Health Innovation Wessex

Independent evaluation of Digital CBTe, Dorset HealthCare University NHS Foundation Trust

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Disclaimer

This report presents the findings of an independent evaluation of the pilot of Digital CBTe (enhanced cognitive behaviour therapy) in Dorset All Age Eating Disorders Service – Community Team. The findings of this independent evaluation are those of the author and do not necessarily represent the views of the wider stakeholders.

Declaration of Interest Statement

Health Innovation Wessex supports innovators to bring their innovations to the NHS as well as provide an evaluation service more broadly to our members and others. On occasion, we evaluate innovations that we have also supported. Whilst these evaluations are independent, for transparency we disclose our dual role where applicable. In this instance, Health Innovation Wessex was only involved in the evaluation.

Acknowledgements

We would like to thank Dorset All Age Eating Disorders Service (especially Lee Barker and Cat Birtwell) and those on the waiting list for the service, for their support and participation in this evaluation.

We would also like to thank Credo Therapies Limited for their operational support and CREDO for their advice on the evaluation specification and analysis.

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Executive Summary

Background

Dorset HealthCare University NHS Foundation Trust (referred to as Dorset HealthCare hereafter) All Age Eating Disorders Service – Community Team piloted Digital CBTe, a digital programme-led intervention closely derived from Enhanced Cognitive Behaviour Therapy (CBT-E), for use as a pure self-help intervention for patients on the waiting list who experience either binge eating disorder (BED) or bulimia nervosa (BN). The Centre for Research on Eating Disorders at Oxford (CREDO) has developed the Digital CBTe programme which provides access to an evidence-informed digital programme that enables patients to learn about their eating disorders and modify unhelpful behaviours and beliefs. The programme is available as a mobile application (app) and website. Dorset HealthCare All Age Eating Disorders Service commissioned Health Innovation Wessex (HIW) Insight team to carry out an independent evaluation of the pilot of Digital CBTe.

Approach

This evaluation used a mixed-methods approach comprising the analysis of standardised self-reported measures recorded within the Digital CBTe programme (Eating Disorder Examination questionnaire, EDE-Q 6, Clinical Impairment Assessment questionnaire, CIA, and Patient Health Questionnaire, PHQ-9), descriptive analysis of activity data provided by Dorset HealthCare, semi-structured interviews with patients and a staff survey.

Findings

Within the context of a limited sample size (described below) the findings provide evidence for the positive impact of Digital CBTe on the clinical outcomes of the patients in the pilot cohort. In summary, those who completed Digital CBTe reported statistically and clinically significant decreases in the frequency of objective binge eating (over the past four weeks) (EDE-Q Q14), eating disorder psychopathy (Global EDE-Q), secondary impairment (Global CIA), and severity of depression (PHQ-9). It should however be noted that the small sample size of 14 means that the results may be less reliable than those gathered from a larger population.

Qualitative findings show that patients (and staff) placed high value on Digital CBTe. This is reflected in the qualitative themes 'valuable as a waiting list offer', 'accessible format and ease of use' which described that patients used the programme regularly as a way to create daily routine, 'content and information' (which indicates the value placed on the information concerning the importance of regular eating) and 'positive effects on eating behaviours'. Some areas of concern related to how efforts would be reviewed and judged, and the inability to communicate information with the Digital CBTe programme. Interviewees all expressed the perceived benefit of the

incorporation of human touchpoints during the use of the programme. Because of limited numbers registering interest in taking part in the qualitative evaluation, we were only able to interview four patients who had used Digital CBTe (out of a target sample of ten[1]) which limited the data available to us. We were unable to interview anyone who did not complete (or did not intend to complete) the programme, so we are not able to identify factors that deterred completion. Additionally, the cohort was self-selecting which raises the possibility that results may not be representative of a larger population. This is because self-selected individuals may have unique characteristics or motivations that are not reflective of the broader population.

Staff were positive about the offer of Digital CBTe, anticipated benefits for patients, and a reduction in intensity of the treatment they would require, which would have effects for staff working with these patients. However, staff survey responses also highlighted the limitations of Digital CBTe in terms of the suitability criteria and recognition that not all patients are likely to benefit from it, which they saw as creating boundaries around the extent of impact for patients, themselves and the service. Patient flow data revealed that Digital CBTE was suitable for 59% of patients. The suitability criteria were set jointly by Dorset HealthCare and Credo Therapies prior to the start of the pilot. Furthermore, the suitability criteria were informed by national guidelines which state that self-help therapies are not recommended for underweight patients (anorexia nervosa) or those with Avoidant/Restrictive Food Intake Disorder. Guided Self Help (GSH) may not be suitable for those with coexisting conditions that would make it difficult for them to follow the programme (in particular, severe depression and/or substance misuse).

[1] The target sample was pragmatically defined in keeping with the parameters of a small-scale, time limited pilot.

1. Background

Dorset HealthCare University NHS Foundation Trust All Age Eating Disorders Service is designed to help individuals, and their families/carers, overcome a range of different eating disorders, including anorexia nervosa, bulimia nervosa and binge eating disorder. The service treats people of all ages from across Dorset. Access to the service is primarily by GP referral as well as referral by any health or social care professional, self-referral, and parental referral. The service provides evidence-based treatments, including cognitive behavioural therapy (CBT), family therapy, motivational interviewing and body image and self-esteem therapies. Treatment is mainly on an outpatient basis, delivered one-to-one, in groups and with families. The service is staffed by specialist nurses, doctors, occupational therapists, dietitians, family therapists and psychologists.[2]

Once a patient has been referred / self-referred to the All Age Eating Disorders Service, referrals are screened for their appropriateness for an assessment. Dependent on the level of risk, the person will be offered an assessment or added to a waiting list for an assessment appointment with a band 6 or band 7 practitioner. When they join the waiting list, patients are sent a letter containing information and links to self-help tools that they can use in the time between referral and assessment by the service. If an assessment is not appropriate, signposting is provided.

Dorset HealthCare All Age Eating Disorders Service piloted Digital CBTe for use as a pure self-help intervention for patients on the waiting list who suffer from either binge eating disorder (BED) or bulimia nervosa (BN). The Centre for Research on Eating Disorders at Oxford (CREDO) has developed the Digital CBTe programme which provides access to an evidence-informed digital programme that enables patients to learn about their eating disorders and modify unhelpful behaviours and beliefs. The programme is available as a mobile application (app) and website. It provides evidence-informed psychoeducation and tools for change for adults who suffer from eating disorders characterised by binge eating (e.g. bulimia nervosa or binge eating disorder). The Digital CBTe programme is informed by two NICE-endorsed approaches developed by CREDO: therapist-led CBT-E; and guided self-help using Overcoming Binge Eating (Second Edition) by Prof. Christopher G. Fairburn. (2013: Guilford Press).[3] [4]

The pilot ran for seven months, during which time Digital CBTe was made available for (up to a maximum of 100) patients on the waiting list for an

[2] Ref: Dorset HealthCare :: Eating Disorders

[3] Overcoming Binge Eating (Book) - CBT-E (cbte.co)

[4] Digital CBTe Value Proposition (March 2023)

assessment by the All Age Eating Disorders Service and for whom Digital CBTe might be suitable, based on minimal referral information. The waiting list was reviewed to identify patients for whom Digital CBTe might be suitable (based on symptom presentation and risk factors). These patients were contacted by a member of the team who discussed Digital CBTe and offered it to them. Digital CBTe was offered as a pure self-help (unguided) intervention to those with binge eating disorder or those with bulimia nervosa and who met the suitability criteria, which are assessed when a patient registers for the programme. Digital CBTe was available to patients from October 2023, with the highest uptake being in January 2024. Data collection closed on 08 May 2024.

Dorset HealthCare All Age Eating Disorders Service commissioned the Health Innovation Wessex (HIW) Insight team to carry out an independent evaluation of the pilot of Digital CBTe to understand:

- The impact of Digital CBTe on:
  - Patient outcomes
  - Dorset All Age Eating Disorders Service staff experience
  - Dorset HealthCare patient pathways
- Patients' experiences of Digital CBTe.

The evaluation was co-designed with the staff from the Dorset All Age Eating Disorders Service, Credo Therapies Limited and CREDO, with independent analysis by Health Innovation Wessex. For Dorset HealthCare, the findings from the evaluation will support decisions about on-going commissioning of Digital CBTe. For Credo Therapies Limited and CREDO, the evaluation findings will develop the evidence base for Digital CBTe, to support decision making by other healthcare providers about the use of Digital CBTe, as well as providing recommendations for further research and evaluation.

2. Evaluation Questions

The following evaluation questions were identified during an all-stakeholder logic modelling session on 19 April 2023.

1. How does Digital CBTe affect the pilot patient cohort's clinical outcomes?
   a. How does Digital CBTe affect the range, frequency and severity of features of an eating disorder?
   b. How does Digital CBTe affect the severity of psychosocial impairment due to eating disorder features?
   c. How does Digital CBTe affect depressive features?

