DIGITAL HEALTH & CARE INSTITUTE

Review of Current Use of Digital Solutions for Mental Health

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Aim
This report aims to provide a review of current usage of digital solutions for the management of mental health conditions. This includes reference to relevant Scottish Government policies and a market analysis of currently available products and services that are stated to aid the prevention, diagnosis and treatment of mental health conditions. However, the report does not endorse or recommend any individual product or solution.

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1.Strategic Context

In 2017, the Scottish Government released a 10-year strategy to tackle the challenges faced by mental health services in Scotland [1]. The primary aim of Scotland's Mental Health Strategy is focused on the prevention and treatment of mental health problems with the same commitment and effort as is seen in the treatment of physical health problems. This requires;

• improvements in the prevention and early detection of mental health problems;

• increased accessibility;

• improving the physical wellbeing of people with mental health problems;

• better use of information and planning, and improved rights for patients.

Focusing on a human rights-based approach, the strategy set out 40 initial actions to improve and deliver mental health services (see Appendix 1) [1];

Of the comprehensive 40 actions, one specifically referred to the development of a digital solution or process (i.e. develop a digital tool to support young people with eating disorders), one refers to the implementation of digital solutions (Recommendation 25), and another endorsed the future exploration of digital solutions (Recommendation 9). There is a clear interest and opportunity for additional contributions to the transformation of mental health and care provision through digital means.

To take forward the implementation of the Scottish Government's Mental Health Strategy, two further documents were released in December 2018 - the 'Better Mental Health in Scotland Delivery Plan' and the 'Taskforce on Children and Young People's Mental Health Delivery Plan' [3, 4].

The 'Better Mental Health in Scotland' delivery plan laid out the actions to be taken when [3]: health services;

• improving specialist services for children and young people and adults;

• taking a 21st century approach to adult mental health;

• respecting, protecting and fulfilling rights; and

• making suicide prevention everybody's business.

To help carry out these actions the plan promises the development of high-quality digital resources (such as e-learning) for health and care workers, patients and their families [3]. Patients will be encouraged and enabled to access digital services, these include NHS Inform, Breathing Space and computerised Cognitive Behaviour Therapy (cCBT). NHS 24 aims to refine its digital offerings relating to mental health through the development of additional online self-help resources and the trialling of web chat in their Breathing Space service between June 2019 and March 2020 [3]. Additionally, the NHS Scotland Suicide Action Plan states it plans to develop innovative ways to use digital technologies in the prevention of suicide [3].

Parallel to this, the 'Taskforce on Children and Young People's Mental Health Delivery Plan' set out its own range of actions in the Scottish Governments bid to [4]:

• reform children and young people's mental health services;

• improve specialist services for children and young people and adults;

• take a 21st century approach to adult mental health;

• respect, protect and fulfil people's rights; and

• make suicide prevention everybody's business (this action is not exclusive to the 'Taskforce', as the Suicide Prevention Leadership Group is also looking to digital solutions)

The plan states that there will be an appropriate digital enhancement of mental health services for young people, and their families. Additionally, the Taskforce will identify and consider the roles that digital technologies can play in enhancing overall service delivery and how online resources can information and support for children and young people more accessible across Scotland [4].

As part of its knowledge and information workstream the Taskforce will use evidence from digitally enhanced services to help launch a new website that will inform and help young people and their families [4]. In future the Taskforce will consider the role in which digital impacts on the day-to-day lives of young people, as well as how technology can positively affect overall mental health and the health services they access [4]. In the 2018/19 period the Taskforce aimed to contribute to the digital support platform and scope out existing digital services that relate to their key workstreams [4].

In 2018, the Scottish Government also released the Digital Health & Care Strategy [2]. This aims to integrate digital solutions to offer a higher quality service that will focus on prevention, early intervention, self-management as the new normal for patients in Scotland [2]. The obvious alignment of these strategies and delivery plans suggests that wherever appropriate, digital solutions should be considered as opportunities to address the challenges facing mental health in Scotland.

2. Current Practice in the use of Digital Solutions for the Management of Mental Health

As the digital health and care sector continues to expand, the emphasis on the development of digital mental health solutions has started to grow. Current solutions range from the use of online resources to aid service delivery and self-management, to social media and mobile applications. These solutions have been shown to help improve access to services (this includes self-help), reduce barriers in mental healthcare such as patient stigmatisation, patients being remotely located and costs of treatment [5]. In addition to these benefits, digital mental health solutions could also potentially help address the health inequalities evident in Scotland's most deprived areas.

