the absence of cues available in face-to-face sessions. Nevertheless, the evidence base is still very limited and more research is required to inform eMental health policy and programmes on the strengths and weaknesses of chat, a medium increasingly provided as an engagement channel by mental health support organizations. The utilisation of chat in crisis line services is further discussed in section 4.3.

Another systematic review covered asynchronous approaches such as email (Sucala et al, 2012). This review focused mainly on the implications of this medium for the therapeutic relationship. The authors concluded that although the results do not allow firm conclusions, they indicate that e-therapy seems to be at least equivalent to face-to-face therapy in regard to therapeutic alliance and the quality of therapeutic alliance influences e-therapy outcome.

2.2.4 Practice guidance

Professional bodies and associations representing counselling and psychotherapy practitioners have produced a range of practice guidance material in this field, including the Irish Association for Counselling and Psychotherapy (IACP).³ A broader Irish guidance document for providers of technology-supported mental health services includes some guidelines on this area also (Chambers and Murphy, 2015). Guidance is also available from organisations in other English-speaking countries including the UK⁴, Australia^{5,6,7}, the US^{8,9} and Canada¹⁰, and there is a growing body of more general guidance literature in the field (e.g. Kraus, 2010). A recent narrative and critical review on online counselling discusses issues in the practicalities of implementation of eMental health applications in day-to-day service settings (Richards and Vigano, 2013). It provides a useful synthesis of some of the issues needing attention, including professional training and client suitability.

³ <https://iacp.ie/onlinecounselling>

⁴ <http://www.ukcounsellingonline.net/online-resources/bacp-2009-online-guidelines/>

⁵ http://www.acpor.ro/files/file/resurse_articole/APS_2012_internet_supported_interventions.pdf

⁶ <https://aaswsocialmedia.wikispaces.com/file/view/EG-Internet.pdf>

⁷ <https://www.theaca.net.au/documents/Guidelines%20for%20online%20counselling%20and%20psychotherapy.pdf>

⁸ https://www.unmc.edu/bhecn/_documents/evidence-based-telemental-health-with-cover.pdf

⁹ <https://www.apa.org/pubs/journals/features/amp-a0035001.pdf>

¹⁰ <https://www.ccpa-accp.ca/wp-content/uploads/2014/10/E-counselling.pdf>

2.3 Discussion

To date, there has been limited utilisation of phone-based telecounselling and telepsychiatry in Ireland. Both offer potential to help address some of the challenges facing the mental healthcare system and increase access to services for those who need them.

More purposive implementation of phone-based telecounselling to support delivery of psychological therapies at scale may have a role to play in expanding access to therapy for people with common mental health conditions. However, experiences from the IAPT programme in England indicate the need to avoid a 'one-size-fits all' perspective. A user-centred approach is necessary whereby the efficiencies and flexibilities of phone-based consultations are drawn-upon where appropriate within a delivery system aiming to provide an optimal mix of face-to-face and/or phone-based consultations for each client. Wider utilisation of videotelephony in this area may also prove useful, although it will be necessary to give further consideration to the appropriateness of platforms such as Skype for this purpose. Wider utilisation of chat-based services may also be relevant, particularly for younger demographics. However, more experience and guidance is necessary on the nuances of this mode of interaction and the implications of this for therapeutic processes and outcomes.

Telepsychiatry also may offer considerable potential, particularly in the possibilities to provide more access to scarce specialist expertise in various locations and settings. Examples from other countries include psychiatric liaison/consultation to support primary care services (e.g. in medication management) and programmes to provide psychiatric specialist support assessment of presentations in Emergency Departments.

Informed consultation with the core professionals/practitioners working in this field in Ireland, and with service users and people with lived experience of mental health issues, will be central to determining whether and how these applications of telemental health development and deployment might add value in the Irish context.

3 eTherapy: technology-supported therapy at scale

The previous Chapter focused on services involving direct therapist-client sessions or specialist consultations provided on a remote basis. This Chapter covers applications where some or even all the therapeutic input is technology-delivered and where self-administration by the client is often a central component. In principle, structured therapies like cognitive behavioural therapy (CBT) are especially suitable for this as they are readily protocolised. Earlier technology-based applications in this field were standalone computer-based programmes (e.g. provided on CD-ROM) but are now commonly delivered online via the internet.

Some applications are designed for use as a tool within the face-to-face therapeutic session or for doing homework between sessions. Other approaches are designed to support more self-management and self-administration of therapy by clients, and vary in the extent of therapist or other human support provided. Some are 'blended' services incorporating a mix of face-to-face (or phone or other direct communication) sessions and technology-based work by the client; other terms applied in this area include 'assisted', 'guided' and 'supported', sometimes signifying the form of the human support involved and/or the qualifications of those providing the support. At the other end of the spectrum are services incorporating little or no human assistance or support.

CBT is a recommended and widely utilised approach in mental health treatment for common conditions such as anxiety and depression. Most countries have substantial treatment gaps because of the large numbers of people who could benefit but are not reached through standard therapist-delivered CBT for a variety of reasons. This includes a lack of adequately trained professionals but also barriers on the client side posed by cost and logistical challenges to physically attend a series of sessions. Online access to substantially self-administered CBT can enable therapists to support a larger number of clients at any one time (some promoters claim potential for engagement with up to 6-times more clients), reduce client charges (where these are in place), and enable flexibility of access in time and place.

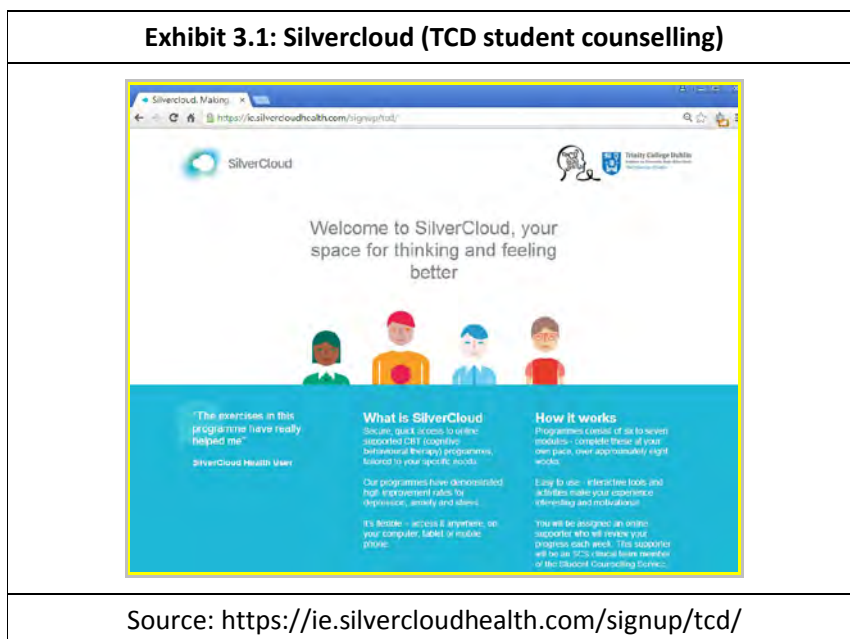
3.1 Current developments

3.1.1 Ireland

There are a number of developments in this field in Ireland, including the Irish-developed Silvercloud product suite and services provided by third sector organisations such as AWARE and Bodywhys.