2. How satisfied are patients with Digital CBTe and what factors encourage or deter them from completing the programme?
3. How does Digital CBTe affect patient satisfaction with Dorset HealthCare All Age Eating Disorders Service?
4. Does the provision of Digital CBTe to people on the waiting list have any effects on staff working for Dorset HealthCare All Age Eating Disorders Service?
5. What implications does Digital CBTe have on patient pathways for Dorset HealthCare All Age Eating Disorders Service?

3. Methods

This evaluation used a mixed-methods approach comprising the analysis of standardised self-reported measures recorded within the Digital CBTe programme, descriptive analysis of activity data provided by Dorset HealthCare, semi-structured interviews with patients, and a staff survey.

3.1. Clinical outcomes: standardised self-reported measures

Following in-app consent, users of Digital CBTe were asked to complete the following standardised self-reported measures at three time points: before the commencement of Digital CBTe (baseline); immediately after completion of Digital CBTe (post completion); and three months after they completed the programme (follow-up).

3.1.1 Eating disorder examination questionnaire (EDE-Q 6)[5]

The EDE-Q-6 is a validated questionnaire consisting of 28 questions concerning eating behaviours over the previous four weeks. It provides frequency data on key behavioural features of eating disorders, in terms of number of episodes of these behaviours and in some instances, the number of days on which the behaviours have occurred. It also provides subscale scores reflecting the severity of the behavioural and cognitive features of eating disorders. The subscales relate to Restraint, Eating Concern, Shape Concern and Weight Concern.

[5] ede-q-eating-disorder-examination-questionnaire-subscales.pdf (insideoutinstitute.org.au)

3.1.2 Clinical Impairment Assessment (CIA) questionnaire[6]

The CIA is a validated 16-item self-report measure of the severity of psychological and social impairment due to eating disorder features. It focuses on the past 28 days and covers the domains of mood and self-perception, cognitive functioning, interpersonal functioning and work performance.

3.1.3 Patient Health Questionnaire (PHQ-9)[7]

The PHQ-9 is a validated nine-question instrument which asks about the frequency of depression-related behaviours and feelings over the past 14 days. It is used to screen, diagnose, monitor and measure the severity of depression. Total scores of 5, 10, 15 and 20 represent cut-off points for mild, moderate, moderately severe and severe depression respectively.

3.1.4 Your View Questionnaire

The programme also included a set of 'Your View' questions related to the perceived effects on users' understanding of their eating disorder, and their binge eating problem overall. This data was collected in the Digital CBTe programme, retrieved and pseudonymised. Credo Therapies Limited then shared de-identified row level data with HIW via a password-protected secure SharePoint space.

Dorset HealthCare and Credo Therapies Limited also provided aggregated data on the flow of people who registered for Digital CBTe, through to completion and changes to the waiting list. Relevant approvals for information governance and data sharing were granted by Dorset HealthCare.

3.1.5 Analysis

The following statistical analyses were performed.

- The EDE-Q 6 questionnaire was scored using the standard method[8]. Questions 14 was treated as frequency data and analysed individually. Responses to the remaining questions were converted to a numerical score (0-6) and then converted to a global score.

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[6] Clinical Impairment Assessment Questionnaire (CIA) – NovoPsych
[7] Patient Health Questionnaire-9 (PHQ-9) - Mental Health Screening - National HIV Curriculum (uw.edu)
[8] Fairburn, C, Cooper, Z. & O'Connor, M. 'Eating Disorder Examination' in Fairburn, C.G. Cognitive Behaviour Therapy and Eating Disorders. Guildford Press, New York, 2008.

- Responses to the CIA questionnaire were converted to a standard prorate[9] global score.

- Responses to the PHQ-9 were converted to numerical 'Depression Severity' scores (0-3) and added together to generate the overall severity score.

We employed suitable paired statistical tests (depending on the distribution of the mean scores) to allow before and after comparison i.e. for normal distributions the paired t-test and for non-normal distributions the Wilcoxon matched-pairs signed-ranks test.

3.2 Patient experiences of Digital CBTe: Semi-structured interviews

We conducted semi-structured interviews, via Microsoft (MS) Teams or telephone, to investigate patients' experiences of using Digital CBTe as a self-help strategy whilst they were waiting for assessment and treatment by the All Age Eating Disorders Service.

Credo Therapies Limited emailed people using Digital CBTe to ask if they would be willing for the HIW Insight team to contact them about completing a semi-structured interview for the evaluation. Where people agree to be contacted, details were securely shared with the HIW Insight team by Credo Therapies Limited, via a password protected Microsoft Excel sheet. Following this, a member of the HIW Insight team provided further information about the evaluation (the evaluation participant information sheet) and, where appropriate, arranged an appointment for an interview. Written consent was sought via an electronic Adobe consent process.

HIW originally aimed to conduct interviews with patients who registered for Digital CBTe but did not complete it, as well as those who completed the Digital CBTe course. However, only those who had completed (or almost completed) the course expressed interest in being interviewed.

The interview guide was developed in collaboration with Dorset HealthCare, Credo Therapies Limited and CREDO and guided by Hermes et al's (2019) framework for measuring the implementation of Behavioural Intervention Technologies (BITs). [10] The Hermes et al. (2019) framework was developed to

[9] To obtain the global CIA impairment score the ratings on all items are added together with prorating of missing ratings, so long as at least 12 of the 16 items have been rated. THE CLINICAL IMPAIRMENT ASSESSMENT QUESTIONNAIRE (CIA) (cld1ltd.com)

[10] Hermes EDA, Lyon AR, Schueller SM, Glass JE (2019) *Measuring the Implementation of Behaviour Intervention Technologies: Recharacterization of Established Outcomes* Journal of Medical Internet Research, Vol.2:1

clarify what is important to measure in order to understand how well BITs are implemented and sustained. This framework highlights the importance of concepts such as acceptability, appropriateness, feasibility and fidelity (used as intended).

Interviews lasted in the region of 30 minutes and 45 minutes. Interviews were recorded, transcribed and imported into NVivo 14 (qualitative data analysis software). Thematic analysis (Braun and Clark, 2006) was employed to derive a coding frame, from which themes were developed. Following initial analysis, the HIW Insight team met with CREDO to discuss initial impressions, after which themes were refined and finalised.

3.3 Staff experiences of Digital CBTe: staff survey

HIW developed a survey, in collaboration with project stakeholders, for All Age Eating Disorders Service staff. The survey aimed to elicit staff views on the offer of Digital CBTe to patients on the waiting list, and how this affected their own feelings about their role. It also asked about perceived effects for the Dorset All Age Eating Disorders Service in general. Following a short explanation and consent section, the questionnaire consisted of ten free text questions and one question to elicit respondents' job roles. A link to the survey (Microsoft Forms) was shared via email and distributed to relevant staff by the evaluation leads for Dorset HealthCare All Age Eating Disorders Service.

Free text responses were exported into NVivo 14 and, because of the high degree of consensus with themes arising within patient interview data, coded using the same coding frame developed for patient interview data.

4. Quantitative Findings

The numbers of patients from initial registration to completion are shown in Table 1. Of the 87 patients who completed the suitability questions in Digital CBTe, the programme was suitable for 51 (59%) (according to the programme's suitability criteria agreed with Dorset Healthcare). Of those, 19 (37%) completed Digital CBTe (session nine) during the evaluation period. Of these 19, 14 (27% of those for whom Digital CBTe was suitable) went on to complete the end of programme questionnaires. These 14 respondents make up our cohort for the analysis of pre and post intervention changes. Due to the timings of data cut-off, no patients completed the three-month follow-up questionnaires during the evaluation period.[11] A small number of people continued to use Digital CBTe beyond the evaluation period.

Status	Number
Number of patients who registered for Digital CBTe	91
Patients who completed the suitability (screening) questionnaire	87
Patients for whom Digital CBTe was deemed not suitable	36
Patients for whom Digital CBTe was deemed suitable	51*
Patients not fully completing Digital CBTe (mean sessions completed=6)	31
Patients completing Digital CBTe (session 9) during evaluation period	19
Patients completing Step 3 (staying well) and the end-of-programme questionnaires	14

Table 1: Patient numbers from sign-up to completion
*Of this 51, one patient did not complete baseline questionnaires and is therefore not included in the details in Table 2.

[11] This is explained by the timing of the evaluation period which was affected by some delays. The pilot was originally due to start in June 2023 but was delayed until October 2023. Whist Digital CBTe was made available from October, the majority of sign-ups came in January 2024. Accordingly, we delayed closure of data collection from March until 08 May 2024 to allow more users to complete Digital CBTe, but this did not allow time for the follow-up questionnaires to become available.