2.1 Digital Mental Health Solutions in England

There is a clear appetite and enthusiasm for the use of digital solutions in NHS England.

In 2008, NHS England launched the Improving Access to Psychological Therapies (IAPT) programme, its remit being to provide psychological therapies for patients with common mental health conditions such as anxiety and depression [7]. As of 2018, its services treated approximately 560,000 people a year, through a range of face-to-face and digital or e-therapies [7]. However, it is worth noting that the IAPT system primarily focuses on face to face or traditional clinical approaches. While there are digital offerings, these appeared small by comparison to the rest of the IAPT services.

E-therapy programmes utilise the internet or mobile devices to deliver interactive interventions aimed at the prevention and treatment of depression, anxiety and other mental health problems. The most common forms of e-therapies use cognitive behavioural therapy (CBT) which takes place over several weeks or months [5].

These solutions usually involve exercises and learning modules which are backed up with feedback to support user progression. Additionally, some of these programmes use message boards and instant messenger applications to allow for instant interaction with therapists. This can also be paired with video-calling platforms to provide live pseudo face-to-face therapy [5].

To ensure that the public have access to safe and effective digital mental health therapies the National Institute for Health and Care Excellence (NICE) evaluated these therapies prior to wider roll out into the NHS in England. In addition to existing products that have already been assessed, NICE recommended 2 digital therapies for further evaluation. These are Deprexis and Space from Depression. Both of these are online platforms that utilise the concepts of CBT in the treatment of depression [7,8 & 9]. Space from Depression is now part of the SilverCloud suite of over 30 digital mental health therapies [7].

On-line self-help solutions are another example of the use of digital to support mental health. These enable people to better understand their own mental health, engage in self-management, or use message boards or other similar platforms to access direct support remotely. Currently GP's in England can prescribe or direct patients to a select number of Mental health apps that offer digital self-help via the NHS UK website: https://www.nhs.uk/apps-library/category/mental-health/ [6].

These have been approved via their assessment processes, which includes input from an App assurance organisation called ORCHA. Figure 1 shows this process and Table 1 provides a list of these applications. This process does not involve the same amount of clinical scrutiny as other assessment processes (e.g. The NICE evaluation process), so these applications should not be seen as having the same validity of NICE approved technologies and medications.
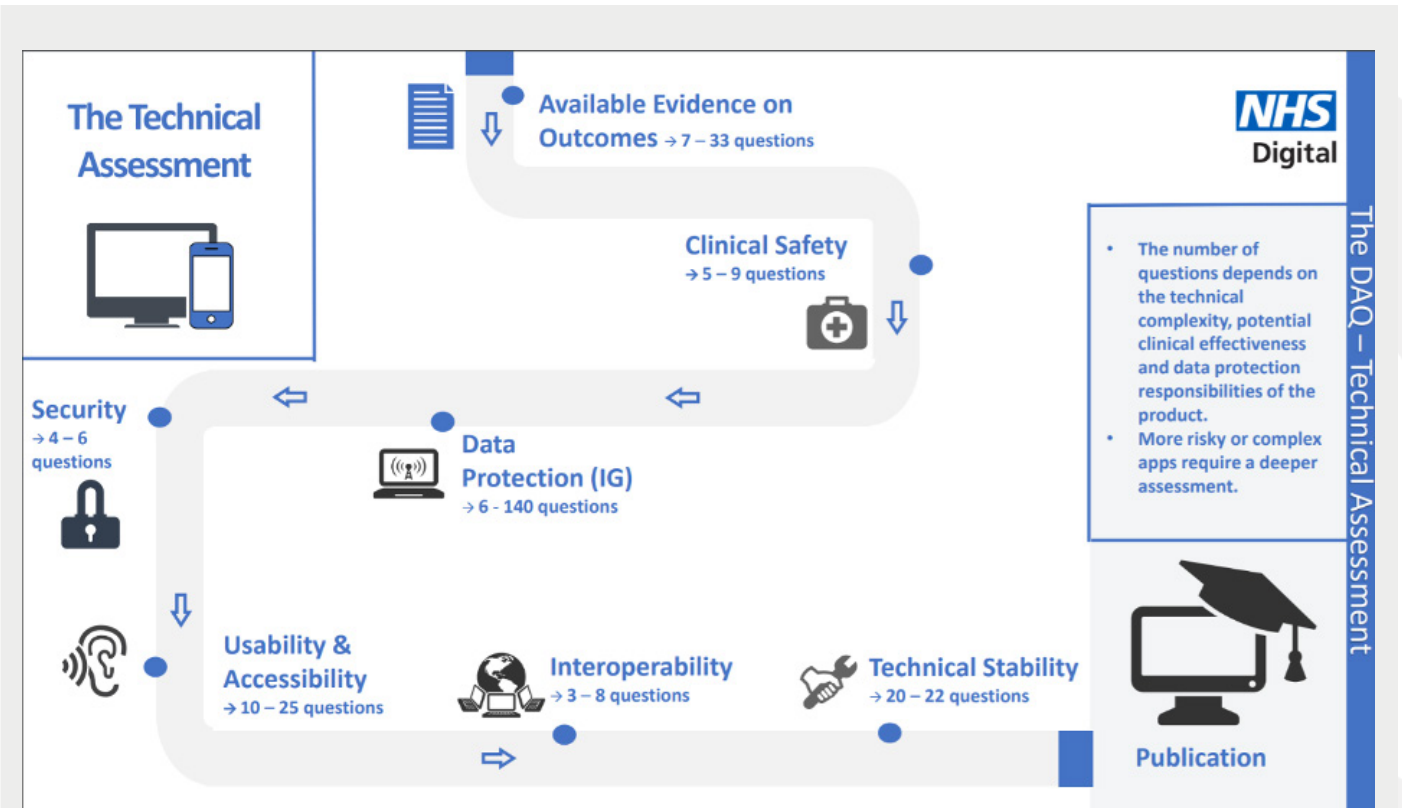
Figure 1: Image depicting the technical assessment process used by NHS Digital [10]

