FearFighter for adults with panic, agoraphobia and specific phobia

27 March 2018

- The technology described in this briefing is FearFighter. It is designed to treat panic, with or without agoraphobia, and specific phobia.
- The scope for this briefing is to consider the use of FearFighter in a therapist-guided model of care, in adult IAPT services.
- The intended place in therapy would be as an alternative to step 2 therapies in people with panic, with or without agoraphobia, or specific phobia.
- The main points from the evidence summarised in this briefing are from 3 randomised controlled trials including a total of 228 adults in the UK and Denmark. Outcomes of the studies were mixed; 1 reported that FearFighter was as effective as clinician-delivered care, whereas another reported that FearFighter was more effective at later time points than a minimal CBT internet programme. The third reported no difference in outcomes compared with waiting list control (that is, no treatment).
- Key uncertainties around the evidence are that there is no consensus on FearFighter's effectiveness compared with other treatments, and that there are no long-term outcome data available.
- The cost of FearFighter is expected to be around £24 per licence, per year (including VAT) for an average service. The total average cost will be around £48 per patient, including staff time. The resource impact would be less expensive than antidepressant treatment and face-to-face or brief CBT, but more expensive than bibliotherapy. One cost-effectiveness study of FearFighter reported an incremental cost-effectiveness ratio of £37 per extra unit of improvement compared with computer-based relaxation therapy.
- The IAPT expert panel did not recommend FearFighter for the NHS England evaluation in practice programme.
The technology

FearFighter (CCBT) is an online cognitive behavioural therapy (CBT) programme designed to treat panic, agoraphobia and specific phobia using psychoeducation, cognitive restructuring, interoceptive and in vivo exposure exercises, applied relaxation, restructuring of maladaptive schemas and relapse prevention. FearFighter uses interactive exercises and multimedia content, as well as text on screen.

The programme comprises 9 modules:

- Step 1 introduces FearFighter and self-rated questionnaires.
- Step 2 explains the rationale for self-exposure therapy.
- Step 3 explains how to recruit and work with a co-therapist.
- Step 4 helps the user to identify triggers for their panic and write personalised problem statements.
- Step 5 guides users to identify and set their own exposure homework tasks for each trigger.
- Step 6 gives advice on how to cope in situations that cause them to experience panic.
- Step 7 provides coping exercises to practice during exposure.
- Step 8 reviews the exposure homework and helps the user to modify their goals or set new goals.
- Step 9 describes troubleshooting for problems that may arise during treatment.

The modules are intended to take the user about 50 minutes each to complete, at a rate of 1 module per week. The order is fixed and the user cannot skip any modules. There is a time lock on the programme so the user must wait at least 1 week before accessing the next module.

FearFighter can be accessed on Mac or Windows computers and mobile devices using Android or iOS operating systems. The technology owner has stated that it plans to produce a FearFighter app before 2020.
**Regulatory status**

The technology owner has stated that FearFighter complies with the clinical safety standards SCCI0129 and SCCI0160, which are required by NHS Digital. FearFighter does not have a CE mark.

**Current usage and reach**

FearFighter has been available for use in the UK since 2005 and is currently used in 4 IAPT services in the NHS. People can also buy FearFighter directly online for use with or without therapist guidance (provided by CCBT), depending on the level of service purchased.

**Current care pathway**

FearFighter is aligned to the NHS England *Adult Improving Access to Psychological Therapies (IAPT)* programme. IAPT services provide evidence-based treatments for common psychological conditions such as depression and anxiety, including panic. IAPT services offer evidence-based psychological therapies given by accredited practitioners, with routine monitoring and regular outcomes-focused supervision.

The NICE guideline on panic disorder states that people with panic and their families should receive clear information, which will help in the shared decision making around diagnosis and treatment decisions. The guidance recommends a stepped care approach for people with panic disorder:

- **Step 1:** recognition and diagnosis.
- **Step 2:** treatment in primary care.
- **Step 3:** review and consider alternative treatments.
- **Step 4:** review and referral to specialist mental health services.
- **Step 5:** care in specialist mental health services.

Treatments for panic disorder recommended in step 2 are CBT, antidepressant medication, and self-help, based on CBT, using written materials. CBT should be provided by an appropriately trained professional.
and should take the form of weekly sessions lasting 7 to 14 hours in total, delivered over 4 months at most. Brief CBT, lasting around 7 hours, can be used alongside structured self-help materials.