3.4 Profile of patients for whom Digital CBTe was deemed suitable

Whilst the evaluation focuses on those individuals with pre and post intervention data, it is interesting to note the profile of all those suitable for Digital CBTe. Table 2 below shows the clinical profile of the total population for whom Digital CBTe was deemed suitable (n=50*). In this cohort, the mean total/global scores for EDE-Q 6, CIA and PHQ9 indicate levels of impairment above the clinical cut off level, i.e. severe enough to be considered a clinical case. **Error! Reference source not found.**

	Subscale	Clinical cut-off (if relevant)	Mean (Standard Deviation)	Range
EDE-Q 6	Global score	2.77	4.06 (0.84)	2.6-5.6
	Times had sense of having lost control over eating (Q14)		12.72 (10.85)	1-56
CIA	Global score	16[12]	29.14 (9.48)	14-44
PHQ9		10	12.22 (3.76)	5-22

Table 2: Clinical profile of total suitable population (n=50)

3.5 Changes in self-reported clinical outcomes before and after using Digital CBTe

The following section reports the changes seen in self-reported clinical outcomes, amongst the cohort of 14 patients who completed the end of programme questionnaires.

3.5.1 Eating disorder examination questionnaire (EDE-Q 6)

As seen in Figure 1, the EDE-Q 6 global score decreased after use of Digital CBTe from 3.69 to 2.72 (T-statistic: -1.88, 95% confidence interval: lower level -1.46 – upper level -0.47, p=.0001). This indicates there is a high probability that this reduction in scores was due to the use of Digital CBTe*. As well as indicating statistical significance, this move to below 2.77 is considered clinically meaningful.

[12] The cut off score is referenced from CIA3.0 Instruction for Users. More information can be found here at: CIA 3.0 Instructions for users - CBT-E (cbte.co)

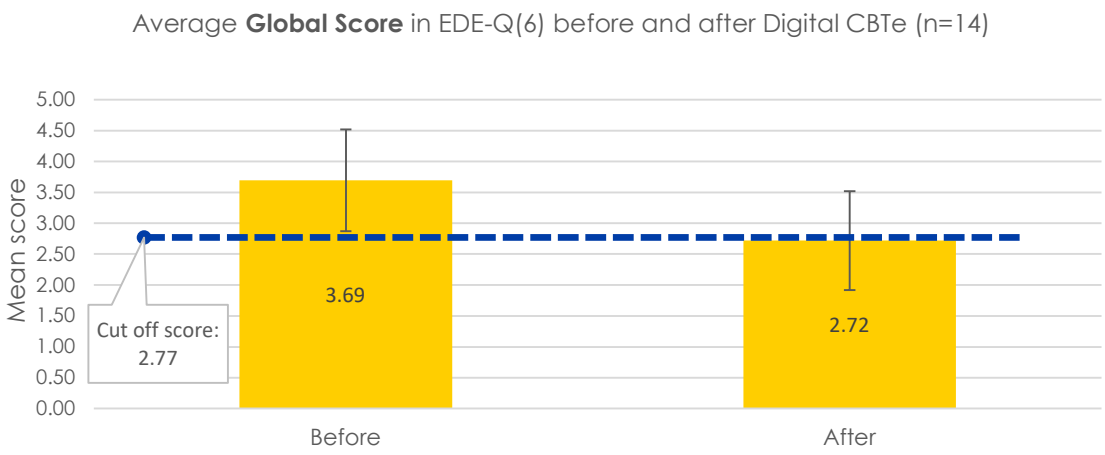

Figure 1: Change in EDE-Q6 global score before and after using Digital CBTe
*The standard deviation is indicated by the error bar above each column.

As shown in Figure 2, after Digital CBTe the majority of patients reported a reduction in experiencing a loss of control over their eating (Q14). The average number of times patients felt a loss of control over their eating (Q14) decreased significantly from 12.86 to 6.07 (T-statistic: -3.7, 95% confidence interval: lower level -11.05 – upper level -2.52, p=0.0044) after Digital CBTe. Change to Q14 was at a statistically significant level, showing an impact of using Digital CBTe.

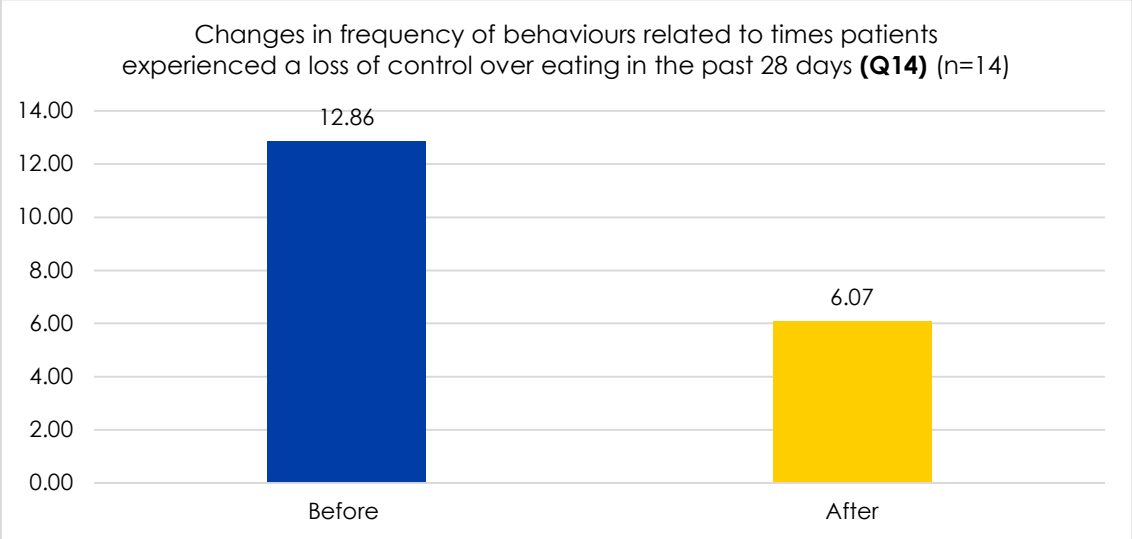

Figure 2: Changes in frequency of behaviours related to times patients experienced a loss of control over eating in the past 28 days (Q14)

3.5.2 Clinical Impairment Assessment (CIA) questionnaire

As shown in Figure 3, the number of patients with a CIA global impairment score below 16 (the cut off score indicating clinically significant impairment) after the use of Digital CBTe increased by 29% compared to before its use. At the individual level, out of 14 patients, only 1 patient (7%) scored below 16 before the use of Digital CBTe whereas this number increased to 5 (36%) after the use of Digital CBTe. At the aggregated level, the average global score of CIA decreased from 27.29 to 21.21(T-statistic: -2.27, 95% confidence interval: lower level -11.84 – upper level -0.29, p=0.041). This indicates that there is a high probability that this reduction in scores was due to the use of Digital CBTe.

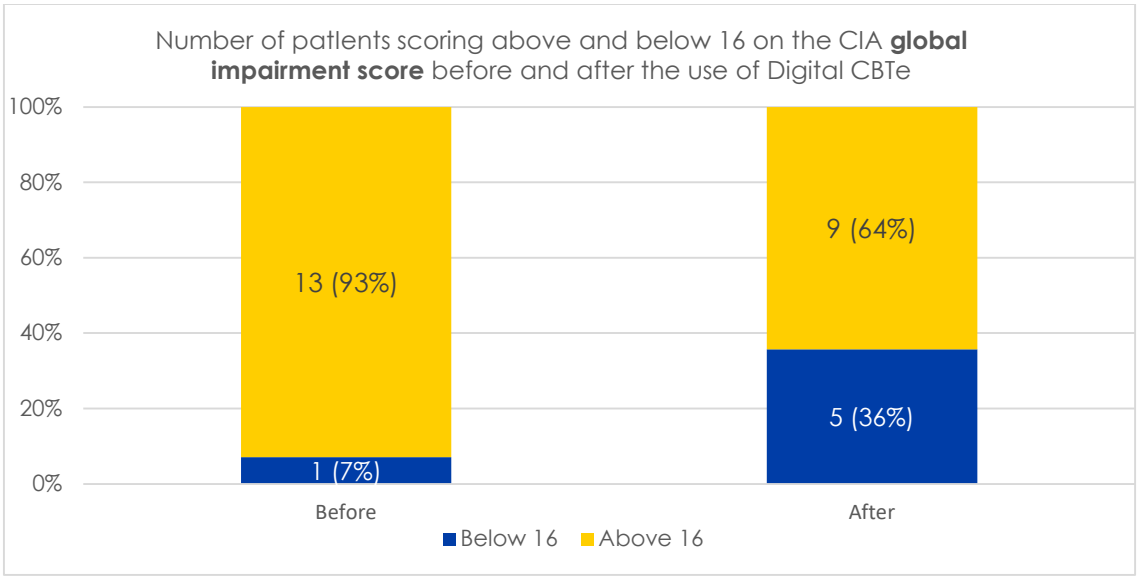

Figure 3: Number of Patients with CIA global impairment scores of above and below 16, before and after the use of Digital CBTe

3.5.3 Patient Health Questionnaire-9 (PHQ-9)

As shown in Figure 4 the average score in the PHQ-9 decreased from 12.36 (moderate depression) to 8.14 (mild depression) (T-statistic: -3.40, 95% confidence interval: lower level -6.89 – upper level –1.53, p=0.0048). This indicates that there is a high probability that this reduction in scores was due to the use of Digital CBTe. The average score also decreased to below the clinical cut-offs for depression 'caseness'[13] of 10, after using Digital CBTe.