Application	Description
Be Mindful	Be Mindful is an online course that aims to reduce stress and anxiety using mindfulness-based cognitive therapy. More information can be accessed here: https://www.nhs.uk/apps-library/be-mindful/
Beat Panic	Beat Panic is a mobile application designed to guide users through panic attacks or raised anxiety levels. It uses a series of soothing coloured flash-cards with messages designed to help users in a gentle manner. More information can be accessed here: https://www.nhs.uk/apps-library/beat-panic/
Big White Wall	Big White Wall is an online community for people who are stressed, anxious or feeling low. The service provides an active forum with 24-hour support from trained professionals. More information can be accessed here: https://www.nhs.uk/apps-library/big-white-wall/
BueIce	BlueIce is an evidence-based app that helps young users manage their emotions to help reduce urges to self-harm. It hosts a toolbox of evidence-based techniques that reduces distress, a mood diary and provides automatic routing to emergency numbers when required. More information can be accessed here: https://www.nhs.uk/apps-library/blueice/
Calm Harm	Calm Harm is an app that is designed to help users resist or manage the urge to self-harm. It is based on the principles of dialectical behaviour therapy, a talking therapy that can be effective with mood disorders. More information can be accessed here: https://www.nhs.uk/apps-library/calm-harm/
Catch it	Catch It aims to help users manage their feelings like anxiety and depression. Catch It utilises CBT to help users change the way they think and feel about things. More information can be accessed here: https://www.nhs.uk/apps-library/catch-it/
Chill Panda	Chill Panda teaches users to relax, manage their emotions and improve their wellbeing. The app measures the users heart rate and suggests tasks to suit their state of mind. These tasks are designed to relax the user. More information can be accessed here: https://www.nhs.uk/apps-library/chill-panda/
Cove	Cove allows users to create music that captures their mood in a more creative mood journal. More information can be accessed here: https://www.nhs.uk/apps-library/cove/
Cypher	Cypher acts as an anonymous peer-to-peer social network, allowing users to share feelings and secrets, while providing and receiving support to and from others. More information can be accessed here: https://www.nhs.uk/apps-library/cypher/
The distrACT	The distrACT app provides users with fast, easy and discreet access to information and advice about self-harm and suicidal thoughts. The content within the app has been created by doctors and experts in self-harming and suicide prevention More information can be accessed here: https://www.