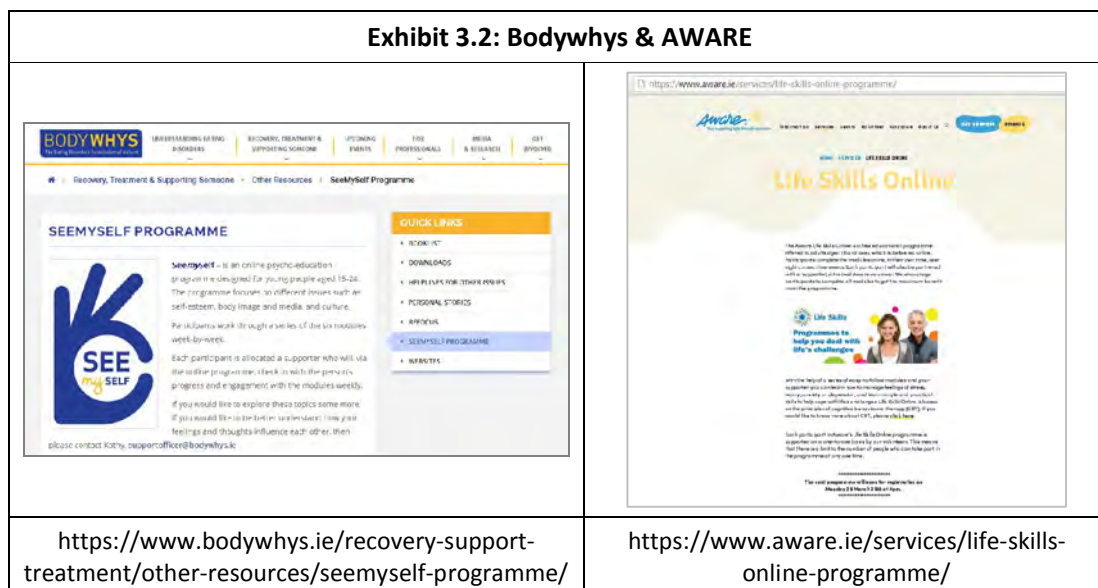
Developed in TCD with substantial innovation funding, the Silvercloud product suite is one of the international market leaders in this field, with growing utilisation in Ireland, UK, US and other countries (Exhibit 3.1). It is designed as a supported online CBT delivery platform, and cites an extensive evidence-base on its effectiveness. Silvercloud is marketed to and used by a growing body of mental health service providers (e.g. NHS-funded services in the UK), third level institutions (for student counselling purposes) and employee assistance schemes (for staff counselling purposes).

Exhibit 3.1: Silvercloud (TCD student counselling)



HSE are working with Silvercloud to develop an app to support shared care for patients with Bipolar Disorder. Silvercloud has also collaborated with a number of Irish third sector organisations in development of eMental health products for their client base (Exhibit 3.2). *Life Skills Online* is an online (supported) CBT-based psychoeducation product offered by AWARE, a national organisation providing support on depression, anxiety and related conditions. *SeemySelf* is an online supported psychoeducation and 'e-therapy' product for eating disorders offered by Bodywhys, the Eating Disorder Association of Ireland. These products fall somewhere on the spectrum between formalised eTherapy and more psychoeducation-oriented self-help. *iFightDepression* is another relevant example, developed in a European project led by the National Suicide Research Foundation in UCC and now hosted by the European Alliance Against Depression (Arensman et al, 2015).

Exhibit 3.2: Bodywhys & AWARE



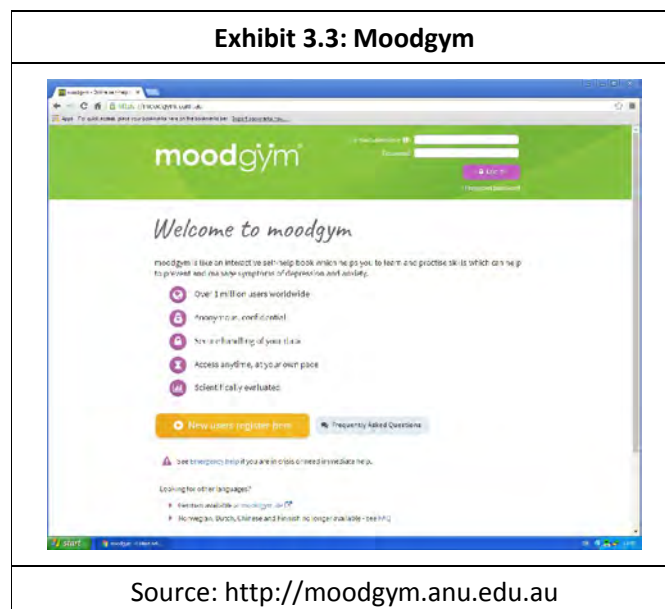
Under the auspices of the APSI (Access to Psychological Services Ireland) project, psychology staff within the HSE developed the MindWise computerised CBT product for treatment of anxiety and depression in adults (Collins et al, 2017). A version for adolescents is under development within HSE, with plans for nationwide implementation along with the deployment of newly recruited assistant psychologists.

3.1.2 Other countries

This section outlines developments in Australia and the UK that may also provide useful insights.

Australia

Australia has been a leader in innovation and deployment of products and services in eMental health. MoodGYM is probably the most widely known and used (Exhibit 3.3).
















UK

The NHS Digital Apps Library lists a number of eTherapy products along with a range of other apps (Exhibit 3.4). NICE has also begun to review eMental health products, as discussed further in section 3.2.

3.2 Evidence and practice guidance

There is a growing body of evidence indicating that technology-assisted approaches are sufficiently effective to warrant their consideration in various care pathways and therapeutic contexts in the mental health field. These approaches may become an important component of programmes aiming to deliver psychological therapies for common mental health difficulties at scale and help address the substantial treatment gaps in this area. They may also have an important role to play on a more targeted and case-to-case basis across a broad range of conditions and clinician-driven applications.

Exhibit 3.4: Products listed on NHS website

<div data-bbox="220 367 446 546">  <p>Cove Being Tested in the NHS</p> <p>Create music to capture your mood and express how you feel with the Cove app.</p> <p>MENTAL HEALTH</p> </div> <div data-bbox="220 568 446 748">  <p>Bluecel</p> <p>Bluecel is an evidenced-based app to help young people manage their emotions and reduce urges to self-harm.</p> <p>MENTAL HEALTH</p> </div> <div data-bbox="220 770 446 949">  <p>Stress & Anxiety Companion</p> <p>Stress & Anxiety Companion helps you handle stress and anxiety on-the-go.</p> <p>MENTAL HEALTH</p> </div> <div data-bbox="220 972 446 1151">  <p>Catch It</p> <p>Learn how to manage feelings like anxiety and depression with Catch It.</p> <p>MENTAL HEALTH</p> </div>	<div data-bbox="510 367 737 546">  <p>Chill Panda Being Tested in the NHS</p> <p>Learn to relax, manage your worries and improve your wellbeing with Chill Panda.</p> <p>MENTAL HEALTH</p> </div> <div data-bbox="510 568 737 748">  <p>SilverCloud</p> <p>SilverCloud is an online course to help people manage stress, anxiety and depression.</p> <p>MENTAL HEALTH</p> </div> <div data-bbox="510 770 737 949">  <p>leso</p> <p>leso is an online course using instant messaging for people with mental health problems.</p> <p>MENTAL HEALTH</p> </div> <div data-bbox="510 972 737 1151">  <p>Big White Wall</p> <p>Big White Wall is an online community for people who are stressed, anxious or feeling low.</p> <p>MENTAL HEALTH</p> </div>	<div data-bbox="845 488 1072 667">  <p>FearFighter</p> <p>FearFighter is an online course for people who struggle with phobias, panic or anxiety.</p> <p>MENTAL HEALTH</p> </div> <div data-bbox="1129 488 1356 667">  <p>Calm Harm</p> <p>Calm Harm is an app designed to help people resist or manage the urge to self-harm.</p> <p>MENTAL HEALTH</p> </div> <div data-bbox="845 689 1072 869">  <p>Rally Round</p> <p>Rally Round is a free and secure online tool that allows parents, other family members, friends and carers to organise support for a child.</p> <p>MENTAL HEALTH</p> </div> <div data-bbox="1129 689 1356 869">  <p>Cypher Being Tested in the NHS</p> <p>Cypher (formerly Silent Secret) is an anonymous peer-to-peer social network.</p> <p>MENTAL HEALTH</p> </div> <div data-bbox="845 891 1072 1057">  <p>Be Mindful</p> <p>The Be Mindful course is an easy-to-follow web-based training programme that guides you through all the elements of mindfulness-based</p> <p>MENTAL HEALTH</p> </div>
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Source: <https://apps.beta.nhs.uk/?category=Mental%20Health>