The guideline only includes a research recommendation for computerised CBT for panic, because there was insufficient evidence to make any clear recommendations on its effectiveness.

FearFighter could be used in IAPT services as a step 2 therapy, in a guided self-help model of care.

**Population, setting and intended user**

FearFighter could be used in any setting where the user has access to the internet, including in the home or in a clinic. It would be used by adults diagnosed with panic, with or without agoraphobia, or specific phobia, with support from an appropriately trained therapist. In IAPT services this would likely be a psychological wellness practitioner (PWP).

FearFighter is currently available in English, Spanish and Danish language versions. The technology owner has stated that it intends to translate the programme into other languages in the future.

The technology owner has stated that most users do not need any training to use FearFighter. Therapists need to have some training to learn how to use the therapist portal and review the users’ reports. CCBT provides training and handouts to IAPT services and has a therapist’s helpdesk service that can be accessed through email, phone or online chat.

**Equality considerations**

NICE is committed to promoting equality, eliminating unlawful discrimination and fostering good relations between people with particular protected characteristics and others. In producing guidance and advice, NICE aims to comply fully with all legal obligations to: promote race and disability equality and equality of opportunity between men and women, eliminate unlawful
discrimination on grounds of race, disability, age, sex, gender reassignment, marriage and civil partnership, pregnancy and maternity (including women post-delivery), sexual orientation, and religion or belief (these are protected characteristics under the Equality Act 2010).

Digital technologies such as FearFighter may be unsuitable for people with visual impairments or learning disabilities. Disability is a protected characteristic under the Equality Act.

People with agoraphobia may be unable to attend appointments at IAPT services for face-to-face therapy so they may particularly benefit from a therapy that can be delivered at home.

The content

**Care model**

The user accesses FearFighter by logging into a secure patient ‘bookshelf’ called Jupiter. The therapist can view the user’s activity by accessing the therapist portal, Helix. The therapist provides weekly support to the user as they proceed through the FearFighter programme. In addition, the therapist and user can send each other secure online messages.

The therapist monitors progress, provides feedback, ensures the user understands the modules, reviews homework, and plans future homework. This is intended to increase engagement, improve motivation, provide positive reinforcement and encourage continued progress.

In Helix, the therapist can see a record of when the user has logged into the programme, for how long and which modules and exercises they have done. The therapist can also see the user’s outcome measure scores and read their journal entries and written work. The therapist can view symptom scores over time to see if symptoms are improving. An alarm message is sent to the therapist if the user’s score on a 1-item suicidal metric reaches a preset threshold.
Some materials (such as psychoeducation sheets and module summary sheets) are in PDF format for users to download and print, and so these can’t be reviewed by the therapist. The technology owner has stated that it aims to change this, so that in future releases of Helix the therapist will see more of the user's work (where appropriate and only if consent is given).

**Outcome measures**

FearFighter uses the PHQ-9 and GAD-7 outcome measures, which are needed for use in IAPT services.

**Content assessment**

The therapeutic content of FearFighter was assessed using a framework designed to measure how closely its content maps to the standard principles of CBT for anxiety disorders.

The content assessor reported that FearFighter is generally consistent with frameworks for CBT to treat panic and specific phobia. However, the assessor noted that the treatment approaches for social phobia in FearFighter are outdated because they do not use the Clark and Wells model for treating social phobia. The assessor queried whether it was appropriate to include social phobia in FearFighter, but felt that it was unlikely to do harm.

The assessor noted that FearFighter is engaging and well-structured. The content of the programme is delivered through a video of a therapist who explains ideas and concepts. There are also helpful videos in which patients describe the difficulties they have faced and how they have used the strategies in FearFighter to address their problems.

The assessor noted the following points:

- The programme has a branching structure so that users are presented with content that is appropriate to the responses they have given to questionnaires.
The modules are quite long and may challenge users’ concentration, but within the modules there are ‘save points’ where the user can stop and save the module to complete later.

Each new module starts by reviewing the work done in the previous module and subsequent homework. This is useful for making sure that the user understands the content as they progress through the programme.

The programme includes a very prominent button for ‘emergency help’ if the user becomes highly distressed.

The programme includes a lot of relaxation techniques. Although this may be enjoyable for the user, relaxation is not a part of modern therapy for panic and phobia and might not help to treat these conditions.