Feeling Good: positive mindset	Feeling good is a CBT base application that consists of a series of audio tracks that are designed to help users build confidence, energy and a positive mindset. More information can be accessed here: https://www.nhs.uk/apps-library/feeling-good-positive-mindset/
Leso	Leso is an online course that uses instant messaging for people with mental health problems. It uses CBT to help users change how they think and feel. More information can be accessed here: https://www.nhs.uk/apps-library/ieso/
MeeTwo	The MeeTwo app provides a secure forum for teens who want to discuss issues that affect their lives with their peers and mental health experts. More information can be accessed here: https://www.nhs.uk/apps-library/meetwo/
My Possible Self: The Mental Health App	The My Possible Self app provides learning modules to help users manage their fear, anxiety and stress. Additionally, it contains a mood tracker for users that highlights the activities, people and places that affect the users mood. More information can be accessed here: https://www.nhs.uk/apps-library/my-possible-self/
SilverCloud	SilverCloud uses CBT in online courses to help users manage their stress, anxiety and depression. Users wok through a series of topics that are selected by a therapist. More information can be accessed here: https://www.nhs.uk/apps-library/silvercloud/
Sleepio	Sleepio is an online sleep improvement programme that is clinically proven to improve several aspects of sleep. It is a CBT based programme that teaches users cognitive techniques and behavioural strategies to improve sleep without the aid of medication. More information can be accessed here: https://www.nhs.uk/apps-library/sleepio/
Sleepstation	Sleepstation is a 6-week online course for people struggling with their sleep. It is a user tailored course and provides expert advice ad support throughout the course. More information can be accessed here: https://www.nhs.uk/apps-library/sleepstation/
Stress & Anxiety Companion	Stress & Anxiety Companion uses CBT to help users handle stress and anxiety on-the-go. Users can access breathing exercises, relaxin music and games that are designed to calm the mind. More information can be accessed here: https://www.nhs.uk/apps-library/stress-anxiety-compan-ion/
Student Health App	The Student Health App provides users with access to over 900 pages of reliable health information. It is available both on and offline so that content is always available. More information can be accessed here: https://www.nhs.uk/apps-library/student-health-app/
Thrive	Thrive is a game-based app that helps users prevent and manage their stress, anxiety and related conditions. More information can be accessed here: https://www.nhs.uk/apps-library/thrive/

Table 1. NHS England's Mental Health App library [6]

Despite the work to date in digital mental health and the resources available, as recently as 2017, 50% of patients with mental health conditions were not offered alternatives to medication as part of care provision [7]. There is clearly an issue around awareness and confidence.

In more recent times NHS England have made a concerted effort to further improve their digital mental health provision. In 2017, the NHS England established certain trusts to act as Global Digital Exemplars (GDEs), these trusts having advanced IT infrastructures and being committed to digitally develop and innovate to act as exemplars for the rest of the NHS to learn from [11].

Currently NHS England is supporting 7 digitally advanced mental health trusts to become GDEs. These are Trusts with a Care Quality Commission score of Excellent or Good, a High Digital Maturity Assessment score or show evidence leading innovative health and care programmes using digital solutions [12]. The NHS England Trusts chosen to be GDEs in mental health were [12]:

1. Berkshire Healthcare NHS Foundation Trust
2. Birmingham and Solihull Mental Health NHS Foundation Trust
3. Mersey Care NHS Foundation Trust
4. Northumberland Tyne and Wear NHS Foundation Trust
5. Oxford Health NHS Foundation Trust
6. South London and Maudsley NHS Foundation Trust
7. Worcestershire Health and Care NHS Trust

1.**Berkshire Healthcare** has set itself the goal of rolling out several initiatives such as [13]:

• Developing a health and care solution for all providers that will enable two-way communication, automated and paperless appointments and online treatments for patients, their families and carers.

• Creating paperless wards and services, digitising observations, creating patient safety and early warning systems, and introducing 'live bed' capacity and real time dashboards for crisis teams.

• Establishing a digital workforce and create evidence-based care packages, smart alerts and notifications to support planned and un-planned care in the community and host skype consultations.

• Sharing knowledge with other providers, universities and research bodies to develop treatments and improve effectiveness, this can highlight good practice and support national and international developments.

2. **Birmingham and Solihull** aim to help patients to take ownership of their own health and care information, interact with health and care professionals using digital technology such as smart devices and a secure online patient portal [14]. For staff they aim to implement remote, mobile and assistive technologies to help provide high quality care, that can eventually offer remote consultation and predictive analytics to forecast changes in a patient's mental health status [14]. Prior to its designation as a GDE the Birmingham and Solihull NHS Foundation Trust developed the Silver Lining mobile application.
This application was designed for young people who have experienced episodes of psychosis to self-manage their own mental health [15].