Systematic reviews and meta-analyses

Exhibit 3.5 summarises results of some recent systematic reviews and meta-analyses covering trials of a range of eTherapy products. Overall, the results tend to show positive effects for symptom reduction in mild/moderate depression and anxiety. In the main, however, the evidence to date comes from trials comparing internet- and computer-based approaches with control groups that receive limited or no treatment, with less evidence directly comparing these with more traditional face-to-face approaches. Also, as already mentioned in Chapter 2, research has tended to be with specific populations and settings. General population studies have found that people perceive face-to-face treatment approaches more favourably in perceived helpfulness and in intentions to use if needed, and this needs attention when considering offering eTherapy services at scale (Apolinario et al, 2017).

A systematic review of evidence on broader aspects of eTherapy found treatment satisfaction is high but more research is necessary on attrition due to dissatisfaction (Musiat and Tarrier, 2014). The review also concluded the evidence tends to support its potential to be cost-effective and often cheaper than usual care. Limited research evidence is available so far on its contribution to geographic flexibility, time flexibility, waiting time for treatment, stigma, or the effects on help-seeking.

Exhibit 3.5: Evidence-base (from systematic reviews)

Adults

- blending face-to-face and internet-based interventions for treatment of mental disorders in adults can be more effective compared with no treatment controls; compared with standalone FTF therapy, blended therapy may save clinician time and have other benefits such as better adherence (Erbe et al, 2017)
- self-guided iCBT is effective in treating depressive symptoms and can be considered as an evidence-based first-step approach in treating symptoms of depression (Karyotaki et al, 2017).
- therapist-supported iCBT appears to be an efficacious treatment for anxiety in adults; better than waiting lists and other control conditions; may not be significantly less effective than FTF (Olthuis et al, 2016)
- moderate quality evidence for short-term efficacy of iCBT compared to waiting lists for mild/moderate depression and social phobia; concluded that iCBT is a viable treatment for option for adults with depression and some anxiety disorders who request this treatment modality (Arnberg et al, 2014)
- comparisons of several types of media-delivered interventions (with varying levels of support) for anxiety disorder in adults with no treatment and FTF; medium effects compared to no treatment, possibly small effects in favour of FTF; concluded that self-help may be useful for people who are not able or not willing to use other services, but for people who can access it, FTF CBT is probably clinically superior (Mayo-Wilson and Montgomery, 2013)
- evidence supports the efficacy and effectiveness of computer-based psychological treatments for depression, in diverse settings and with different populations, and highlights participant satisfaction; supported interventions yield better outcomes, along with greater retention (Richards and Richardson, 2012)

Children and adolescents

- some support for benefits of digital health interventions for children and young people with mental health problems, particularly for computerized CBT (cCBT) for depression and anxiety in adolescents and young adults; benefits for managing ADHD, autism, psychosis and eating disorder are uncertain (Hollis et al, 2017)
- eCBT as effective as standard CBT and more effective than waitlist in reducing anxiety symptoms in children and adolescents; moderation analyses reveal differential effectiveness depending on level of therapist involvement and age of children (Podina et al, 2015)
- evidence that CBT programmes for childhood anxiety involving computerised elements are well received by children and their families, and its efficacy was almost as favourable as clinic-based CBT (Rooksby et al, 2015)
- for young people (12-25 years) with risk of diagnosed anxiety disorders or depression, computerised CBT (cCBT) had positive effects for symptoms of anxiety and depression; in a general population study of young people, there were small positive effects for anxiety and depression; there was uncertainty around the effectiveness of cCBT in children (5-11 years) (Pennant et al, 2015)

Most of the research has focused on CBT-based approaches, but there is also increasing online delivery of other approaches. For example, a review and meta-analysis of RCTs of online mindfulness-based interventions found small but significant beneficial impacts on depression, anxiety, well-being, and

mindfulness more generally (Spijkerman et al, 2015). Another review concluded that acceptance and commitment therapy in a web-based format was effective in management of depression (Brown et al, 2016). There is also some evidence indicating that guided internet therapy programmes can support an effective therapeutic alliance (Pihlaja et al, 2017) and also of positive participant-rated alliance with both the care manager and the cCBT programme (Cavanagh et al, 2017).

Effectiveness of specific products

These reviews cover a variety of products and tend not to provide direct comparison of the performance of individual products. Promoters of many products present supportive evidence on their effectiveness, including some of the Irish products (e.g. Richards et al, 2015; Sharry et al, 2013).

More recently, the research literature has begun to publish meta-analyses of results across trials that pertain to specific products. One review examined the evidence for Deprexis, an individually-tailored computerised CBT programme for depression (Twomey et al, 2017). Based primarily on trials in naturalistic community settings, the authors conclude the findings support the effectiveness of Deprexis for depressive symptoms. Another meta-analysis examined the evidence for a widely available and used iCBT product - MoodGYM (Twomey and O'Reilly, 2017). This concluded that the evidence for the programme shows a medium effect size on anxiety symptoms and more tentative support for effectiveness for symptoms of depression and general psychological distress. The authors suggest that whilst the programme benefits from its accessibility over the Internet, adherence rates can be problematic. They conclude that the product may best be placed as a population-level intervention likely to benefit a sizeable minority of its users.

In the UK, NICE has begun to review specific products and report the results in 'digital psychological therapy briefings'. These consider the potential to use the products in a therapist-guided model of care within adult Improving Access to Psychological Therapies (IAPT) services. NICE published its first two briefings in early 2018, covering a product addressing depression (Deprexis) (NICE, 2018a) and one addressing obsessive compulsive disorder (OCD-NET) (NICE 2018b).

How much therapist input is needed?

More generally, there is a need for greater clarity on how much clinician input or other human contact, if any, is necessary, and for guidance on optimal configuration of technology-delivered and human-delivered elements for therapeutic efficacy for particular conditions and client groups. A systematic review concluded that guided interventions were significantly superior to unguided ones in symptom reduction, modules completed, and completion rates (Baumeister et al, 2014). An earlier review also found that moderated treatments produced better results than un-moderated ones (Andersson and Cuijpers, 2009). Another review concluded that the most efficacious amount of therapist contact varies by type of mental health difficulty (Newman et al, 2011). For anxiety disorders, the review suggested that self-administered and predominantly self-help interventions are likely to be most effective for motivated clients, and that approaches involving at least minimal therapist/supporter contact may be most effective when taking into account attrition and compliance factors. For mood disorders and depression, the review suggested that predominantly self-help technology-based CBT-type interventions are efficacious for sub-threshold mood disorders but therapist-assisted treatments remain optimal for clinical levels of depression.

How to incorporate into care pathways?

Another central issue concerns how these interventions can best be incorporated into mainstream care pathways and/or blended with traditional forms of care (Andersson and Titov, 2014). This is perhaps the key overarching consideration for the inclusion of these approaches in the delivery of psychological therapies at scale for common mental health problems. It links to fundamental ethical and resource allocation issues at the heart of delivery at scale. One issue concerns how to ensure optimal quality of service and maximise beneficial outcomes, and what quality trade-offs may be acceptable in the face of practical resourcing challenges. Another concerns how to maximise user choice, offer the best-fit therapies for each presenting client, and build-in flexibility and tailoring in 'stepped-care' type care pathways.

