Technology and Innovation in the NHS
Ieso Digital Health

Mental health and technology: where we stand

Common mental health disorders comprise different types of depression and anxiety. These disorders are characterized by intense emotional distress, with significant impact in daily functioning. It is estimated that 1 in 4 adults will suffer from a mental health problem in any given year, making mental health the largest burden of disease worldwide with great social and economic impact (Ferrari et al. 2013; McManus et al. 2016; Vos et al. 2016).

The Improving Access to Psychological Therapies (IAPT) programme, launched in England in 2008, is a large-scale initiative aimed at increasing access to evidence-based psychological therapy for common mental health disorders within the English National Health Service (Clark 2011). Under the IAPT stepped-care model patients are offered different psychological therapies based on the severity of their illness. More severe patients (Step 3) are offered high-intensity interventions, consisting of one-to-one sessions with a suitably trained therapist, whilst less severe patients (Step 2) are offered low-intensity interventions, which usually require less clinician input, with patients being encouraged to work through self-help programmes, with or without therapist guidance (Clark 2011).

In 2015/2016 one third of all patients referred to IAPT services received Cognitive Behavioural Therapy (CBT) (HSCIC 2016). Cognitive Behavioural Therapy is amongst the most common treatment types offered to depression and anxiety patients. Additionally to the strong evidence demonstrating the efficacy of CBT (National Institute for Health and Clinical Excellence 2011), this therapy modality is adaptable to self-help materials, including interactive online programmes (Saddichha et al. 2014; Olthuis et al. 2015).

With proven clinical efficacy (Andersson et al. 2005; Spek et al. 2007; Kessler et al. 2009; Ruwaard et al. 2012; and Saddichha et al. 2014; Olthuis et al. 2015) online CBT programmes offer a flexibility that is not possible under face-to-face programmes, allowing patients to undergo treatment outside of regular office hours, optimising convenience and avoiding the stigma often associated with having therapy (Gega, Marks and Mataix-Cols 2004). Other benefits include shorter waiting times (Gega, Marks and Mataix-Cols 2004), encouraging greater disclosure (Gega, Marks and Mataix-Cols 2004; Beattie et al. 2009) and access to treatment for patients who are reluctant to contact services due to the nature of their condition (e.g. agoraphobia, social phobia), or for those who cannot travel due to disability or geographical location (Gega, Marks and
Mataix-Cols 2004). This is particularly relevant in Scotland, where providing access to evidence based therapies in remote communities is particularly challenging.

While online CBT programmes are a relatively recent field, there are already many approaches available, including both self-guided and therapist-guided modalities, with varying degrees of therapist intervention. For the least severe patients, online peer support services offer the opportunity to share thoughts and feelings anonymously with other service users. For mild to moderate patients (Step 2 only) computerised CBT (cCBT) or self-guided online CBT services offer interactive online resources and training programmes to facilitate self-care, without therapist intervention. Some cCBT services for Step 2 patients also offer brief support from a therapist, often Psychological Wellbeing Practitioners (PWPs), through telephone, email or asynchronous online messaging.

Although, as noted above, various online CBT modalities are available to patients under the IAPT programme, it has been shown that both clinical outcomes and patient engagement can be affected by degree of therapist intervention (Spek et al. 2007; Andersson and Cuijpers 2008), with recent research showing that even therapist supported cCBT approaches offer no substantial improvement to depression outcomes compared with usual GP care alone (Gilbody et al. 2015). Ieso’s view is that the quality of clinical outcome is directly related to the quality of the therapist. So, we have developed a CBT method that uses technology to augment and enhance therapist quality to generate improved outcomes, instead of the usual cCBT approach of attempting to replace therapist time with self-help tools.

Internet-enabled Cognitive Behavioural Therapy: the Ieso model

Regardless of their questionable clinical efficacy, self-help computerised CBT approaches, with or without therapist guidance, are only suitable for Step 2 patients, presenting with mild to moderate symptom severity. For more severe patients at Step 3 high-intensity modalities consisting of one-to-one weekly sessions with a trained therapist are required.

Internet-enabled Cognitive Behavioural Therapy is a type of high-intensity online therapy offered by Ieso Digital Health, where patients receive weekly one-to-one NICE-compliant CBT therapy with a BABCP accredited therapist, delivered remotely via synchronous written conversation (instant messaging) in a secure online meeting room. Under the Ieso model the patient can self-refer directly to the service online, avoiding the stigma and embarrassment often associated with having to see a GP, or informing employers to take time off work to attend assessments and appointments.

At registration, the patient is asked to complete a self-assessment questionnaire, describing the problem and the impact their mental health problems have on their daily life. The patient is then assigned a therapist and goes through an online 30-minute assessment. The patient and therapist agree to subsequent appointment times via an online appointment planning system. Communication during sessions is via synchronous free text typed into the computer with messages sent instantaneously. In between sessions it is possible for the therapist and patient to communicate with each other via asynchronous messaging. This is often used for the therapist to share documents and information between sessions and to remind the patient of any homework assignments.
Patients use the asynchronous messaging system to ask questions between sessions. Homework tasks, goal tracking and outcome questionnaire completion are all conducted via the online system. Verbatim transcripts of therapy sessions are also stored. These are used by therapists to support planning for future sessions. Patients are encouraged to review transcripts between therapy sessions to reinforce key learning points established.

Session frequency and interval between sessions are agreed between individual patients and therapists online, with no other media or means of communication used in order to retain the online disinhibition effect. The one-to-one nature of internet-enabled CBT makes it similar to face-to-face programmes, whilst retaining the advantages of online services, including accessibility and convenience, increased disclosure and shorter waiting times. The method is especially suitable for patients living in remote rural areas where it is extremely costly and challenging to get patients to assessment appointments, let alone weekly treatment sessions.