[13] Caseness: a term applied by NHS talking therapy to describe patients who have symptoms of depression and anxiety. For more info: IAPT Manual (england.nhs.uk)

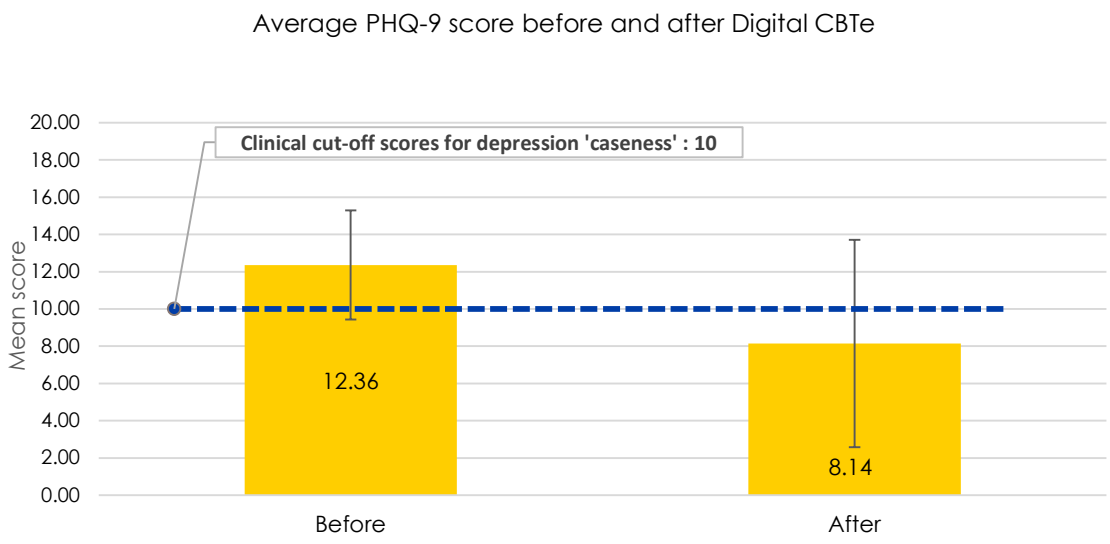

Figure 4: Average PHQ-9 score before and after Digital CBTe
*The standard deviation is indicated by the error bar above each column.

3.5.4 Your view data

The programme also included a set of 'Your View' questions related to users' views and satisfaction with the sessions and the perceived effects on their understanding of their eating disorder, and their binge eating problem overall. **Figure 5 Figure 5** shown below, shows self-ratings given by those who completed Digital CBTe about its impact on their binge eating and their understanding of their eating problem.

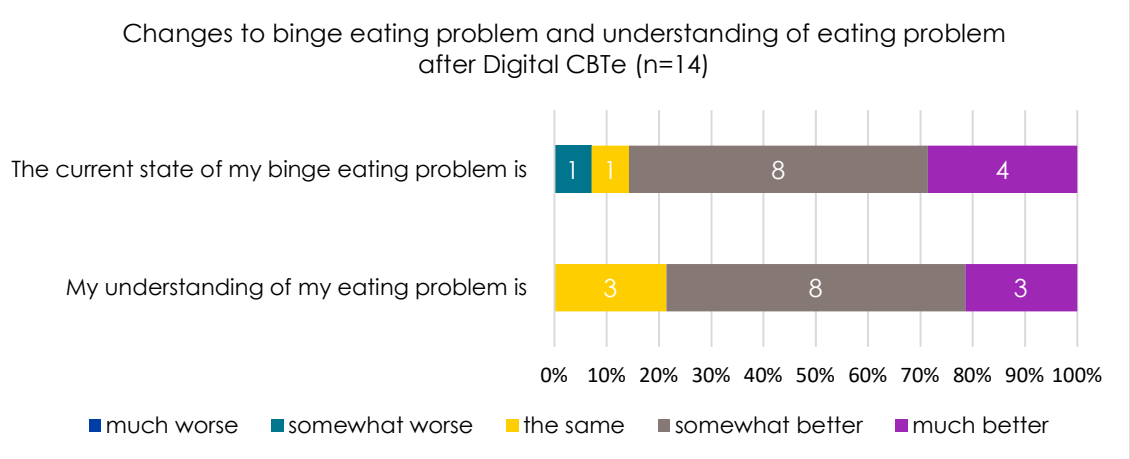

Figure 5: Your view survey responses

3.5.5 Waiting list changes

The following information was provided by Dorset All Age Eating Disorders Service on 24 May 2024 regarding the status of patients who had completed Digital CBTe by that date (n=15). It shows the proportion of patients who had received review phone calls from the service since completing Digital CBTe and that 17% of those reviewed (2/12) opted to leave the waiting list.

- Fifteen patients have completed using Digital CBTe
- Two of those people have not yet had follow-up calls with Dorset HealthCare All Age Eating Disorder Service.
- One person has been sent an email after attempts to contact for a review via telephone.
- Twelve patients have had review phone calls.

Out of those twelve:

- Nine are currently still on the waiting list
- One is in treatment
- Two have opted for discharge from the service (17%).

3.5.6 Summary

In summary, those who completed Digital CBTe reported statistically and clinically significant decreases in the frequency of objective binge eating (over the past four weeks) (EDE-Q Q14), eating disorder psychopathy (Global EDE-Q), Secondary impairment (Global CIA), and severity of depression (PHQ-9).

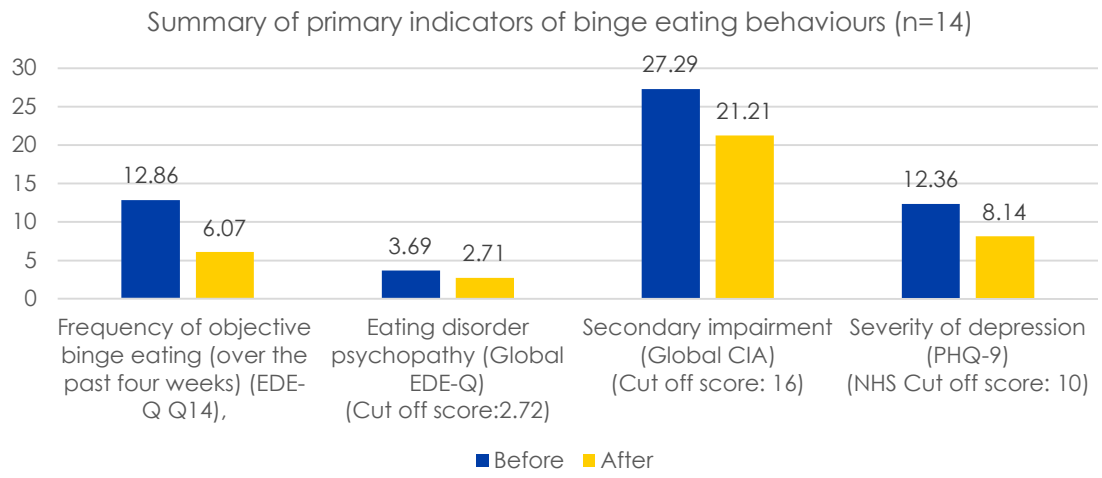

Figure 6: Summary of primary indicators of binge eating disorder (n=14)

5. Qualitative Findings

We interviewed four patients concerning their use of Digital CBTe. Three had already completed Digital CBTe and one had almost completed. [14]

We received a total of eight survey responses, from staff directly involved with the CBTe pilot, out of a distribution of 67 (i.e. a response rate of 12%, representing those most involved with the Digital CBTe pilot). The responses represented: CBT therapist, community services manager, research assistant, administrator, consultant psychiatrist, eating disorder specialist practitioner, mental health support worker.

The findings from the interviews with Digital CBTe users and the staff survey are reported together below. The following themes were identified from the data and were developed following discussion with the CREDO team. Discussing and sense checking findings with external researchers is a useful strategy for ensuring rigour in qualitative research. These themes were identified:

- The value of the Digital CBTe offer
- Positive effects on eating behaviours
- Challenges of an automated programme
- Two-way communications and human touchpoints, and
- Digital CBTe's place in the recovery journey.