Independent of any consideration of technology-assisted therapies, these issues have come to the fore in major initiatives to deliver psychological therapies at scale and reduce treatment gaps, such as the Improving Access to Psychological Therapies (IAPT) programme in England.

One aspect concerns client choice of 'talking therapy'. In England, for example, NICE recommends five interventions for treatment of depression in adults - CBT, counselling, interpersonal psychotherapy, couples therapy and psychodynamic psychotherapy. A study of 114 IAPT services found there appeared to be some level of choice for clients of some services, particularly between counselling and CBT (Perfect et al, 2016). However, there was very limited availability of interpersonal psychotherapy, psychodynamic psychotherapy and couples therapy across all services. The study also found differences in the client profiles between counselling and CBT. Female and older clients were proportionally more likely to have used counselling in comparison to CBT. The available data does not enable analysis of the reasons for such differences, but the authors suggest it could mean that particular therapies may be meeting the needs of different groups. Further research on this aspect would help services target therapies towards the client groups that may find them more acceptable.

Another study compared the effectiveness of CBT and generic counselling in treatment of depression in the IAPT; it concluded the outcomes were comparable, although noting that clients receiving counselling tended to have higher levels of depression (Pybis et al, 2017). Importantly, the authors also raise concerns that about half of all patients, irrespective of treatment received, did not show reliable improvement.

3.3 Discussion

A growing number of eTherapy products are now on offer in this field and the promoters generally present positive evidence on effectiveness. Overall, the available evidence suggests that technology-supported delivery of CBT-based and other psycho-education based therapeutic approaches can be effective in helping people with common mental health conditions. The evidence also indicates that approaches incorporating at least some degree of therapist involvement yield better outcomes.

However, the research evidence in this field can be quite complex to interpret when considering implementation of eMental health as part of mainstream services. Available evidence often comes from controlled studies with participants not necessarily representative of the wider potential user populations and settings. Selection of particular eMental health approaches, and of particular product offerings on the market, requires careful and critical appraisal of their existing evidence base; and implementation in mainstream services requires ongoing assessment and review of fitness for purpose.

The wider evidence on delivery of psychological therapies at scale indicates the importance of ensuring access to a range and choice of therapies. CBT is one important approach and most readily lends itself to

technology-based delivery, but it does not suit everyone or every presenting condition, and other evidence-based approaches should also be available. This leads to the question of how to organise care pathways in a manner that optimises client choice and/or helps to target particular forms of therapy towards the clients for whom they are most likely to be beneficial.

The possibility to recognise at an early stage whether a particular therapeutic approach is working for the client, and to switch to another therapeutic approach if indicated, is important for optimal resource allocation and client outcomes. This might involve a switch to another therapist or therapeutic mode, and 'pluralistic' therapeutic approaches also may have relevance in this context (e.g. Cooper and McLeod, 2007).

More generally, eTherapy may often be provided within 'stepped care' systems. These are based on provision of the lowest intensity of therapeutic support where possible, with clients moving to higher levels of support where required. Although appealing from a resource allocation perspective, it can be challenging to implement stepped care systems with sufficient flexibility and agility to ensure that supports are generally well-tailored to each client's needs. In England, for example, there appears to be little evidence of progression to more intensive supports for the large numbers of IAPT low-intensity clients who have not benefited from their initial course of therapy under the programme (Richards et al, 2012).

These are very real and fundamental issues in delivering psychological therapies at scale, whatever mix of face-to-face, telemental health or technology-delivered modes of therapy delivery offered. Although not a reason for resisting deployment of eTherapy, it is important to ensure that its introduction does not add to these challenges because of the more limited connection between therapists and clients.

As for telemental health, informed consultation with the core professionals/practitioners, and with service users/clients, will be central to determining whether and how eTherapy might be utilised to add value in the Irish context. A combination of the research evidence on eTherapy approaches and the broader experiences coming from programmes like the IAPT in England can provide helpful inputs to this.

4 Other application areas and developments

Chapters 2 and 3 focused on two major areas of technology-enabled mental health treatment delivery - Telemental health and eTherapy. This Chapter addresses other eMental health application fields under five additional headings:

- ongoing support for enduring mental health difficulties
- other innovative additions to the treatment toolkit
- crisis intervention and suicide prevention
- mental health information and psycho-education
- peer support.

This structure is helpful in locating some important areas of the mental healthcare and support ecosystem where technological developments have a potential role to play in addressing existing challenges and supporting service innovation.

4.1 Ongoing support for enduring mental health difficulties

In addition to the focus on common mental health conditions such as anxiety and depression covered in Chapters 2 and 3, there has also been growing attention to the role of eMental health for more severe and enduring mental health difficulties such as psychoses. Recently, the European Psychiatric Association has produced guidance on the quality of eMental health interventions in the treatment of psychotic conditions (Gaebel et al, 2016).

In Ireland, a project developed under the eHealth strategy is addressing eMental health for persons with bipolar disorders. The Bipolar 'Lighthouse Project' includes a patient portal allowing access to their care plan, including access via mobile app; Early Warning Sign monitoring; a means of contacting service professionals via the portal; and a health care professional portal (Exhibit 4.1).

Internationally, a recent literature review examined the state-of-the-art in the application of eMental health to serious mental health difficulties (Naslund et al, 2015). This found forty-six studies from 12 countries covering a range of technologies and applications. The authors grouped these into four categories:

- condition self-management and relapse prevention
- promoting adherence to medications and/or treatment
- psychoeducation, supporting recovery, and promoting health and wellness
- symptom monitoring.

They concluded the interventions were consistently found to be both feasible and acceptable to users with serious conditions, but evidence on clinical outcomes was variable and more research on this is necessary.

A systematic review examined online, social media and mobile technologies for psychosis treatment (Alvarez-Jiminez et al, 2014). It also concluded that these applications were generally feasible and acceptable to users. Although again noting that the evidence base is generally limited and of low quality, the authors suggest the preliminary evidence shows promising potential of both web-based and mobile

interventions for impacting on psychotic symptoms, hospital admissions, socialization and social connectedness, depression, and medication adherence. However, a systematic review of features and content quality in available apps targeting bipolar disorder found many limitations (Nicholas et al, 2015).

A more general review of usage of text messaging in mental healthcare management found application in a wide range of mental health situations, especially substance abuse, schizophrenia, and affective disorders (Berrouguet et al, 2016). Ways that text messaging was utilised included reminders, information, supportive messaging, and self-monitoring procedures.

Exhibit 4.1: Bipolar Disorder Lighthouse Project

The Goal

A connected health approach to achieving and maintaining recovery in users of mental health services with a bipolar disorder. This will use technology to enable self-management and the detection of early warning signs of relapse, thus empowering the patient and easing contact with service providers. A patient portal will allow access to a care plan for service users and service providers, and allow the service user to monitor symptoms. This patient portal / mobile enabled solution that will be futureproofed and integrated into future Electronic Health Record with the Individual Health Identifier an integral feature of the project.

Initial Users

These will include patients with diagnosis of bipolar affective disorder and mental health professionals (including community psychiatric nurses; home based treatment team nurses; psychiatrists)

Structure

The Structure will include:

- Elements of the future Electronic Health Record by using the Individual Health Identifier.
- Record of the previous logins so service user can see who is accessing care plan.
- Patient portal which will allow access to care plan.
- Early Warning Sign monitoring. This will be personalised and will vary from person to person. It may include sleep diary, overall mood diary, activity scheduling, possible log of purchases (to monitor overspending).
- A means of contacting service professionals via patient portal.
- Mobile Accessible Via an App. The patient will be able to access patient portal and care plans from an app on their mobile.