Ieso has been commissioned in the English IAPT programme since 2013. Access is now available in 35 of 211 Clinical Commissioning Group areas in England. Ieso currently receives 1,400 referrals per month and has no waiting list. Referrals are growing at a rate of 70% per annum.

Clinical efficacy with higher engagement rates
The clinical efficacy of Ieso’s method of internet-enabled CBT has been demonstrated in a randomised clinical trial published in 2009 by Kessler and colleagues (Kessler et al. 2009). Recent analyses on more than 15,000 patients completing a course of treatment with Ieso show consistent increases in Ieso’s recovery rates, year upon year, with recovery rates in 2017 reaching 55%, with circa 80% of Ieso’s patient cohort at Step 3 (Figure 1). Comparatively, IAPT services report a recovery rate of 48% in 2016, with only 50% of the patient cohort at Step 3 (data for 2017 not publicly available at the closing date for this call for evidence). Recovery rates are generally expected to be significantly higher for Step 2 than Step 3.

![Figure 1 – Evolution of Ieso’s recovery rates and number of referrals with year.](image-url)
Patient engagement is significantly higher for Ieso compared to IAPT in general. More than 50% of patients referred to Ieso go on to complete a course of treatment, compared to under 40% for IAPT services in general. Drop-out rates for Ieso patients were also significantly lower, with only 13% of patients dropping out of treatment after having attended the first therapy session, compared to 39% drop-out rates for IAPT services. These differences are also reflected in Patient Experience Questionnaire (PEQ) results, where 89% of Ieso respondents rate the service they received as good or better compared to 76% of IAPT patients.

At Ieso we believe our written method for delivering CBT enhances clinical efficacy by supporting cognitive learning through highly structured therapy sessions – the writing process itself promotes reflection and introspection from both the patient and the therapist, enabling patients to put acquired skills into practice more efficiently. The absence of face to face cues in this written method of therapy promotes disclosure through the online disinhibition effect resulting from solipsistic introjection, a process of projecting desired attributes onto the other party in an online discussion. The written conversation with the therapist becomes an internal dialogue in the patient’s mind, thought to facilitate some of the change mechanisms delivered through CBT.

Ieso patients frequently report that prior to accessing our service they had struggled with a known mental health problem for many years but had felt unable to seek help through traditional channels.

"Having therapy in my home environment helped me keep my business private. I felt I could open up and be honest."

"I have a busy schedule so ‘appointments’ which involve driving anywhere add to my stress and become more of a problem than a help. It was great to be able to do this treatment online, whilst at home, a place where I feel more relaxed and in control."

Enhancing the quality of evidence based CBT

In face-to-face therapy, it is extremely difficult to monitor the quality of therapy being provided other than by observing or recording sessions. A central belief at Ieso is that the quality of the outcome is determined by the quality of the therapy. With Ieso’s written therapy model, a verbatim transcript of every therapy session is available for the patient, the therapist and the therapist’s supervisor to review. Reviewing transcripts opens up the possibility for therapist introspection, allowing therapists to critically assess the quality of their own work, supporting meaningful dialogue between therapists and supervisors and promoting a detailed model of supervision that focuses on increasing adherence to evidence based CBT protocols. Furthermore, transcripts are also used to acquire a quantitative measure of therapy quality, by measuring fidelity to the CBT model using standardised assessments such as the CTS-R. This analysis forms a core element of Ieso’s supervision regime. At Ieso we believe that better data quality leads to better therapy, leading to better outcomes.

The professional development opportunities provided by Ieso are also of key importance, making it possible to use therapists based in remote rural communities where traditionally access to training and supervision have been difficult and unfeasibly time
consuming. In Scotland, this presents the opportunity to provide high value employment opportunities in remote areas, such as the Highlands and Islands. A Scottish therapy workforce could be used to deliver therapy not just to Scottish patients but also to patients in other parts of the UK. As part of our service roll-out in Scotland, we envisage development of such a digitally-trained Scottish therapist workforce. Ieso already uses a number of Scottish-based therapists on its IAPT contracts and employs two Scottish-based clinical supervisors.

The Ieso model enables remote supervision and training of CBT therapists to high-quality standards which are simply not available in other services. Continuing professional development provided by Ieso to CBT therapists has the benefits of increasing the quality of therapy provided to patients, enhancing clinical outcomes, and also of educating therapists to adhere to good clinical practices and evidence based CBT protocols, for all services in which they work, not only Ieso. Ieso’s clinical supervisors are all BABCP accredited meaning that supervision hours count towards therapist accreditation.

The health economics of the Ieso model
Online written conversation promotes the quick establishment of the patient-therapist relationship through known effects such as dissociative anonymity and the online disinhibition effect (Suler 2000). Amongst other advantages, such as the aforementioned increase in patient introspection and cognitive learning, this leads to a reduction in treatment duration, with a meaningful cost saving implication. In 2016 average treatment duration for Ieso patients diagnosed with depression or anxiety disorders was 5.6 sessions, compared to 6.8 sessions for IAPT patients in general, this despite the Ieso patient cohort being 80% high intensity – longer therapy durations are typically expected for high intensity interventions compared with low intensity and most IAPT services operate to a 50:50 high intensity:low intensity ratio. A study done in collaboration with the York Health Economics Consortium (YHEC) notes that this reduction in treatment duration, additionally to other cost saving features such as reduced travel and lower DNA rates, represents an estimated treatment cost saving of £678 per patient. Increase in access combined with low drop-out rates also generate savings in background costs, as poor mental health is known to be associated with increased use of other primary and secondary care services. A full health economic model done by Ieso Digital Health in collaboration with YHEC in 2014 estimates cost savings of more than £108M per year, in a scenario where the Ieso model was offered to 50% of the population in the UK.

References