3.6 The value of the Digital CBTe offer

This theme draws together respondents' positive views of the value of Digital CBTe offer around three subthemes:

- Value as a waiting list offer
- Accessible format and ease of use
- Content and information.

3.6.1 Value as a waiting list offer

All our interview respondents appreciated the offer of Digital CBTe whilst they were waiting to be seen by a clinician. The offer helped them to feel that

[14] We received the details of six potential interviewees (who had expressed a willingness to be contacted by HIW) from Credo Therapies Ltd, but only four of these subsequently agreed to be interviewed. This was out of a target sample of ten completers, and three non-completers. Nevertheless, the respondents represented information-rich cases, holding detailed knowledge and experience of Digital CBTe, and interviews yielded valuable data.

they had not been forgotten and were being 'held in mind' by Dorset All Age Eating Disorders Service.

> *"But it was nice to know that I hadn't been completely forgotten, and it was nice to know that I was, something was being done to make sure that people had some sort of support while they were on the waiting list."* Interviewee 1

One of our interview respondents explained that she was excited to receive the offer of Digital CBTe as she felt that it would provide an opportunity for her to consolidate the self-help activities that she had been undertaking whilst on the waiting list.

> *"So I was very excited, long story short, when I was offered the chance to do it and I saw it as a way to kind of assess where I am, try and get a real handle on it and that's something that I've been trying to do for the past year anyway…"* Interviewee 4

Interviewee one also explained that being able to use Digital CBTe whilst on the waiting list helped to ground her and enabled her to feel more in control.

> *"It was getting to a point…whilst I was waiting that I felt out of control, so it was something that I could, I thought was quite grounding, something tangible that I had that I could focus on which was really good."* Interviewee 1

The offer of Digital CBTe was also seen to reflect positively on Dorset All Age Eating Disorders Service.

> *"So to have some support whilst you wait is quite unusual and I was really grateful for that…It was quite a nice surprise and yeah…it really did make my views of the service change."* Interviewee 1

These favourable views were echoed by staff in their survey responses.

> *"I think it's a good intervention for people who cannot access other treatments due to long waiting times or lack of provision in their local area."* Staff survey response 2

> *"My view is that whilst our waiting list is two years, this could be a valuable resource for people."* Staff survey response 4

One member of staff stated that they found this additional help to those on the waiting list to be personally reassuring.

"Seeing the waiting list and hearing about patient adversity when sitting in assessments can be emotionally difficult. I feel good about my role when I know that there are effective interventions that can be delivered within two to three weeks of the referral start point." Staff survey response 7

Whilst positive about the offer of Digital CBTe to waiting patients, most staff survey respondents did not state that this had made them feel differently about their role, in response to the survey question.

3.6.2 Accessible format and ease of use

Respondents described Digital CBTe as being accessible and simple to use on a regular basis. Part of this accessibility related to being able to view content via a mobile app. Many people are now familiar with app use, and as one survey respondent suggested, may find this more manageable than accessing content via a textbook.

"I think the app thing is I mean everyone's so used to…it's just easier to have everything on your phone." Interviewee 4

"It's a great option to have…might be more engaging than the Overcoming Binge Eating book resource we previously recommended." Staff survey response 2

This was borne out by respondents' views on the design of the app – easy to use, and not overloading the user with information, but rather introducing content in manageable chunks.

"The design was really well thought out and easy to use" Interviewee 1

"No, I think the app is perfect. It's in lovely bite sized pieces. It's set out nice. It's not overwhelming to the eye or to the mind with the information. I think that's all done very well." Interviewee 2

Whilst acknowledging that the current design and colour scheme is appropriate for the seriousness of the topic, users did comment that the colour scheme of the app was somewhat 'flat' and that varying the formats of information might be more engaging for some.

"I think the colour scheme is possibly a bit sombre. It could be a bit brighter." Interviewee 1

"Well, I was doing it on my phone, so it wasn't particularly exciting, you know… I mean, it wasn't sort of zappy colours or anything..." Interviewee 3

"That might be something to explore well, instead of just reading through a session, are there other ways it could be delivered that make it more, perhaps more engaging, or just mixing it up." Interviewee 4

Interview respondents all explained that they used the app regularly, on a weekly or daily basis.

" So, keep the regularity of having something in your daily routine, making sure you're eating regularly. That certainly is what the app mainly helps." Interviewee 4

3.6.3 Content and information

It was clear that users found the app's content, especially that on the importance of regular eating, to be helpful. For one respondent this gave permission to eat more regularly and felt quite freeing.

"Well, I think trying to get, make you disciplined about eating is actually a very useful message. And so saying, you should be having three meals a day and it is actually OK to have a couple of snacks. I found that quite liberating. Yeah, never heard it before. Until then I would always have regarded that as eating between meals and a no-no." Interviewee 3

Interviewee two explained that she found it helpful that new information was added incrementally, so that the concept of regular eating was introduced initially, then developed further into thinking about portion control and healthy eating.

"You know, because basically, first of all, they tell you can eat three meals a day and it doesn't matter what you eat. And then as long as you have three meals a day and then it changes, you know, you have to make sure you have three meals, but they'll be healthy meals and then healthier snacks and, you know, before it didn't matter, you could have, as long as you had three meals and two snacks. Next… introduces you like to foods that you would avoid." Interviewee 2

Staff survey responses also signalled the usefulness of the content on regular eating to enable patients to start to change their behaviours ahead of any therapy.

"I think it helps when explaining the importance of regular eating, for a patient to already starting to make changes, as we may spend less time working on that." Staff survey response 1

Interviewee four explained however that she struggled with the concept of avoided foods. Living on her own, she did not have access to these without buying them specifically for herself, which is something she would find triggering.

"The only thing that I struggled with in the content was the idea of avoided food…it seemed overly prescriptive, so it was saying, well, you need to face you, you need to incorporate avoided food into your diet. And I was like, that's really easier said than done. I live on my own... I'm not going to, you know, go and buy a load of, like, nonsense food and just and have it in the house. I mean, like, what could be more triggering?" Interviewee 4

3.7 Positive effects on eating behaviours

Most interviewees spoke about the positive effects of completing Digital CBTe for their eating habits, although the extent of these effects varied. Interviewee four explained that completing the programme had made her more mindful about eating regularly and put her in a good place to be able to carry this out.

"I guess it has made me more mindful about the need to eat regularly, whereas perhaps in the past I wouldn't have put as much thought into it… it's just allowed me to align myself and be in a good place." Interviewee 4

Interviewee three explained that learning that it is acceptable to eat between meals had reassured her, encouraged her to eat more regularly, and reduce the "peaks and troughs" in her eating habits. She also explained that she felt in a more positive place about herself and her relationship to food, and that she was now preparing a healthy cooked meal each day.

"And as I say it's given me more a sense of structure really and a sense of freedom. That you know, if you get the nibbles between meals and you know it's, you're not a total failure for wanting to actually eat something. What it's done is it's helped to level out the peaks and troughs." Interviewee 3

Interviewee two described several impacts from her completion of Digital CBTe, which included the ability to challenge binge impulses, the ability to get back on track immediately after a binge, bingeing less frequently and eating less during a binge.

"And that's kind of helped me just think, OK, I've messed up, but I can still retrieve things, and I must still try to stick to go back. Whereas before I thought… I've messed up and I said I'm not going to bother for the day. Just keep binge eating." Interviewee 2

The effects reported by users resonated with staff survey responses which indicated that they had seen, or would expect to see, symptom improvement in users of Digital CBTe.

"I expect their symptoms to improve." Staff survey response 3

"Reduced binging and purging in everyone who has used the app." Staff survey response 8

3.8 Challenges of an automated programme

Whilst acknowledging the strengths and contribution of Digital CBTe, it was apparent that there were some features of interaction with the app that caused anxiety or uncertainty for participants. Respondents were uncertain about how their efforts and progress would be reviewed and appeared worried that failure to complete tasks or sessions would be negatively interpreted or sanctioned. This anxiety was reinforced because there was no way to communicate with the app, or to know if anyone was seeing their responses.

Interviewee two raised several questions over who sees the information that is input into the app, and how her progress is assessed. This did not seem to be from a perspective of worry about data security, rather that this participant sought reassurance that someone with (human) understanding would assess her progress, instead of information being retained within the 'computer world' and any positive reinforcements being automatically generated.

"But what I'm saying is if I'm entering all this information, although it's helping me, how is anybody going to know? Is there anybody that looks at this?... Who? What's happening to this information…how does anybody know whether we're progressing or not?" Interviewee 2

Interviewee three expressed that she did not wish to give the impression that she was not 'bothering' to anyone who may be 'analysing' her responses.

"At one stage I was actually unwell for a few days. It would have been helpful, I think, potentially for me to actually have been able to say the

reason I haven't stuck to the three meals two snacks on these days was because I was off my food and not very well rather than… wasn't actually bothering, if you see what I mean, because if I don't tell you that, whoever's analysing the data won't know." Interviewee 3

Interviewee four expressed considerable anxiety about an incident in which the app notified her that she had not completed a session which she had in fact finished (which may be due to the omission of pressing a 'Finished' button).