3. **Mersey Care** are working on several projects that focus on delivering first-rate health and care through digital means. This includes an innovative caseload dashboard for community mental health nurses and an electronic prescribing system [16].

4. **Tyne and Wear** have made digital tools they have developed available across other NHS organisations. Tyne and Wear's electronic patient records access technology has been shared as part of NHS England's 'blueprints'. These blueprints are toolkits that allow other NHS organisation to implement innovations more easily and at a faster pace [17]. Other technology developed and shared includes mobile access to patient records for staff to support mental health service provision and a digital street triage service to enable emergency services staff determine the correct course of action when dealing with mental health patients [17].

5. When selected in 2017 as a GDE, **Oxford Health NHS Foundation Trust** had already begun to offer their patients remote video consultations via tools like Skype and FaceTime; Electronic patient notes using an iPad; Signposting to online wellbeing and mental health therapies; and recommendations for apps such as TrueColours (see below) in the support of self-management [18]

TrueColours is an application that enables users to monitor their health through texting or emailing simple health-related questions. Answers are recorded and can be displayed online, or printed out, by both users and members of their care team. The TrueColours development team are working with other specialists in innovation and health and care to introduce other patient reported outcome measures to the app [19].

In the last 2 years Oxford Health have piloted a number of technologies to help improve mental health and care services. Patients in Warneford Hospital's adult mental health ward will be taking part in a pilot of a newly developed observation protocol [20]. The Oxehealth Digital Care Assistant monitors patients overnight to improve their quality of sleep and wellbeing, while simultaneously speeding up recovery [20]. In the Oxford Health Trust's emergency department psychiatry service, patients with mental health conditions presenting to A&E have been provided with assessments via tvideo-link to speed up to the overall process [21].

6. **NHS South London and Maudsley** aimed to use the GDE funding to accelerate their work on moving paper to digital technology, using mobile devices and their e-Observation

programme and mobile clinical app [22]. These will enable staff to be more mobile and access and share clinical information with patients and colleagues and allow patients and service users to self-manage their conditions [22].

7. **NHS Worcestershire Health and Care** are working with multiple projects, these being [23]:

-Digital data exchange: This involves using the Electronic View for Interoperable Exchange (EVIE) to provide better and more efficient digital data exchange with primary care, enable future data exchange with partners, accessing patient records between GP's and the Trust, and improving the scanning, storage and accessibility of documentation linked with patient records [23].

- Patient portals: using the patient portal Mindwave to deliver a responsive web application providing a series of tools, resources and contacts to support patient self-management [23].

- Voice recognition: Dragon Digital Dictation medical edition is used to support workforce mobility, resulting in a reduction in paperwork and improved relationships between clinian and patient [23].

- Mobile working: Bittium provides secure connectivity to allow clinicians a greater ability for working away from base. It also allows access to the Trusts EPR and other internal systems [23].

- Electronic prescribing and medicines administration (ePMA): The trusts ePMA solution is supported by a structured clinical repository and advanced Clinical Decision Support, the ePMA will be interoperable to provide a solution for Mental Health and Community services. The aim is for the solution to reduce prescribing and administration errors and to improve patient safety across the Trust [23].

- Mobile Apps: The Bestie app aims to help young people within the Trust to better manage their mental health needs [23].

- Single sign on security: Provided by I mprivata the SSO eliminates repetitive tasks such as logging to allow staff to quickly and securely access clinical and administrative applications [23].

- Assistive technology: this project focuses on using wearable technologies to improve proactive care, this will promote patient independence and prevent harm for vulnerable patients [23]. There are a limited number of mental health references.

Throughout the NHS in England numerous CCG's, providers and other NHS organisations have, as individual bodies, implemented their own solutions to address their own mental health and care requirements. These implemented solutions can sometimes be found across numerous bodies but are often operating within single CCG's or as provider specific solutions.

An example of the latter is the Healios platform that provides a wide array of psychological assessments and therapy services, as well as personalised wellbeing and prevention tools. The entire platform is delivered online and covers a large number of mental health and neuro-developmental conditions [24]. Another example of this is Kooth, an online platform developed by XenZone that offers online counselling, educational resources, an online journal and support community that is free at the point of use [25].