The benefits include:

- Health Care Professional Portal. The access to care plan can be accessed, with opt in consent of service user, by their healthcare professional to allow them to view the self-monitoring overview.
- Supporting the recovery model of mental health with an emphasis on strengths and developing personal resources
- Considerable evidence for benefits of early warning sign.
- Access to care plan for service user and service provider the aim to reduce unnecessary admission time for the patient and to ensure crises do not excessively disrupt the patients lives

Source: <http://www.ehealthireland.ie/Lighthouse-Projects/Bipolar-Disorder-Lighthouse-Project/>

4.2 Other innovative additions to the treatment toolkit

This section looks at some technology-supported innovations that can enhance the existing mental health treatment toolkit. These include serious gaming, chatbots, virtual reality, innovative mobile supports (ecological momentary interventions, wearables), and applications supporting shared-decision making between professionals and service users.

4.2.1 Serious gaming

Serious gaming applications are an emerging field of eMental health, with potential to support therapy for children, young adults and other groups. There is already at least one Irish-developed product available in this field - Pesky gNATs (Exhibit 4.2).

Exhibit 4.2: Pesky gNATs

The Pesky gNATs game and mobile app

Imagine you are 9-17 years of age and experiencing clinical anxiety or low mood. You go to a mental health clinic and your therapist offers to help by playing a computer game with you week by week...

The **Pesky gNATs** software is designed for use by mental health professionals who work with young people with anxiety or low mood. It consists of two parts:

1. a computer game,
2. a mobile app.

Pesky gNATs is available to appropriately qualified mental health professionals. Register [here](#) to request access to Pesky gNATs.



Available for Apple (iOS) and Android devices

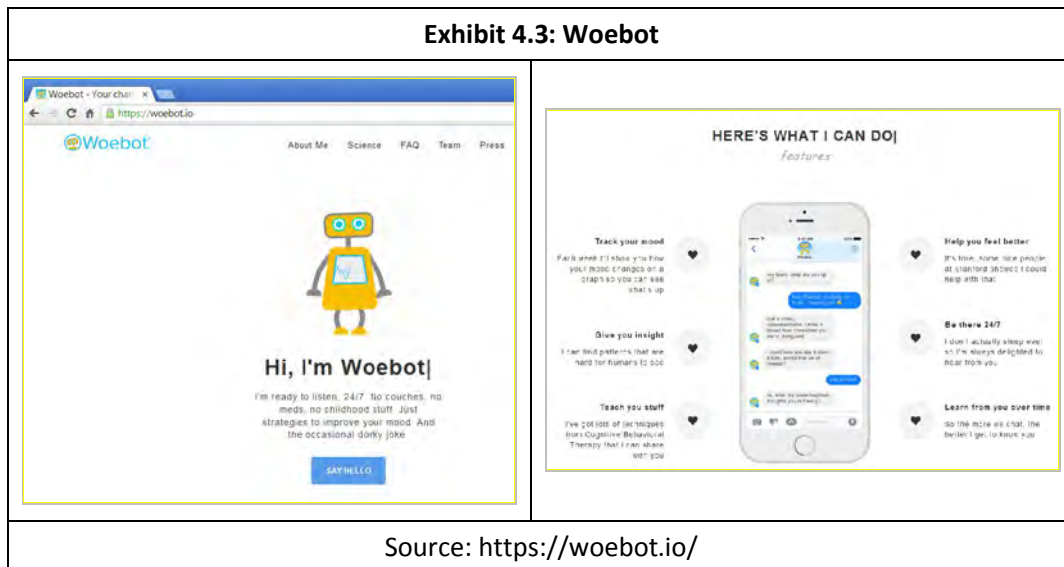


Source: <http://peskygnats.com/peskygnats/>

A recent systematic review examined the evidence base in this field (Lau et al, 2017). The trials of serious games reviewed targeted a broad age range, including children and adults; and all involved computer-based, mainly on CD-ROM, platforms without the need for an internet connection. Condition groups addressed included symptoms of depression, post-traumatic stress disorder, autism spectrum disorder, attention deficit hyperactivity disorder, cognitive functioning, and alcohol use disorder. Of the 10 studies included, 4 used goal-oriented and 6 used cognitive training games. A meta-analysis found a moderate effect on improvement of symptoms in comparison to no intervention controls. The authors concluded that although the number of comparisons in the meta-analysis was small and more studies are needed, the findings suggest that serious gaming interventions may be effective for reducing symptoms across a range of conditions.

4.2.2 Chatbots

The term 'chatbot' refers to automated conversational agents that support interactive 'conversational' communications between persons and a computer programme. The Woebot mobile app is a well-known example in this area (Exhibit 4.3), and the promoters report positive results from an RCT of the product with college students (Fitzpatrick et al, 2017).



Wider evidence on the role and contribution of chatbots is limited and further research is necessary (Miner et al., 2017).

4.2.3 Virtual Reality

Virtual Reality technologies offer considerable potential in the mental health field. As well as utilisation in treatment of anxiety disorders such as phobias, a broad range of applications are emerging. MindMyths is an Irish app using VR to support mindfulness meditation (<http://mindmyths.eu/>).

A meta-analysis compared the efficacy of Virtual Reality Exposure Therapy (VRET), used in a behavioural or cognitive-behavioural framework, with traditional evidence-based treatments in this field (Opris et al, 2012). The review covered 23 studies and concluded VRET was much superior to waitlist controls and that post-treatment results show similar efficacy for interventions using VRET and classical evidence-based interventions without VRET. A more recent systematic review concluded the field offered real potential, although more research and development work is necessary (Freeman et al, 2017).

4.2.4 Ecological Momentary Interventions & wearables

'Ecological Momentary Intervention (EMI)' refers to delivery of tailored interventions to users at specific times (pre-programmed or triggered in real-time) as they go about their daily lives. For example, smoking cessation programmes might send supportive messages to a user at times when they tend to have cravings, or a mood monitoring app might deliver a positive message to the user in response to a mood dip. It can encompass a very broad range of interventions, including encouragement of activities and skill building, reminders to take medication, providing emotional supports through tailored positive

messages, and many other potential elements. Mobile technologies allow an ever-expanding range of applications in this field. These offer potential for increased effectiveness of therapies across a range of conditions and client groupings. Irish activity in this field includes work by University of Limerick researchers on the Moodbuster product (<http://www.ict4depression.eu/moodbuster/>).

As well as delivering information and advice, emerging applications measure real-time psychophysiological data using biosensor technology in smart phones or other wearable devices (Marzano et al, 2015). A systematic review found promising evidence on the value of smart-phone based approaches for monitoring objective (physiological, behavioural and context/environmental features) and subjective data for affective disorders (Dogan et al, 2017).

A recent systematic review and meta-analysis examined interventions utilising EMI for 3 common mental health problems (anxiety, depression, and perceived stress) and for some areas of positive psychological wellbeing (acceptance, relaxation, and perceived quality of life) (Versluis et al, 2016). The 27 studies included in the meta-analysis covered a mix of intervention approaches: active (requiring immediate action by the user) and passive (not requiring immediate action); triggered (reminded by the device) or on-demand (whenever decided by the user); and standalone or therapist supported.

Most of the EMI studies addressed clinical samples and used an active intervention (offering exercises), with additional support from a mental health professional in over half the studies. EMI interventions averaged about 7.5 weeks duration, 2.8 training episodes per day, and 108 training episodes in total. The authors concluded the evidence showed a small to medium effect of EMIs on mental health and positive psychological wellbeing, with the effect size larger where there was additional support by a mental health professional. They suggest that EMIs offer great potential for easy and cost-effective provision of mental health interventions.

4.2.5 Shared decision-making between professionals and service users

User empowerment through user involvement in shared decision-making with professionals on treatment options is an important theme in recovery-oriented mental health service provision. One very practical area is in decision-making around medication usage, an issue of importance for many people with mental health difficulties. Online information and mobile apps providing information about medications and side effects, and about experiences of other users, can help people make informed decisions. There are examples of active programmes to promote this by public health services in the UK (e.g. Devon Partnership, 2010) and the US (Deegan et al, 2008). In the latter case a computer-based system is available in a peer-run decision support centre to help users prepare for a meeting with their prescriber. An electronic report from the programme then goes directly to the prescriber and this supports shared decision-making during the consultation.