As discussed in the following theme in order to ease these anxieties and uncertainties, interviewees expressed a desire for the incorporation of two-way communication and human touchpoints, via which concerns could be addressed and difficult feelings alleviated.

3.9 Two-way communications and human touchpoints

Stemming from concerns highlighted above, interviewees three and four both emphasised the desire for two-way communication in the case of any practical issues or problems (e.g. when a session has not been missed, someone has been ill, or with a preference to reschedule a session).

"Even the point of like well, if I have a question like the FAQ section or the help section isn't helpful at all. It doesn't, there's no e-mail address…It's just, it's nothingness. So, there's a real lack of the human side of it there." Interviewee 4

Interviewees also suggested that app users would like to feel that the programme is more personalised and personal to them, rather than standardised and remote. However, it is interesting to reflect on whether the four people who agreed to be interviewed may have been more comfortable with face-to-face contact than others who did not agree to take part.

Staff survey responses also recognised that some people would require clinician input and that it is therefore important to also offer the opportunity for Guided Self Help (GSH).

"I think it's good for some patients, but I would say that I think it's just as important to offer GSH by working with patients as some people don't find online work helpful- so I think we still need to be flexible to offer working with patients, but I think adding Digital CBTe is great to offer to those that it might be suitable for." Staff survey response 1

Ultimately, in addition to the suggested human touchpoints that could be made available via the app, interviewee two felt that her recovery would depend on additional therapy sessions with a professional.

> *"But I've enjoyed the programme. It's helped me a lot. Obviously, it's not cured me, and I really do, after I've had years of binge eating, I'm not going be cured by listening to this. I have to learn to implement it over time…time and you know, with interaction from a proper professional, I think. Oh, you know this has helped me to begin my progress, my recovery. But I think it's not going to be for me, I don't know. People may just have minor eating disorders. There's all kind of eating disorders but mine would be deep seated and I would really benefit from being with a clinician."* Interviewee 2

Interviewee two's comment above indicates that for some people Digital CBTe may form the beginning of a treatment journey, rather than an endpoint.

3.10 Digital CBTe's place in the recovery journey

A picture of Digital CBTe holding potentially differing positions in a treatment journey arose in our data collection. Three out of the four interviewees appeared to view it as offering useful information to begin their recovery, ahead of professional intervention.

> *"I thought I would probably gain some tips or some knowledge, or it would help me to at least start in my recovery.'* Interviewee 2

> *"Well, if I understood it, it was potentially a gateway to more in-depth help so you know…you don't learn anything by shutting your door to knowledge, I think"* Interviewee 3

On the other hand, interviewee four viewed completion of Digital CBTe as a way to consolidate previous self-help and learning, and thus as a way to exit the waiting list to be seen by a clinician (i.e. as forming one of the later stages of her recovery journey).

> *"So the opportunity to take this Digital CBTe, I saw as an opportunity to kind of assess where I am and kind of under the advice of say my GP maybe take myself off that waiting list."* Interviewee 4

Similarly, staff survey responses indicated that Digital CBTe could be used in different parts of recovery. As a starting point and a precursor to therapeutic intervention, Digital CBTe could offer benefits of increasing users' readiness for therapy. On the other hand, for some, it may be enough help in its own right, and thus reduce the need for support from the service.

"I think it provides those waiting some support and allows them to start making changes - even if it's basic psychoeducation. I feel this sets patients up well to do treatment in the service OR it is enough…and they feel they don't need the support of the service anymore." Staff survey response 1

In the latter case, this raises the potential that the offer of Digital CBTe to those on the waiting list could reduce the demand for assessments by the service (although this impact appears to be minimal at this time).

"I would expect some patients who have binge eating disorder/bulimia nervosa to not need further assessment with Dorset All Age Eating Disorders Service if they have successfully treated their symptoms using the app (this has been the case for some)." Staff survey response 2

"At the current time there has been a minimal number of patients that no longer feel that they required an assessment with the service." Staff survey response 5

It also raises the possibility that those going on to receive professional input may require a lower intensity of treatment.

"I would say it sets patients up well to do treatment in the service- encourages them to start making changes and in a way allows them to get more from Guided Self Help or CBT-T[15] as they would know the importance of regular eating, so more time can be spent on other areas of concern (like body image)." Staff survey response 1

"After finishing self-help using the app, I would predict that a lower intensity of therapy might be all that is needed, if their symptoms have partially improved as a result of using the app e.g they might only need 10 sessions of CBT-T from the service, whereas they might have needed a 20 session CBT-E therapy from the service if they hadn't used the app prior to assessment." Staff survey response 2

A small number of staff survey respondents suggested that use of Digital CBTe could be brought forward in the recovery journey, ahead of referral to or assessment by a specialist service.

"It would be useful being given to patients by GP before possible input by an eating disorder service or to reduce the need to have to go to an eating disorder service." Staff survey response 5

"Potentially consider offering the app after screening and only offering an assessment if symptoms have not dramatically reduced, rather than always offering assessment prior to them starting the app." Staff survey response 8

[15] Ten sessions of Cognitive Behavioural Therapy

Staff survey respondents also noted, however, that Digital CBTe may not hold a place in everyone's recovery, for example due to the nature of their symptoms.

> *"Of course, some patients with binge eating disorder (BED)/bulimia nervosa (BN) will decline the app and it will therefore have no impact on their recovery journey. Also the app is not accessible to large numbers of patients on the waiting list because either they have anorexia nervosa, or they have BED/BN along with comorbid problems, or they have BED/BN symptoms above threshold for access to the app which means they don't get to use it. So I'm interested to see the final figures and see of the hundreds of patient referrals screened, how many patients benefitted from the app."* Staff survey response 2

One member of staff also felt that the suitability criteria limited the reach of Digital CBTe. In agreement with the Trust, the programme was not offered to those unlikely to benefit or where participation in a self-help programme might pose safety concerns.

> *"The exclusion criteria has made it hard to roll it out to a bigger group of patients. So far, the uptake has not been great." Staff survey response 7*

6. Limitations

There were a number of limitations to this evaluation which should be borne in mind when interpreting the findings and considering next steps.

- Because of the delayed uptake of Digital CBTe amongst the pilot cohort, the timeline of the evaluation (agreed with the commissioner of the evaluation) did not allow us to assess changes to clinical outcomes at the three-month follow-up stage, meaning we are unable to tell whether the reported improvements in clinical outcomes are maintained over time.
- The duration of the evaluation did not allow us to assess the impact of Digital CBTe on any changes to treatment intensity for patients entering the service. The latter also limited findings concerning final effects for staff and Dorset HealthCare All Age Eating Disorder Service.
- The small sample size of 14 people completing Digital CBTe means that the results may be less reliable than those gathered from a larger population. The statistical testing in this report is likely underpowered due to the small sample size and therefore needs to be treated with caution.
- Because of limited numbers registering interest in taking part, we were only able to interview four patients who had used Digital CBTe (out of a

target sample of ten) which limited the data available to us. We were also unable to speak with any users who had decided not to complete the programme (target sample was three), meaning we were unable to access reasoning behind non-completion.

- Additionally, the cohort was self-selecting which raises the possibility that these results may not be representative of a larger population. This is because self-selected individuals may have unique characteristics or motivations that are not reflective of the broader population.

7. Discussion

In this section we revisit and respond to the evaluation questions with reference to the findings presented above.

3.11 How does Digital CBTe affect the pilot patient cohort's clinical outcomes?

Findings presented above provide compelling evidence for the positive impact of Digital CBTe on the pilot patient cohort's clinical outcomes. In summary, we see a statistically significant, and clinically meaningful, decrease in the EDE-Q6 global score from 3.69 to 2.72. We also see a statistically significant decrease in average scores on the Shape and Eating Concern subscales. We report a significant decrease in the CIA Global Impairment score (although this does not move patients beneath the eating disorder cut-off). For the PHQ-9, a reduction in score from 12.36 to 8.14 represents statistical significance, a move from 'moderate' to 'mild' depression, and a move to below the NHS 'caseness'[16] cut-off of 10. These improvements are also reflected within the qualitative theme 'positive effects on eating behaviours'.

3.12 How satisfied are patients with Digital CBTe and what factors encourage or deter them from completing the course?

Qualitative findings show that patients (and staff) placed high value on Digital CBTe. They found it to be 'valuable as a waiting list offer', to have an accessible format and be easy to use and found the information on the importance of regular eating helpful. Patients reported - and staff expected - positive effects on eating behaviours. Some areas of concern related to how efforts would be reviewed and judged, and the lack of facility to communicate with or tailor the programme to individual needs. Interviewees

[16] Caseness: a term applied by NHS talking therapy to describe patients who have symptoms of depression and anxiety. For more info: IAPT Manual (england.nhs.uk)

also expressed the desire for the incorporation of human touchpoints. We were unable to interview anyone who did not complete (or did not intend to complete) the programme, so we are not able to identify factors that deterred completion.

