In this era of highly increasing numbers of patients with eating disorders what new ideas and innovations would you like to bring to the field of Eating Disorders which can help our patients and their carers?

Introduction

700,000 people in the UK are estimated to suffer from eating disorders (EDs), with subthreshold and unreported EDs likely to further raise this statistic. 90% of those affected are women.[1] Young adults and adolescents have the highest risk of onset.[2,3] All EDs, including subthreshold and atypical, have medical complications affecting every organ system.[4] Of these, anorexia nervosa affects between 2-4% of women and has the highest mortality rate of all psychiatric conditions; up to 5% higher than that of the general population.[1,2,3,5] The best prognosis in anorexia nervosa is for young people with a short duration of illness; up to 60% of adolescents with early specialist intervention reach full recovery.[5,6] Furthermore, age at assessment has been shown to be a significant predictor of mortality.[7] This highlights the importance of early intervention, diagnosis and management of EDs in young people.[4,6,7]

A major factor preventing patients from presenting early is difficulty disclosing problems due to stigma and embarrassment around EDs,[8,9] with many never seeking professional help.[10] This is particularly true in children and adolescents for whom the first step might be a discussion with their parents or carers, which many find difficult, and depending on carers' attitudes, can reduce likelihood of seeking help.[9] This is usually followed by seeing a GP and a referral process before seeing a psychiatrist and finally beginning a treatment journey. Each of these steps includes being asked personal questions and discussing sensitive topics with another person, often strangers, which can increase psychological distress. Many young people will avoid discussing psychological concerns with their GP as they are dubious of the utility of doing so and fear embarrassment.[11,12,13] Furthermore, the delay between booking an initial GP appointment and beginning a treatment plan could be as long as 6 months,[14] likely increasing mortality.[7] It would therefore be beneficial to harness technology to expedite the way patients access specialist assessment and care. In the era of mobile phones, when adolescents use their phones for a vast proportion of communication with peers and services, young people are likely to feel empowered to discuss personal issues over text.[15,16] It may be that a platform such as a mobile phone application, or app, which could connect young people via text or video chat to a mental health professional without any complicated, anxiety inducing steps or face-to-face interactions, would encourage them to engage and seek help for EDs.

This would also benefit parents and carers who have concerns about a young person, for whom the first hurdle is persuading them to see a medical professional. Presenting the young person with a phone chat or video call may ease this struggle. A substantial number of appointments are not attended by patients despite carers' attempts. This wastes valuable NHS time and resources, with estimates of up to 650,000 monthly appointment slots resulting in 'did not attend' appointments across the NHS.[17] This is for a variety of reasons including transportation difficulties and cost of getting to appointments, forgotten appointments and difficulty arranging time off work to attend; all of these would be reduced by utilising remote consultations. Furthermore, for carers, for whom supporting a young person with an EDs is often stressful, isolating and traumatic,[18,19] a multimedia app would allow them quick access to advice

and guidance on recognising dangerous behaviours, how they can help, and when to seek urgent care.

Technology and Eating Disorders

Introducing new technologies into the field of EDs is a controversial topic. This is largely due to the correlation between increased social media use and the increase in ED diagnoses in young people.[20,21] Though this is difficult to prove beyond a statistically significant correlation, it is understandable that researchers are attempting to find causes for the 90% rise in hospital admissions for EDs in the past five year period.[22] And there is no doubt that there are online communities which are having a detrimental effect on ED sufferers and susceptible young people,[23] with TikTok being the most recent to face criticism in the media.[24] However, mobile phone usage is not declining. Reported average time on mobile phones for 16 year olds in 2021 was 3.8 hours a day[25] and the age of first acquiring a phone is decreasing, with a recent report finding that the majority of seven-year-olds now own a phone.[26] Therefore, attempting to remove or limit phone usage to decrease exposure to negative messaging and dangerous trends would likely be unsuccessful. Instead, using the same medium to spread a combative positive message, psychoeducation and to provide evidence-based help may be more effective.