4.3 Crisis intervention and suicide prevention

This section covers two aspects of this field - crisis/support lines, and suicide risk reporting and detection on social media. In addition, there are a number of mobile apps targeting suicide prevention in various ways and some reviews and development guidelines for this field are available (Aguirre et al, 2013).

4.3.1 Crisis and support lines

By definition, phone access has traditionally been central to the operation of crisis and support lines offering mental health support. In recent years some of these services have extended their accessibility

to include text and other media, reflecting their importance as communication modes for the younger demographics in particular. In Ireland, crisis lines run by Samaritans, Pieta House, Childline and Teenline are accessible through text (e.g. by email or SMS text), as are support lines operated by Aware, Shine, Bodywhys, and others. Some also offer live chat as a mode of interaction for 'callers'; for example, the Childline online service offers Chat as the main mode of interaction (Exhibit 4.4). The Samaritans in Ireland have also recently announced an enhancement of their accessibility through these media. Similar developments can also be found in many other countries.



Evidence and practice guidance

There appears to be relatively little research evidence on live chat in crisis support services. A Dutch study of a children's helpline suggested that online chat may be at least as effective as phone based interactions (Fukkink and Hermanns, 2009). More generally, a recent systematic review of suicide prevention strategies assessed a variety of interventions. These included public and physician education; media strategies; screening; restricting access to suicide means; treatments; and internet or hotline supports (Zalsman et al, 2016). For telephone and internet interventions, they concluded the evidence base is still limited and of relatively low quality, and more research is required on their efficacy.

A number of Chapters in a recent book on '*Suicide Prevention and New technologies*' provide useful information and guidance for practice in this field (Mishara and Kerkhoff, 2013). These include Chapters on services in the United States (Drexler, 2013; Murphy, 2013) and the Netherlands (Mokkenstorm et al, 2013).

4.3.2 Suicide risk reporting and detection on social media

This section looks in more detail at approaches to suicide risk detection on social media, covering detection of individual risk as well as broader population-based monitoring.

Individual user risk

This is a growing area of attention, prompted by the enormous reach and extent of sharing of personal information and communications over social media. A number of the major social media platforms, including Facebook and Twitter, have implemented reporting facilities for users who notice potential suicide or self-harm signals in the posts of other users.

The Samaritans in England launched an app (Radar) in this field for a short period in 2014). This app monitored a subscribed user's twitter contacts, flagged if someone might be struggling, and provided information on how to approach and support anyone identified. The Samaritans withdrew the app after 9 days because of adverse response from the Twitter user community but the experience was useful in providing insight into the challenges in utilising social media for such purposes (Lee, 2014). Although the assumption was that tweets were public information, many twitter users disagreed as a point of principle and others viewed the app as a threat to online 'safe spaces' for people who disclose self-harm or suicidal tendencies. The experience highlighted challenges to launch such apps in the rapidly evolving social media environment with its associated rules and norms, and the need to engage with these communities in the development process and before launch.

Larger scale monitoring of social media

There has also been attention to the possibilities for larger scale processing of social media data for monitoring and detection of mental health issues, including suicidality and other aspects of mental health, through data analytics and natural language processing (e.g. Conway and O'Connor, 2016). For suicidality, research has examined the potential for automated screening of content of tweets (e.g. O'Dea et al, 2015). The evidence suggests quite good concordance between human coders and machine learning based tools, although lack of understanding of the context of a post or series of posts is an important limitation. These approaches may offer potential to support interventions at the community level, through identifying and enabling targeting of high-risk geographical or other communities. Population-based screening to identify and intervene at the individual level presents challenges from ethical and other perspectives, as would clinician monitoring of individual patients' social media.

Recent studies in the US have addressed various aspects of this field. One approach involves geocoding tweets and correlating these with available statistics in suicide (e.g. Jashinsky et al., 2014) and depression (e.g. De Choudhury et al., 2013). Research has also reported that negative emotions in Twitter highly correlate with heart disease mortality statistics and perhaps even more strongly than socio-economic, demographic and other health statistics (Eichstaedt et al, 2015).

4.4 Mental health information and psycho-education

For most people this is the most visible field of eMental health, especially online mental health information/psycho-education and mobile mental health and wellbeing apps. An Irish guidance document provides guidelines for online provision of mental health information (Chambers and Murphy, 2015).

Informational and educational supports in the mental health domain encompass a continuum, ranging from passive provision of information to more active and structured 'psycho-education' approaches. A systematic review of web-based mental health literacy interventions concluded that services are more likely to be successful if they include active ingredients such as structured programmes, are tailored to specific populations, deliver evidence-based content, and promote interactivity and experiential learning (Brinjath et al, 2016).


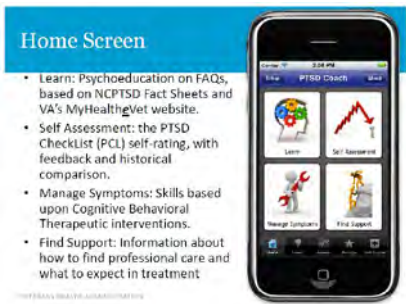
Active 'psycho-education' itself encompasses a continuum, from self-help to structured therapist-delivered interventions such as CBT. This overlaps with the field of 'bibliotherapy', which has some supportive evidence of efficacy and growing utilisation in practice (Fanner and Urquhart, 2008), although it is not clear how effective it may be on its own without any other therapeutic inputs. Interventions in this field also cover a continuum from primary prevention to recovery support. A recent systematic review and meta-analysis found some evidence for effectiveness of Internet-based interventions for prevention of onset of mental health conditions (Sander et al, 2016) and a rapid review found evidence for effectiveness of online mental health interventions for young people (Abuwalla et al, 2017). However, the latter study noted that samples covered in the reviewed interventions typically involved recruitment via mechanisms likely to select motivated youth; further research is necessary with population based recruitment and on effectiveness in real world settings.

Another meta-analysis of psychoeducation for depression and anxiety found that brief, passive psychoeducational interventions can be effective at reducing depression, although effect sizes were small (Donker et al, 2009). A study of an online psychoeducation program for bipolar disorder found improvements in levels of anxiety and depression across an 8 week period (Proudfoot et al., 2012).

With the emergence of technology-based delivery approaches, varying in the amount and level of therapist or human support, this field is becoming increasingly blurred. The CBT-based programmes provided by AWARE and Bodywhys described already in Chapter 3 are examples of approaches straddling the psycho-education and therapy boundaries. Another Irish example is Turn2Me's Mood Skills service providing a structured, professionally-facilitated online support group for depression. It requires registration and involves weekly sessions over an 8-10 week period. The approach incorporates CBT-based (e-learning) psycho-education modules, with reading materials assigned between sessions.

Mobile apps

The explosion of mental health apps in recent years is a particularly noteworthy development, and many of these are strongly or even entirely based on psycho-educational approaches. Examples of Irish apps currently under development include *KeepAppy* developed by students at TCD and the *WorkOut* app from ReachOut. Internationally, some public health agencies have developed apps and made these generally available. One well-known example is the PTSD Coach app developed by the Veterans Health Administration in the US (Exhibit 4.5).