3.13 How does Digital CBTe affect patient satisfaction with Dorset HealthCare All Age Eating Disorders Service?

Qualitative findings revealed that the offer of Digital CBTe had a positive effect on patient satisfaction with (or impression of) Dorset HealthCare All Age Eating Disorders service for interviewees. The offer also made interviewees feel they were being held in mind and not forgotten, and provided them a beneficial focus, whilst waiting.

3.14 Does the provision of Digital CBTe to people on the waiting list have any effects on staff working for Dorset HealthCare All Age Eating Disorders Service?

Staff were positive about the offer of Digital CBTe. They anticipated benefits for patients, and a reduction in intensity of any subsequent treatment they would require. One member of staff expressed the personal reassurance they felt at the additional support offered to those on the waiting list. However, staff survey responses also highlighted the limitations of Digital CBTe, in terms of the suitability criteria– which they saw as creating boundaries around the extent of impact for patients, themselves and the service. This was reflected in patient flow data which revealed that out of 87 patients completing screening questions, Digital CBTe was deemed suitable for 59%.

3.15 What implications does Digital CBTe have on patient pathways for Dorset HealthCare All Age Eating Disorders Service?

We were unable to answer this question from data available within the evaluation timeframe. Within the pilot timescale Dorset HealthCare reported that 17% of users who had completed Digital CBTe, and received a review telephone call, opted to leave the waiting list. The improvements in clinical outcomes presented above suggest that those who remained on the waiting list may be likely to require a lower level of clinical input than if they had not used Digital CBTe. However, this would not be possible to ascertain prior to assessment of these patients by the service.

8. Recommendations

From the findings presented above, we highlight the following issues for consideration with regards to the design and implementation of Digital CBTe, and for future evaluation.

3.16 Design and implementation of Digital CBTe

- Interview respondents suggested that they would like to be able to personalise the programme a little more.
- Interviewees expressed some concern over how their progress and activities would be assessed (although it is unclear whether this related to the 'evaluation' element of the pilot or specifically to the use of the programme). This was linked to an inability to communicate information 'into' the programme (for example to explain why activities had not completed when ill. The inclusion of additional explanations or reassurances within the programme may help address these potential anxieties.
- Interviewees all expressed the perceived benefit of the incorporation of human touchpoints during the use of the programme.
- Whilst very positive overall, qualitative findings suggest that users may appreciate a brighter colour scheme and a variation in format of the information presented.
- Findings could be used to inform the future development of the value proposition for Digital CBTe, e.g. when it is recommended to patients (those on the waiting list and/or at other contact points with the service) and the ongoing assessment of the suitability criteria for its use.

3.17 For future evaluation

- A longer evaluation timescale would allow for users to complete three-month follow-up questionnaires, as well as for as many people as possible to complete the programme, and for effects on treatment intensity required to be investigated.
- Evaluation amongst a larger cohort would allow increased statistical power and generalisability of findings.
- A full cost-benefits analysis would be a useful addition for future consideration. It would be important to determine the nature and availability of data required to enable this.

Appendix 1

Evaluation of Digital Enhanced Cognitive Behavioural Therapy (CBTe)

Participant Information Sheet

March 2024

We would like to invite you to take part in an evaluation that is looking at patients' experiences of being offered Digital CBTe as a self-help tool while they are on the waiting list for Dorset All Age Eating Disorders Service. **We are inviting you to take part in our evaluation because you were recently offered Digital CBTe whilst on the waiting list for Dorset All Age Eating Disorders Service.** We would like to ask you some questions about how you felt about being offered Digital CBTe, and, if you decided to use it, what you thought about it and whether it helped you.

This evaluation is being carried out by Health Innovation Wessex (HIW). HIW supports innovation in health and social care. We work with healthcare organisations and businesses to support the spread of all types of innovation within the NHS, from new technologies to ways of working and service improvements. We do this to improve services for patients, enable NHS efficiencies and support economic growth. Our evaluation clients are Dorset HealthCare University NHS Foundation Trust, who deliver the Dorset All Age Eating Disorders Service and Credo Therapies Limited who created the Digital CBTe app.

The interview should take around 30 minutes. We will arrange a time that works for you and use your preferred method of contact (e.g. telephone or video calling). We would like to record your interview but no one outside of the HIW evaluation team will hear it. We will use your responses, along with those from other people, to answer our evaluation questions.

Do I have to take part?

Taking part in this evaluation study is voluntary and you do not have to agree to take part. This will not affect the care you receive in any way. Please feel free to ask questions about anything you don't understand before making up your mind. You may change your mind at any time and choose to no longer participate. If you do change your mind, we will respect your decision and there will be no negative consequences. If you choose to withdraw, we will delete all records and data provided by you.

Consent process

We will ask you to complete and sign a consent form. The information on the consent form is a summarised version of this participant information sheet. This information sheet is for you to keep. We will also keep a copy of the signed consent form.

Will my information be anonymous and confidential?

In order to obtain your written consent, you will need to provide us with your name, contact details and signature. This means that the study is NOT anonymous, but if you agree to take part, we will keep your consent form separate from your interview recording and it will not be possible to identify you from any views you share which we use in the findings and reports from the evaluation.

All information we use about you will be **processed in accordance with the Data Protection Act (2018)** and will be securely analysed and stored. The **only time we would break confidentiality is if you tell us something during your interview that indicates you, or someone else, are at serious risk of harm**.

Personal, identifiable data (your consent forms and audio recordings) will only be stored for a period of 12 months after Health Innovation Wessex publishes the final report. Anonymised data (i.e. notes and analysis) will be retained for six years after the actual publication of the final report. This is in accordance with the Data Protection Act (DPA) 2018 and General Data Protection Regulation (GDPR) 2018.

What will happen to the results of this evaluation?

We will submit the results of the evaluation to Dorset HealthCare and Credo Therapies Limited and we will publish a report on the Health Innovation Wessex website. Should the evaluation report use any quotes about anything you tell us, we will ensure that they **do not contain any references to you** or identify who you are. **All data and information included in the evaluation report will be anonymous. This means that no participant will be identifiable in the report.**

Further information and contact details

If you wish to find out more about this evaluation study please contact: Dr Amanda Lees, Evaluation Programme Manager, Health Innovation Wessex, tel: 07990 002 109 or amanda.lees@hiwessex.net.

In the unlikely case of concern or complaint, you should contact Sarah Turl, Associate Director-Operations, at Health Innovation Wessex by email sarah.turl@hiwessex.net or by ringing 02382 020840. Sarah can also help if you have any questions about your data or if you would like to ask for it be deleted.

Appendix 2

Evaluation of Digital Enhanced Cognitive Behavioural Therapy (CBTe)

Consent Form

Participant ID:

Signing this form indicates that you agree with the following statements:
1. I have read the participant information sheet dated March 2024 for the evaluation and have had the opportunity to ask questions.
2. I understand my participation is completely voluntary and that I am free to withdraw at any time, without giving reason.
3. I consent to an audio recorded interview and its transcript used for analysis.
4. I understand that any information that could identify me will be kept strictly confidential and that all data will be anonymised before being shared outside the immediate Health Innovation Wessex evaluation team.
5. I agree to the use of my anonymised information, including quotations, in evaluation reports and publications.
6. I understand that Health Innovation Wessex policy is to retain anonymised data for six years after the actual publication of the final report. Identifiable data is retained in accordance with the Data Protection Act (DPA) and General Data Protection Regulation (GDPR) and for a period of 12 months after the actual publication of the final report. I understand that following these retention periods the data will be destroyed.
7. I confirm and consent to participate in this evaluation and the interview.

Name of the **PARTICIPANT** (print name):	Name of the **EVALUATOR** (print name):
Signature of the PARTICIPANT:	Signature of the EVALUATOR:
Date:	Date:

Appendix 3

Interview Guide

COVER SHEET: Before we start the main interview, please could I just collect a few details about you.