The level of therapist guidance and interaction between the therapist and user appeared to be appropriate.

The therapist’s manual was useful and contained sensible guidance to therapists.

**Scalability**

The technology owner expects that any additional increase in users from the NHS could be managed using the current systems.

**Technical standards**

**Technical assessment**

FearFighter has undergone a technical evaluation using sections of the Digital Assessment Questions (DAQ), a pilot tool currently available to developers in beta form. The evaluation included 6 domains of the DAQ: clinical safety, privacy and confidentiality, security, usability and accessibility, interoperability, and technical stability.

The panel noted that acceptable scores were achieved in the DAQ domains of clinical safety, privacy and confidentiality, and technical stability. Remediation plans provided by CCBT were acceptable for issues in the DAQ domains of
security, usability and accessibility, and interoperability. The technical assessors noted that the technology owner is planning to change the platform of FearFighter to a web-based app in the next year, and this app would need a separate DAQ assessment.

Clinical evidence

A literature search was carried out for this briefing in accordance with the process and methods statement. This briefing includes the most relevant or best available published evidence relating to the clinical effectiveness of the technology.

This briefing summarises 3 randomised controlled trials, including a total of 228 people. Table 1 summarises the clinical evidence as well as its strengths and limitations.

Overall assessment of the evidence

The 3 trials each compare FearFighter with a different treatment, and this may contribute to the different results in each trial. The comparator most relevant to FearFighter’s use in IAPT and the NHS is self-exposure guided by a clinician used in Marks et al. (2004).

Both Marks et al. (2004) and Schneider et al. (2005) recruited some of the patients through self-referral in response to adverts. This population may not be entirely representative of people in IAPT services.

Mathiasen et al. (2016) reported that FearFighter had similar outcomes to waiting list control (no treatment) at 4 months. The authors speculate that this may be because some patients had, contrary to the information provided, believed that FearFighter was not a ‘real treatment’ but was some kind of training for the real therapy. This study was also underpowered because of low recruitment.

Tables 1 – 3 show the summary of evidence from 3 studies.
Table 1 Marks et al. (2004)

<table>
<thead>
<tr>
<th>Study size, design and location</th>
<th>Randomised controlled trial, n=93. UK outpatient care.</th>
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</table>
| Intervention and comparator(s) | People were randomised in a 2:2:1 ratio to receive 10 weeks of treatment with either:  
  • FearFighter with brief weekly face-to-face support from a psychiatrist or a nurse (F group)  
  • self-exposure guided face-to-face by a psychiatrist or nurse (C group)  
  • computer-guided self-relaxation (placebo). |
| Population                     | People were mostly self-referred by answering adverts in GP surgeries or phobia self-help groups, or referred by health professionals from outpatient clinics. |
| Key outcomes                   | The primary outcome measures were assessor- and self-ratings of main problem and goals, the global phobia item of the fear questionnaire (FQ), and the amount of time spent with the clinician.  
  The primary outcome measures improved significantly and similarly in the F and C groups, with no statistically significant difference between these 2 groups.  
  Mean percentage improvements in scores pre-post-treatment (SD):  
  **F group**  
  • FQ Global phobia (self-reported): 37.1 (33.7)  
  • FQ Global phobia (clinician-reported): 49.2 (27.9)  
  • Self-rated main problem: 47.4 (25.7).  
  **C group**  
  • FQ Global phobia (self-reported): 49.2 (27.9)  
  • FQ Global phobia (clinician-reported): 41.7 (20.1)  
  • Self-rated main problem: 50.1 (21.4).  
  **Placebo group**  
  • FQ Global phobia (self-reported): 13.5 (23.1)  
  • FQ Global phobia (clinician-reported): 5.8 (17.3)  
  • Self-rated main problem: 10.2 (16.4).  
  Improvements in outcomes were maintained at 1-month and 3-month follow-up. The C group had 3.7 times more clinician time than the other 2 groups. |
Secondary outcome measures included WSA and patient satisfaction. WSA showed a similar pattern of improvement to the primary outcome measures. There was no significant difference in patient satisfaction between any of the groups.

Strengths and limitations
The study was adequately powered to detect the reported changes at post-treatment. The study authors note that many of the patients’ follow-up data were lost and so this analysis is based on a subset of patients. The first author of this study holds intellectual rights for Fear Fighter. 21 of the 37 people in the Fear Fighter group (57%) completed all modules of the course.