Exhibit 4.5: PTSD Coach	
 <p>PTSD Coach Overview</p> <p>PTSD Coach is a mobile phone app for people with PTSD and those interested in learning about PTSD.</p> <p>This app provides:</p> <ul style="list-style-type: none"> • education about PTSD • a self-assessment tool • portable skills for acute symptoms • direct connection to crisis support • information about available treatment 	 <p>Home Screen</p> <ul style="list-style-type: none"> • Learn: Psychoeducation on FAQs, based on NCPTSD Fact Sheets and VA's MyHealthVet website. • Self Assessment: the PTSD Checklist (PCL) self-rating, with feedback and historical comparison. • Manage Symptoms: Skills based upon Cognitive Behavioral Therapeutic interventions. • Find Support: Information about how to find professional care and what to expect in treatment
<p>Source: https://www.ptsd.va.gov/public/materials/apps/ptsdcoach.asp</p>	

In general, however, reviews of available apps, even ones listed by public health services, suggest that quality is very variable and often low. For example, a review of mental health apps listed in a public health service apps library in 2015 reported that very few provided any evidence of patient reported outcomes to substantiate claims of effectiveness or applied validated metrics (e.g. GAD-7 and PHQ-9) to assess clinical performance (Leigh and Flatt, 2015). In regard to mobile apps for bipolar disorder, a systematic review of features and content quality found many limitations (Nicholas et al, 2015). Problems included lack of privacy policies, failure to adhere to core psychoeducation principles and best-practice guidelines, and lack of important features in self-monitoring and self-assessment apps. A review of mindfulness-based apps found that many claiming to be mindfulness-related were not really accurately described as such (Mani et al, 2015). The minority that did support mindfulness scored moderately on the Mobile Application Rating Scale - MARS (Stoyanov et al, 2015).

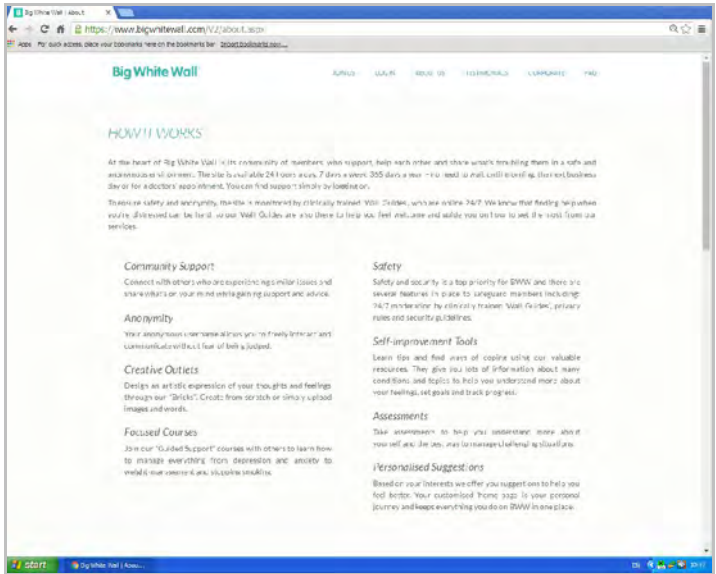
More generally, research on finding a depression app highlights the challenges facing users in finding quality-assured apps in online app stores and the importance of improved certification frameworks in this field (Shen et al, 2015). Researchers have also pointed to the volatility in this field, citing data showing that at least one existing clinically relevant app for depression becomes unavailable for download every three days or so (Larsen et al, 2016).

This is an important area for attention, with a need for appropriate forms of public oversight and guidance. Users need help to find suitable products and assess their quality, and developers launching apps need guidance on quality standards and appropriate certification frameworks (Bakker et al, 2016).

4.5 Online peer support

There are a large number of online peer support groups for people with a wide range of physical and mental health conditions. Many people use these to seek help at a time when they experience a mental health issue or on an ongoing basis for support with enduring conditions. Internationally, *Big White Wall* is one of the most well known online platforms in this field (Exhibit 4.6).

Exhibit 4.6: Big White Wall



Source: <https://www.bigwhitewall.com/V2/about.aspx>

Some are essentially un-moderated and others are moderated in various ways, some by mental health professionals or by trained volunteers. Quality of moderation is an important issue in this field.

In Ireland the online mental health organisation *turn2me* hosts professionally facilitated online support groups on anxiety, suicidal thoughts & feelings, depression, stress management, and general mental health issues. Their *turn2me Youth* service provides similar supports for young people. Both require registration and booking. *BodywhysYouthConnect* is another free weekly internet support group for people with eating disorders aged 13-18 years. It aims to provide support to young people who may be geographically isolated from a support group or who find it too difficult to attend a face-to-face group. Weekly Sunday evening online meetings are offered; these last for an hour-and-a-half and are facilitated by two trained Bodywhys volunteers.

Evidence and practice guidance

There is evidence of the important role that online peer support plays for many people with mental health difficulties and on some of the reasons why people use these supports. For example, an analysis of data from the 2008 National Survey on Drug Use and Health in the United States focused on use of Internet support groups among the 2,532 survey participants who reported a need for mental health treatment but were not receiving formal services (Townsend et al, 2012). Barriers to seeking help from formal health services were significant predictors of Internet support group use, including fear of being hospitalized or having to take medication, and having inadequate insurance coverage.

In Ireland, the ReachOut good practice guide provides guidance for organisations providing services of this nature (Chambers and Murphy, 2015). More generally, although there is evidence for the efficacy of face-to-face peer support groups in treatment contexts (e.g. Pfeiffer et al, 2011), there has been less research on the effectiveness or otherwise of online peer support groups and this is an area requiring more attention (Ali et al, 2015; Christensen et al, 2014; Griffiths et al, 2009). A systematic review of social networking and online support groups for depression in young people found mixed evidence, with indications of the potential for both positive and negative impacts (Rice et al, 2014). The authors provide a useful discussion of the evidence and issues in this field, and highlight the importance of developing protocols to integrate social networking and online support group features within well-supported and safe frameworks. Some professional bodies have emphasised the importance of professional moderation in online forums for particular groups, such as people with psychotic disorders (Gaebels et al, 2016).

5 Conclusions

This report presents a rapid wide-angle review of the broad field of eMental health, with a focus on how it may contribute to addressing some of the challenges facing the mental healthcare system in Ireland. The review highlights the range of technologies and application fields encompassed within eMental health. This includes telemental health, eTherapy, mobile apps, and a variety of other areas.

eMental health application domains covered in the report
<ul style="list-style-type: none">• Telemental health• eTherapy (technology-supported therapy at scale)• Ongoing support for enduring mental health difficulty• Other innovative additions to the treatment toolkit• Crisis support and suicide prevention• Information and psycho-education (self-help)• Peer support.

These have relevance across the different components of the overall mental healthcare and support ecosystem, including formal mental health services, third sector and peer support organisations, and self-help activity by people with mental health issues.

Many opportunities...

The report considers eMental health applications that may be helpful for the large numbers of people with common mental health conditions, as well as applications relevant for people with more severe and enduring conditions. Current evidence and practice suggests that eMental health offers considerable potential, and some fields of application are already quite mature. eMental health applications can help to empower people with mental health conditions to engage more effectively in their recovery through self-help, access to peer support, and new ways to participate in jointly managing treatment and recovery pathways with clinicians. They can also help mental health services to address the large treatment gaps that prevail for common mental health conditions as well as the current limitations on effective continuity of care for people with enduring conditions. More generally, traditional service models need to evolve in appropriate ways alongside the major societal trends associated with the pervasiveness of the internet, smart-phones and other technologies.

Telemental health is already in extensive usage in a number of countries. This includes telepsychiatry applications to provide improved access to specialists in primary care settings and emergency departments, and telepsychology/counselling arrangements enabling remote client-practitioner therapy sessions. Emerging communication modes, such as instant chat, are increasingly employed to reach and engage with the demographic groups that favour these. eTherapy applications, combining online self-administration with varying levels of therapist assistance, are beginning to be offered in programmes providing psychological therapies at scale for common conditions such as mild/moderate depression and anxiety. Mobile applications show promise in supporting ongoing care management and self-management for people with enduring/severe mental health conditions. Gaming applications are used

to support treatment provision and engagement for young people, and virtual reality has important application in the treatment of phobias and other conditions. Online platforms are providing organised repositories of mental health information and psycho-education modules, as well as peer support fora and other group-based applications.