1. What age group do you belong to?

☐ 18–25 ☐ 26–35 ☐ 36–45 ☐ 46–55 ☐ 56–64 ☐ 65-74 ☐ 75+ ☐ Prefer not to say

2. What is your gender? ☐ Male ☐ Female ☐ Prefer not to say.

☐ Self-identify, please write in _____

3. What is your ethnic group? Choose one section from A to E, and then tick the appropriate box.

A. White: ☐ Irish/British Irish ☐ Gypsy or Irish Traveller ☐ Any other White background: Please state:	B. Mixed: ☐ White and Black Caribbean ☐ White and Black African ☐ White and Asian ☐ Any other mixed background: Please state:
C. Asian or Asian British: ☐ Indian ☐ Pakistani ☐ Bangladeshi ☐ Chinese ☐ Any other Asian background Please state:	D. Black or Black British: ☐ Caribbean ……. ☐ African…… ☐ Any other Black background: Please state:
E. ☐ Arab ☐ Any other ethnic group: Please state:	F. ☐ Prefer not to say

4. What is your post code? _____

5. How long you have been on the waiting list for Dorset HealthCare All Age Eating Disorders Service? (write in response) _____

6. When did you register for the program? _____

7. Can I confirm if you have completed the Digital CBTe program?

☐ Yes (date completed: _____)

☐ No, and I do not intend to complete it. (date of last access: _____)

☐ No, but I am intending to finish it. (Please write in how far through they are, and when they expect to complete CBTe) _____

Main Interview Questions		**Hermes *et al*. (2019) categories**
Introduction		
The aim of the interview is to hear your experience of using Digital CBTe (the programme content and the app / web interface to access the programme). There are no right or wrong answers. If you feel that you need to take a break or stop the interview at any point, please let me know. Do you have any questions before we start the interview? *[Address any questions from participant]*		
Interview questions		
1.	**Thinking back, how did you feel about being invited to use Digital CBTe?** Possible prompts if necessary: • What led you to try Digital CBTe? • Did you have any concerns about using Digital CBTe? • Were you expecting to receive this type of support / use this type of programme?	Adoption (intention, decision, initiation to use behavioural intervention technologies [BIT])
2.	**How did you find the process of registering for and getting started with Digital CBTe?** Possible prompts if necessary • Did you need help to register for or get started with Digital CBTe? • Did you figure out how to use Digital CBTe by yourself? • How confident did you feel about using Digital CBTe?	Adoption (intention, decision, initiation to use BIT) Fidelity (delivered as intended)?
3.	**I'd like to ask you some questions about your use of Digital CBTe:** • How often did you use Digital CBTe? • Did you complete all the sessions in Digital CBTe? • *Did you use CBTe via the website or the app?* *For participants who **completed** Digital CBTe* • What made you keep using Digital CBTe? • How long did it take you to finish Digital CBTe? *For participants who **did not complete** Digital CBTe* • How long did you use Digital CBTe for?	Fidelity (delivered as intended) Appropriateness (fit, relevance, compatibility of BIT) Adoption (intention, decision, initiation to use BIT)

	• At what point in the programme did you stop using Digital CBTe? • What made you stop using Digital CBTe? • (If relevant) What would have helped you to continue using Digital CBTe?	
4.	**What did you think of the design of the Digital CBTe app and website – whichever you chose to use? For example, its colour scheme, layout, and general look and feel.** Possible prompts if necessary: • Did the design of the app/website make it easy or difficult to use? Can you tell me more about that? • Were there any design features that you particularly liked, and why? • Were there any design features that you did not like, and why? • Were there any design features that you felt were missing?	Acceptability (BIT is agreeable, palatable or satisfactory in terms of its usefulness) Appropriateness (fit, relevance and compatibility of BIT)
5.	**What did you think of the content of the sessions in Digital CBTe? (For example, the concepts introduced, and guidance provided).** Possible prompts if necessary: • Can you say a bit more? • Were there any aspects of the content that you found helpful? • Not so helpful? • What did you learn from Digital CBTe? • Was there any content that you felt was missing? • Did the programme have the right amount of information / content? • Would you suggest any changes to how the content is presented?	Acceptability (BIT is agreeable, palatable or satisfactory in terms of its usefulness) Appropriateness (fit, relevance and compatibility of BIT)
6.	**Has Digital CBTe had an impact on you, and if so, what kind of impact?** Possible prompts if necessary: • Has Digital CBTe influenced how you feel overall (mentally and physically)? In what ways, what has changed? • In what ways, if any, has Digital CBTe affected your eating patterns? • In what ways, if any, has Digital CBTe changed your feelings towards day-to-day activities such as hobbies, socialising, work and other responsibilities, finance, etc.? • Has there been any impact on your relationship with others, such as your family and friends?	Intervention impact (not within BIT implementation framework)
7.	**Overall, do you feel that Digital CBTe is a helpful source of support whilst being on the waiting list to be seen by a clinician? Can you explain why you feel this?**	Appropriateness (fit, relevance, compatibility of BIT)

	a) Having used Digital CBTe do you feel that you still need specialist support for an eating problem? b) Having used Digital CBTe do you want to stay on the waiting list to see a clinician? Why do you say that?	
8.	How (if at all) has your experience of Digital CBTe affected your satisfaction with Dorset All Age Eating Disorders Service?	Feasibility (successful use in its context) Outcome for patient pathway.
9.	**We would be very grateful for any suggestions of how to improve Digital CBTe. Is there anything you think would make Digital CBTe better?** Possible prompts if necessary: • What would have made your experience of using Digital CBTe more positive?	
10.	**Is there anything you would like to share about Digital CBTe that we haven't covered?**	
11.	**Closing questions - Temperature check on the current mood** **I want to thank you very much for your feedback today. Sometimes when answering all these questions, people can feel a little bit emotional, so I just wanted to check in with you.** **Are you feeling okay to go back to your day as normal?** **We wish you all the best. Thank you so much and have a nice rest of your day.**	

Appendix 4

Staff Survey

Title:
Staff Survey on Credo Therapies Limited Digital CBTe programme

Introduction statement to participants
As you may know, the Insight team at Health Innovation Wessex (HIW) is undertaking an independent evaluation of the pilot of the provision of Credo Therapies Limited Digital CBTe as a digital programme for patients affected by binge eating disorder or mild bulimia nervosa who are on the waiting list for assessment by the Dorset All Age Eating Disorders Service. Our evaluation clients are Dorset HealthCare University NHS Foundation Trust, who deliver the Dorset All Age Eating Disorders Service, and Credo Therapies Limited who created the Digital CBTe programme.

We would like to invite you to complete this survey to understand your views about the use of Digital CBTe for patients on the waiting list for assessment. The survey contains a series of open-ended questions on this topic. It should take approximately 10 minutes to complete. Please give as much detail as you can. We are approaching you because of your role within Dorset All Age Eating Disorders Service.

The Insight team will store your personal data securely and will destroy it within 12 months of the evaluation ending in accordance with the Data Protection Act (2018) and General Data Protection Regulation (GDPR) 2018. Should the evaluation team wish to use quotes from any of your responses in the final report, we will ensure that they do not contain any references to you or identify who you are.

There is no obligation to complete this survey. By completing this survey, you are consenting to Health Innovation Wessex using your responses as outlined above.

If you have any further queries, please contact:

Dr Amanda Lees
Evaluation Programme Manager, Health Innovation Wessex
amanda.lees@hiwessex.net
Telephone: 07990 002 109

Many thanks for your time.

Q	Question Text	Response Options
	Participant consent statement	
1.	I have read the above information and am happy to participate in the survey ***compulsory**	[multiple choice] ☐ Yes ☐ No **Branching** If **Yes**, proceed to the survey If **No**, the end of survey statement
	About your role	
2.	Please state your job title	[drop down list] ☐ Community Service Manager ☐ Eating Disorders Service Manager ☐ CBT Therapist ☐ Advanced Practitioner ☐ Eating Disorder Specialist Practitioner ☐ Mental Health Support Worker ☐ Senior Mental Health Support Worker ☐ Administrator ☐ Consultant Psychiatrist ☐ Research Assistant ☐ Systemic/Family Therapist ☐ Occupational Therapist (community) ☐ Mental Health Nurse (community) ☐ Other [free text]
	Your thoughts on Digital CBTe Programme	
3.	Please could you start by describing your level of familiarity with Digital CBTe and your general opinions about it?	[free text]
4.	What are your views about the offer of Digital CBTe as a source of support for patients waiting to be seen by a clinician?	[free text]
5.	What (if any) are the impacts you are already noticing, or would expect, for patients on the waiting list who are using Digital CBTe?	[free text]
6.	What effects (if any) have you noticed from the Digital CBTe pilot on your day-to-day role?	[free text]
7.	How (if at all) has this pilot changed how you feel about your role? Please give reasons for your answers.	[free text]

8.	What effects (if any) have you noticed from the Digital CBTe pilot for the Dorset All Age Eating Disorders Service in general?	[free text]
9.	(If this is relevant to your role), how would you feel about providing Guided Self-help with Digital CBTe?	[free text]
10.	(If this is relevant to your role), how might you expect doing this to compare with offering Guided Self-help using the Overcoming Binge Eating Book?	[free text]
11.	Please use this space to share any other thoughts you have about the Digital CBTe pilot that have not already been covered.	[free text]

Thank you for completing this survey, your feedback is highly appreciated.

If you have any questions about the survey or the evaluation, please contact Dr Amanda Lees (Evaluation Programme Manager, Health Innovation Wessex) amanda.lees@hiwessex.net, telephone 07990 002 109.

Version Control

Version	Status	Key Changes	Authorised by
V1			PD, steering group