Eating Disorder Apps

Apps to help with mental health are no longer a new idea but an exploding market. Worldwide it is estimated that there are between 10,000 and 150,000 mental health apps available today.[27,28] These range between apps providing meditation tips, mood-tracking and apps designed to connect people with registered therapists.[27,28,29] With so many available and with so little regulation or evidence available about such apps,[30] it is understandable that many clinicians are wary of their usage. It is difficult to know if the information provided is correct and there are reports of apps containing erroneous crisis numbers.[31,32] The non-profit, OneGuidePsyberguide, has been set up to help navigate this complex field based on; credibility, user experience and transparency.[33] This has been found to be useful for primary care providers[34] and may improve confidence in these apps. However, there are still many drawbacks to online apps and cyber-security remains a concern. A study of the top twenty mental health apps highlighted 145 vulnerabilities which could allow malicious access to sensitive information.[35]

There are pre-existing apps designed for those with EDs. A 2021 study showed that of the 28 available, four apps have 96% of the monthly active users.[36] All of these apps were found to include elements of evidence-based treatments; this is a great improvement on the 2015 study into apps for EDs which concluded that none available at that time used evidence-based principles.[37] The four ED apps (in descending order of monthly active users) were found to be; “Mental Health Tests”, “RR Eating Disorder Management”, “Rise Up: Eating Disorder Help” and “Psychiatry Pro-Diagnosis, Info, Treatment, CBT & DBT”.[36] Of the four apps, two focus on diagnostic questionnaires and psychoeducation, and two which have primary features of symptom and meal tracking. The app with the most evidence-based elements was Psychiatry Pro, however, the researchers commented that many of these elements are accessible in long pdf. documents which are not particularly user-friendly.

The most comprehensive app was RR Eating Disorder Management. The most prominent feature is a log for tracking; meals and snacks, feelings, a photo option, and a thought diary. It also has options to 'check-in' with many further parameters including binge or purging behaviours, food exposures and triggers. These are analysed into insights and comparisons between inputs in the form of charts. There are a range of goals and challenges to input or choose from, with reminders and rewards when these are completed. The weekly skills and goals offer psychoeducation and CBT-based tips and there is a meditation section with guided meditations and breathing exercises with visual imagery. Furthermore, there is a community section including an activity feed, community coping skills and an option to 'pair up' with other RR users to share progress, encouragement and virtual gifts. Importantly, the app also allows for connection with a clinician and a paired clinician app for viewing patient progress and for sending messages and documents between patient and clinician.[38]

This app is rated 4.8 stars on GooglePlay with 8,420 reviews, however, according to Psyberguide it has a 'user experience' rating of 2.8/5. It appears that though many have a positive experience of the app, others find the reminders and ability for clinicians to see and comment on the log obstructive to recovery.[39] Clinicians display a similar inconsistency, with some finding the access to patient data useful as sessions can be planned in advance, whilst others found that the use of the app allowed patients to become more passive while they themselves felt an expectation to check patient logs regularly and comment on them.[40] Furthermore, Psyberguide gives the app a transparency rating of 'unacceptable' due to a privacy policy which does not state that the app/server encrypts/de-identifies the data nor disclose whether user information is stored locally.[33]

Method - an NHS eating disorder service app

This review of existing apps gives a backdrop for development of a comprehensive NHS ED app. It is clear that the technology and demand for an initiative such as this is present. Outlined in Table 1 are the proposed features of this app and the NICE guideline they relate to.

	Proposed Application Features	Does this exist in currently existing applications?	NICE Guideline
1	A comprehensive screening questionnaire on signing up for the app, including mood, thoughts, behaviours and co-morbidities, allowing for those in crisis to be identified and triaged to appropriate specialist care for assessment immediately, this would be flagged to redo at recommended intervals to monitor progress. Those who are not	No	NG69 1.2.6

	Proposed Application Features	Does this exist in currently existing applications?	NICE Guideline
	identified to be at high risk would still be able to use the features of the app but will not be recommended to request an appointment with a healthcare professional.		
2	Information available regarding local teams, crisis numbers and support groups. If appropriate this would also include the patient's named psychiatrist and date of next appointment as well as other members of the team such as dieticians and psychologists and options to request appointments, video chats and direct messenger appointments.	No	NG69 1.5.10
3	Psychoeducation delivered in a digestible and engaging manner	Yes	
4	Self-tracking features in a wide range of parameters which can optionally be shared with healthcare professionals, with the understanding that they are unlikely to comment or direct message about these outside of sessions/appointments unless otherwise arranged with that clinician	Yes	NG69 1.5.2
5	A CBT based set of skills and goals with in-app rewards. Potential for further developments such as meditation.	Yes	NG69 1.3.5 and 1.3.16 NG69 1.5.5 and 1.5.10
6	A community section in which users could connect with other users to share motivation, encouragement and support. This would be done	Yes	