It is available in:

• **Brighton and Hove**
• **Croydon**
• **Elmbridge**
• **Epsom and Ewell**
• **Guildford**
• **Hart**
• **Mole Valley**
• **Portsmouth**
• **Reigate and Banstead**
• **Runnymede**
• **Rushmoor**
• **Spelthorne**
• **Surrey Heath**
• **Sutton**
• **Tandridge**
• **Waverley**
• **Woking**

These styles of online resources have been around for a while with Scottish used examples including Moodjuice and Moodcafe. As Scotland embarks on a more comprehensive exploration and implementation on the use of digitally enabled mental health services, there is an opportunity to also learn from these activities in England to inform our priorities. This should assess the progress and impacts they have made, their approaches and lessons learned.

2.2 Digital Mental Health Solutions in Scotland
2.2.1 cCBT

One of the most prominent digital initiatives in Scotland was the computerised CBT (cCBT) National Rollout programme, developed by the Scottish Centre for Telehealth and Telecare/NHS 24, with the initial stage of its development being the MasterMind project.

Mastermind was a multi-regional European Commission funded project which sought to explore the barriers to rolling-out cCBT and provide benefits for both patients and clinicians including [26, 27]:

•**Improved access to psychological therapies for patients;**
•**Improved range of choice for patients on therapy;**
•**Increased flexibility for patients in accessing psychological therapies.**

In 2017, lessons learned from the MasterMind programme helped support the expansion of cCBT solutions into every NHS Scotland territorial board over 2018-19 through the National Rollout Programme. cCBT in Scotland uses 'Beating the Blues' which is an online treatment programme that consists of 8 x one-hour weekly sessions. It aims to help users identify and change unhelpful ways of thinking, that can affect how they feel. It also teaches more effective ways of individual problem-solving. Primary Care refers patients to this fully supported and nationally commissioned NHS service [27]. cCBT services have been proven to [28]:

• **improve patients access to psychological therapies;**
• **provide additional treatment choices, as well as early interventions for patients; and**
• **act as the first choice of treatment for those with mild to moderate depression and/or anxiety**

In addition to cCBT, another digital therapy Internet Enabled CBT (ieCBT) was introduced across 3 territorial Health Boards. ieCBT delivers an online, typed-therapy which provides easy access to evidenced-based CBT for those people experiencing common mental health problems but encounter a range of barriers to accessing traditional services.

2.2.2. NHS 24 Services

Another on-line service which supports people with mental health issues is NHS Inform provided by NHS 24. NHS Inform provides access to a wealth of information on mental health and care and signposting, this includes information about [30]:
- Illnesses and conditions;
- Symptoms and self-help, including a series of interactive guides for common mental
 health conditions;
- Tests and treatments;
- Healthy living;
- Care, support and rights; and
- Scotland's Service directory

NHS 24 also provide Breathing Space, which is currently a telephone-based service for Scottish citizens over the age of 16, who are feeling anxious, low or depressed. It provides users with a space to be listened to, be offered advice and to access sinformation and has recently developed a webchat element [29]. Breathing Space is currently piloting a webchat service. NHS 24 also has ambitions to transform its digital offerings for mental health services and are currently exploring and developing plans to do so.

2.2.3 Moodcafe and other psychological support sites

Set up in 2007 and redesigned in 2013, Moodcafe is a Fife based website that focusses on supporting people across Fife to improve their mental health and wellbeing [31]. The platform offers a range of tools and resources that are relevant to common mental health issues. It signposts users to carers while also providing resources for said carers as well [32].
In addition to this other regions have similar resources this includes Elament in Lanarkshire, Heads Up in Glasgow and Clyde and edspace in Lothian.

2.2.4 NHS Near Me/Attend Anywhere

Attend Anywhere is browser-based video solution for the delivery of health and care consultations [33]. The platform provides a video clinic environment that can be accessed by members of the public using a web browser on their own devices. Patients enter into their own private waiting area, and then health and care professionals can select the patient's profile and join them to carry out a consultation as normal, via the videoconferencing software [33].

In 2018, the Scottish Government launched an Attend Anywhere Scale-Up Challenge to support the expansion of video consultation use. This has subsequently been rebranded as NHS Near Me (powered by Attend Anywhere). Several Health Boards have used this to reduce travel to and enable attendance at teaching sessions and clinics have been established for standard mental health services and Child and Adolescent Mental Health Services (CAMHS) [33].