Potential benefits
<ul style="list-style-type: none"> • Wider reach of mental health services and access to these • Cost-efficiencies in delivering high-volume services • Treatment innovation and enhancement • More user involvement and empowerment • Expansion of self-help and access to peer support

...but not a simple ‘plug-and-play’ game-changer or panacea

Despite the undoubted opportunities presented by eMental health, it is not a simple ‘plug-and-play’ game-changer or panacea. Face-to-face therapy and in-person support will continue to remain centrally important. eMental health is not a replacement for these forms of support, but provides opportunities for innovation and service improvement. Ensuring user choice is important - some may prefer to access services in eMental health mode, others will prefer more traditional approaches; and provision of services through eMental health must target it towards those for whom it is clinically appropriate.

eMental health encompasses a wide range of technologies and domains of application. These vary in their functionality and in the purposes for which they are appropriate. This may be to increase reach and access to therapy, enable innovation in existing treatment approaches, support people to manage their mental health issues, or a variety other purposes. It is important to bear this in mind when considering the role of eMental health within the mental healthcare system; the key question is whether particular applications of eMental health are useful and add value for the purposes for which they are intended and used.

A growing body of evidence suggests the likely efficacy and effectiveness of a range of products and applications for particular purposes. Some of this is from Irish research but most comes from research conducted in other countries, so further Irish research and evaluation in this field is important. In addition, the research evidence in this field can be quite complex to interpret for purposes of guiding implementation of eMental health as part of mainstream services. Available evidence often comes from controlled studies with participants who are not necessarily representative of the wider potential user populations and settings. Selection of particular eMental health approaches, and of particular product offerings on the market, requires careful and critical appraisal of their existing evidence base; and implementation in mainstream services requires ongoing assessment and review of fitness for purpose.

More generally, in promoting development and deployment of eMental health it is important to adopt a measured perspective. This includes circumspection about the hype that can surround technological innovations and about overly simplistic claims of dramatic cost efficiencies. Although eMental health has the potential to provide substantial economic benefits, the focus must be on effective implementation in ways that really improve the lives of people with mental health difficulties. This requires careful attention to embedding eMental health within well-functioning mental health systems, care pathways, and user journeys, supported by secure and stable IT infrastructures.

Progressing the appropriate exploitation of eMental health in Ireland

Previous chapters presented a range of developments already underway in Ireland, along with examples of successful utilisation from other countries. The most useful next steps in Ireland might encompass development of a broad overarching strategic framework (an eMental health Strategy) and promotion of targeted actions in key areas. The listing of action lines suggested does not necessarily imply any particular sequencing, and some or all could usefully be addressed in parallel.

Possible action lines
<ul style="list-style-type: none">• eMental Health Strategy• Stakeholder engagement/consultation• Quality assurance; Guidance for users & practitioners• Implementation pilots• Supporting innovation• eMental health research

eMental Health Strategy

A number of countries have developed promotional and other initiatives to support wider deployment and utilisation of eMental health, most notably Australia. In 2012, the Australian Government Department of Health and Ageing published the current eMental health strategy – *E-Mental Health Strategy for Australia* (Australian Government Department of Health, 2012). Over the previous six years, the Australian Government had invested about \$70 million in the development and funding of a small number of proven and successful online and telephone crisis support services. The new strategy aimed to progress policy and practice to a mainstream embedding of eMental health across the mental health and support system. Some prominent components include the *Teleweb* funding programme and the *headtohealth* eMental health sign-posting website. The website is an impressive, government-operated, one-stop-shop website providing consumer-oriented information on a large number of eMental health services and products.

In Ireland, the programme of activity under the eHealth Strategy is giving some attention to eMental health. However, it may be helpful to develop and resource a dedicated eMental Health Strategy to encourage broad consideration of eMental health opportunities across the mental healthcare ecosystem and to support accelerated deployment of useful applications. This should be embedded within wider mental health policy/strategy, such as currently being developed in the refresh of A Vision for Change.

Stakeholder engagement/consultation

It is essential that all stakeholder groupings are involved in driving the future development of eMental health in Ireland. Effective mechanisms for engagement and informed discussion are necessary to support consultation with professional bodies, practitioners, user groups and service users, NGOs, and other stakeholders. This might include broad-based exercises to identify stakeholder interests and priorities, followed by more focused and targeted engagement on specific themes (e.g. telespsychiatry, eTherapy to support delivery of psychological therapies at scale, mobile supports for people with enduring mental health issues, and applications supporting self-help and service user empowerment).

Quality assurance; Guidance for users and practitioners

Given the large and growing number of online and mobile services and applications on offer, development of Irish quality assurance systems and guidance for eMental health users and practitioners is also important. Quality assurance systems (e.g. official certification systems or listing of endorsed products) encourage development and offering of proven good-quality products and services, and help users and practitioners to select which to use.

Navigating the burgeoning array of resources in the eMental health field can be challenging for people seeking support and services. A one-stop-shop Irish eMental health website signposting to useful resources would be helpful in this context, drawing on well-developed examples in other countries such as the Australian *headtohealth* website. The most effective approach to development and ongoing maintenance of such a website might be through a collaborative arrangement between government, HSE, third sector organisations, practitioner bodies, and user groups.

Guidance material for both users and practitioners is important. The suggested officially-supported eMental health website would be one element of this, along with more detailed guidance material for specific groups. Mental health professionals need guidance on utilisation of eMental health in clinical practice, and GPs and other practitioners need guidance to help them to advise patients on utilisation of self-help apps and services. Users need guidance on what to look for when selecting mental health apps and online offerings, and how to assess quality and suitability for their purposes. Examples of useful approaches to guidance are available from other countries and may be suitable for tailoring and customising for the Irish context.

Implementation pilots

It would also be useful to consider design, implementation, and evaluation of pilots/trials of eMental health in targeted fields in Ireland. This might include large-scale pilots of telemental health and eTherapies for common mental health conditions and more targeted pilots of telepsychiatry for specific purposes. Such initiatives would require prior consultation and agreement with the relevant stakeholders.

A recognised need in Ireland is to increase the large-scale provision of psychological therapies for people with common mental health conditions. Telemental health and eTherapies offer considerable potential as part of these approaches. One of the challenges in implementing eMental health in these contexts is to find the most effective ways to incorporate it within the overall service delivery framework and associated care pathways. Set-up and maintenance of an appropriate IT infrastructure is also central. A carefully constructed Irish pilot programme would be very useful, with involvement of all relevant parties including service providers, therapy professionals, and users.

Telepsychiatry may offer important opportunities to increase access to psychiatric consultation in a range of settings. This might help alleviate some of the difficulties currently experienced in this area in Ireland. Following consultation with the College of Psychiatrists of Ireland and the other relevant stakeholder groupings, a series of pilot projects could be useful to explore the potential of telepsychiatry in specific areas. Examples might include applications to support liaison/consultation models for mental health in primary care, access to psychiatric consultations in emergency departments, and applications in other relevant locations/settings.

Supporting innovation

More generally, it would be useful to establish a lasting support structure to lead knowledge-sharing, foster innovation, and support implementation of eMental health across the system in Ireland. The most effective way to foster useful innovation in eMental health is through collaboration between clinicians, technology developers, and people with lived experience of mental health issues. Establishment of a dedicated eMental health innovation 'hub' might be the most effective way to do this.

eMental health research

Finally, a range of important aspects of eMental health require attention in mental health research in Ireland. This includes efficacy and effectiveness evaluation of eMental health offerings, translational and implementation research on putting useful innovations into practice, eMental health user experience research, and wider population research on utilisation patterns and their implications.

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