	Proposed Application Features	Does this exist in currently existing applications?	NICE Guideline
	anonymously with moderation to remove and prevent a competitive environment or potentially detrimental material.		
7	A secondary or partner app for parents and carers which allows for connection with their caree's app. Appointment times and reminders would display on both apps and there would be an option for the patient to share their logs with their carer who could in turn comment or 'like' activity. The carer app would also include psychoeducation and important information on eating disorders and local teams and crisis numbers. Furthermore, carers could connect to other carers for support, advice and encouragement. There would also be scope for family therapy to be delivered remotely via video calls.	No	NG69 1.3.12 NG69 1.3.16 NG69 1.5.6

Table 1- Proposed application features

Discussion

There are a number of benefits to an ED app created by the NHS. Primarily, control over app contents ensures all data available is correct and evidence-based. Secondly, it would streamline those seeking help into the service more efficiently, leading to earlier assessment and treatment, reducing mortality.[6,7] It may also empower children and young people to self-present as it removes some difficult steps.[11] The addition of a partner app for carers has no parallels on the market at present and would allow carers to connect with patients' accounts to view logs and provide encouragement. This may also provide them some ease of mind, as well as a support group of peers in a similar situation who they can contact in message boards and direct chat. This is integral as carers of those with EDs have associated increased levels of psychological distress.[41]

Furthermore, it allows for a secure privacy policy in line with NHS sensitive information governance; this removes the risk posed to young people when using mental health apps.[33,35] It would also save the NHS time and money by reducing the number of missed appointments as, when suitable, appointments could be over call or video chat and when in-person appointments are required these would be displayed on the app with reminders prior to the appointment for both patient and carer. Many practitioners may find the app to be useful as it allows them to check-in with high-risk patients between appointments, and monitor their logs if they have been shared. It would also level out some of the inequality in accessibility of mental health services in different areas[42] as waiting lists could be shared between areas to even out waiting times.

Conversely, in an already stretched NHS, the creation of a new service and the resources required to create an app could be perceived as a waste of funds. In addition, though models of apps connecting clients to therapists have been shown to be effective in preliminary research,[43] it is not proposed to replace in-person appointments, which are recommended for accurate assessment of those with EDs.[44] Clinicians may have some reservations; all current available apps are in the private sector, therefore connecting patients to professionals who may have a smaller client pool, thus, more time available to review patient progress online and engage in more frequent remote consultations at patient request than would ever be possible within the limitations of the NHS workforce. Another concern is that the suggestion of working from home and a new online service may raise problems with confidentiality as patients and healthcare professionals would need to ensure they are in a secure location and cannot be overheard when they engage in virtual appointments or telephone consultations.

On balance, it is evident that a new technology of mental health apps, including apps for those with EDs, is an expanding market. These apps appear desirable to those seeking help and are likely to be used whether endorsed by the NHS or not. In line with patient-centred care, it would be pragmatic to accept that such apps are likely to be used, and that there is an argument for creating one in which evidence-based methods, correct information and adequate privacy policies can be ensured. In an ideal system with abundant resources, such an innovation would elevate the quality of care and allow increased connectivity between patients, carers and health-care professionals. However, a comprehensive app with all features displayed in Table 1 may not be realistic within the NHS at present and clinicians may oppose some suggested features. However, a simplified version could be created then developed and updated over a longer period. This would not only allow for a smaller initial budget, but for improvements to be made in line with user feedback. A starting point for such an app would be a portal for patients and carers to access information about EDs, local teams, upcoming appointments and documents. In a digital age, it is time for mental healthcare to embrace the technologies we take for granted in every other aspect of life.

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Written by Dr Florence Tilling, FY2 in Glasgow

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