In addition to the above well-known services, there are a number of mobile applications approved by certain NHS Scotland services, and the use of Home & Mobile Health Monitoring Services (HMHM) to prompt adherence. For example, NHS Highland Public Health recommend the following applications via their Highland Mental Wellbeing website, to support citizens living with mental health conditions [34]: Work in this area also includes a number of small innovation projects which are being conducted through public sector, academic and commercial partnerships this includes AlliChat, an app designed to support young people.

Application	Description
Bee Appy App	Developed for younger users Bee Appy provides top tips to take control of their emotional wellbeing. It allows users to track and monitor their mood over time.
Elefriends	Developed by the mental health charity Mind, Elefriends is a supportive community where users can share their experiences and listen to and learn from others.
Five ways to wellbeing	Five ways to wellbeing offers a practical way to help users feel and function better in the world. It allows users to set activities to help them improve their wellbeing and track their own progress at their own pace.
For me app	Available only on iPhone, the For me App was developed by Childline to provide all of its services in application form.
SAM app	The SAM app allows users to understand and manage their anxiety.
SAMH Know where to go (for iphone only)	SAMH Know where to go is a guide that provides users with the information and tools to address any mental health issues they may be dealing with.
Stressheads	Developed by the charity YouthNet, Stressheads helps users to tackle their stress via game play.
STOPP	The STOPP App utilises CBT practices to help users address their stress, anxiety, depression, negative thinking, over or under-eating, drinking, smoking, gambling, aggression, self-harm and/or other unhelpful habits. *Table 2. lists the Moible Apps approved by NHS Highland Public Health [31]*

NHS 24's Knowledge hub directs users to NHS England's Living well recommendations listed in Table 1 [6 & 32]. Outside of these aforementioned resources, there is an ever-growing market of digital mental health platforms and applications that are available to the public as consumer services. These state they improve mental health awareness, self-management/self-care and overall mental health service delivery.

3. Conclusion

This review has identified there are a number of digital tools, platforms or applications currently in use in health and care services across England and Scotland to support the better management of mental health. However, these were not easy to identify and there will certainly be other activity taking place in the UK that has not surfaced in this review. For those without a prior understanding or signposting to what is already available this lack of visibility would present difficulties. In particular for services and digital solutions offered outside of the NHS, citizens would find it difficult to understand what is or could be available to them and what is safe to use in supporting the management of their mental health and wellbeing.

Current digital solutions also tend to have common functionalities and focus. These include;

- **Information and signposting services;**
- **Improved communication and remote access (including video consultation);**
- **On-line and telephone-based self-help tools;**
- **On-line forums and support groups (with or without professional input);**
- **Self-management apps;**
- **E-therapy programmes.**

In Scotland, although there appear to be a more limited choice of digital solutions, it is evident that these are being adopted at scale e.g. cCBT, NHS Near Me/Attend Anywhere, NHS Inform. This suggests that while we have started to develop some of the infrastructural requirements necessary to support wider adoption and integration, other fundamental issues such as investment, trust and culture may still require to be addressed if we are to expand the use and impact of digitally enabled mental health services. For example, it will be crucial to establish user trust that their information is safe, secure and being used for their benefit, whilst simultaneously ensuring that the health and care workforce are confident that digital solutions work effectively and deliver improved outcomes.

It is understood that a National Advisor for Digital Mental Health in Scotland has been recently appointed (Jan 2020) and a Digital Mental Health Delivery Plan could be established to identify specific contributions to the priority activities identified in Scotland's Mental Health Strategy. This may be informed by an update on the experience and impacts of the English Global Digital Exemplars now that they have been operational for 2 years and build on the existing activities already progressing in Scotland.

To continue to stimulate the development of digital solutions in mental health further work should also be undertaken to explore and co-design further digital innovations for mental health involving people with lived experience. DHI is aware of developments being progressed by third sector organisations, academic and industrial interests that may be of relevance and worth further investigation. The establishment of a Mental Health Digital Innovation Cluster (along the lines of the current Healthy Ageing Innovation Cluster) may also be a useful mechanism to provide focus and help identify, explore and support collaborative innovation in this space, expanding product choice and supporting the independent evaluation of digital solutions for adoption within mental health services in Scotland. This approach could also raise awareness and provide peer support for cross-sectoral front-line staff working in mental health services in Scotland.

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Appendix 1: 40 initial actions to improve and deliver mental health services

Prevention and early intervention

1. Review Personal and Social Education (PSE), the role of pastoral guidance in local authority schools, and services for counselling for children and young people.

2. Roll out improved mental health training for those who support young people in educational settings.

3. Commission the development of a Matrix of evidence-based interventions to improve the mental health and wellbeing of children and young people.

4. Complete the rollout of national implementation support for targeted parenting programmes for parents of 3- and 4-year olds with conduct disorder by 2019-20.

5. Ensure the care pathway includes mental and emotional health and wellbeing, for young people on the edges of, and in, secure care.

6. Determine and implement the additional support needed for practitioners assessing and managing complex needs among children who present a high risk to themselves or others.

7. Support an increase in support for the mental health needs of young offenders, including on issues such as trauma and bereavement.

8. Work with partners to develop systems and multi-agency pathways that work in a co-ordinated way to support children's mental health and wellbeing.

9. Support the further development of "Think Positive" to ensure consistent support for students across Scotland.

10. Support efforts through a refreshed Justice Strategy to help improve mental health outcomes for those in the justice system.

11. Complete an evaluation of the Distress Brief Intervention by 2021 and work to implement the findings from that evaluation.

12. Support the further development of the National Rural Mental Health Forum to reflect the unique challenges presented by rural isolation.

13. Ensure unscheduled care takes full account of the needs of people with mental health problems and addresses the longer waits experienced by them.

14. Work with NHS 24 to develop its unscheduled mental health services to complement locally based services.

Access to treatment and joined-up, accessible services

15. Increase the workforce to give access to dedicated mental health professionals to all A&Es, all GP practices, every police station custody suite, and to our prisons. Over the next five years increasing additional investment to £35 million for 800 additional mental health workers in those key settings.

16. Fund the introduction of a Managed Clinical Network to improve the recognition and treatment of perinatal mental health problems.

17. Fund improved provision of services to treat child and adolescent mental health problems

18. Commission an audit of CAMHS rejected referrals, and act upon its findings.

19. Commission Lead Clinicians in CAMHS to help develop a protocol for admissions to non-specialist wards for young people with mental health problems.

20. Scope the required level of highly specialist mental health inpatient services for young people, and act on its findings.

21. Improve quality of anticipatory care planning approaches for children and young people leaving the mental health system entirely, and for children and young people transitioning from CAMHS to Adult Mental Health Services.

22. Support development of a digital tool to support young people with eating disorders.

23. Test and evaluate the most effective and sustainable models of supporting mental health in primary care, by 2019.

24. Fund work to improve provision of psychological therapy services and help meet set treatment targets.

25. Develop more accessible psychological self-help resources and support national rollout of computerised CBT with NHS 24, by 2018.

26. Ensure the propagation of best practice for early interventions for first episode psychosis, according to clinical guidelines.

The physical wellbeing of people with mental health problems

27. Test and learn from better assessment and referral arrangements in a range of settings for dual diagnosis for people with problem substance use and mental health diagnosis.

28. Offer opportunities to pilot improved arrangements for dual diagnosis for people with problem substance use and mental health diagnosis.

29. Work with partners who provide smoking cessation programmes to target those programmes towards people with mental health problems.

30. Ensure equitable provision of screening programmes, so that the take up of physical health screening amongst people with a mental illness diagnosis is as good as the take up by people without a mental illness diagnosis.

31. Support the physical activity programme developed by SAMH.

Rights, information use, and planning

32. Use a rights-based approach in the statutory guidance on the use of mental health legislation.

33. Commission a review of whether the provisions in the Mental Health (Care and Treatment) (Scotland) Act 2003 Act fulfil the needs of people with learning disability and autism, taking forward new legislative measures if necessary.

34. Reform Adults With Incapacity (AWI) legislation.

35. Work with key stakeholders to better understand Mental Health Officer capacity and demand, and to consider how pressures might be alleviated.

36. Work with employers on how they can act to protect and improve mental health, and support employees experiencing poor mental health.

37. Explore innovative ways of connecting mental health, disability, and employment support in Scotland.

Data and measurement

38. Develop a quality indicator profile in mental health which will include measures across six quality dimensions – person-centred, safe, effective, efficient, equitable and timely.

39. Establish a bi-annual forum of stakeholders to help track progress on the actions in this Strategy, and to help develop new actions in future years to help meet our ambitions.

40. Carry out a full progress review in 2022, the halfway point of the Strategy, to ensure that lessons are learnt from actions to that point.