Table 2 Schneider et al. (2005)

<table>
<thead>
<tr>
<th>Study size, design and location</th>
<th>Randomised controlled trial, n=68. UK.</th>
</tr>
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</table>
| Intervention and comparator(s)  | People were randomised in a 2:1 ratio to receive either:  
  • Fear Fighter  
  • Managing Anxiety, an internet programme of minimal CBT without exposure  
  People in both groups had 6 brief email or phone contacts from a therapist over 10 weeks. |
| Population                      | People responding to internet and magazine adverts, and people referred to a self-help clinic by mental health professionals or GPs. |
| Key outcomes                    | Primary outcomes were assessor- and self-ratings of main problems and goals, the global phobia and global impression items of the FQ.  
  From pre-treatment to post-treatment, people in both groups improved statistically significantly, with no difference between groups.  
  Mean percentage improvements in scores from pre-treatment to post-treatment (SD):  
  FF group  
  • Self-rated main problem: 33 (29)  
  • Clinician-rated main problem: 35 (31)  
  • Self-rated main goal: 34 (39)  
  • Clinician-rated main goal: 41 (35)  
  • FQ Global phobia (clinician-reported): 35 (30).  
  MA group (SD)  
  • Self-rated main problem: 32 (24) |
From weeks 10 to 14 the FF group improved significantly more than MA in self-rated main problem, clinician-rated main problem (effect size d=0.8), clinician and self-rated WSA total (d=0.3), self-rated FQ agoraphobia subscore (d=0.7), self-rated FQ anxiety/depression subscore (d=0.9), and clinician-rated FQ global phobia scale (d=0.8).

Mean percentage improvements in selected scores from week 10 to week 14 after treatment:

**FF group (SD)**
- Self-rated main problem: 41 (28)
- Clinician-rated main problem: 40 (29)
- Clinician-rated WSA total: 47 (31)
- FQ Global phobia (clinician-reported): 42 (30)
- Self-rated main goal: 40 (34)
- Clinician-rated main goal: 42 (40).

**MA group (SD)**
- Self-rated main problem: 31 (21)
- Clinician-rated main problem: 23 (29)
- Clinician-rated WSA total: 28 (43)
- FQ Global phobia (clinician-reported): 24 (29)
- Self-rated main goal: 40 (21)
- Clinician-rated main goal: 25 (34).

Therapists spent a mean total of 115 minutes (44) per patient during weeks 1 to 10 for the FF group and 87 (28) minutes for the MA group.

**Strengths and limitations**

The study was appropriately powered to detect the reported differences between groups. One of the authors of this study holds intellectual rights for FearFighter. 73% of people in the FearFighter group completed all 10 modules of the course.

**Table 3 Mathiasen et al. (2016)**

<table>
<thead>
<tr>
<th>Study size, design and location</th>
<th>Randomised controlled trial, n=67. Denmark.</th>
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<tbody>
<tr>
<td>Intervention and comparator(s)</td>
<td>People were randomised to receive either FearFighter with minimal therapist contact or waiting list control (no treatment).</td>
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</table>
### Population

People attending a clinic for OCD and anxiety disorders were referred by clinicians to apply to this study.

### Key outcomes

The primary outcome measure was the BAI measure of anxiety symptoms.

There was no statistically significant difference in BAI between groups at 4 months after treatment started.

FearFighter: BAI (SD): baseline 22.86 (10.41), follow-up 16.0 (10.12). Waiting list control: baseline 22.23 (8.54), follow-up 19.68 (9.56).

Secondary outcomes were BDI-II and EQ-vas.

The FearFighter group showed a small statistically significant improvement in BDI-II, whereas the control group did not. There was a statistically significant improvement in EQ-vas in the FearFighter group compared with the control group.

### Strengths and limitations

Because of low recruitment the study was underpowered to detect the expected differences in outcomes.

31% of people in the FearFighter group completed all modules of the programme.

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**Abbreviations:** BAI, Beck anxiety inventory; BDI-II, Beck depression inventory II; EQ-vas, EuroQol visual analogue scale; FQ, fear questionnaire; WSA, work and social adjustment scale.

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### Recently completed and ongoing studies

No recent, ongoing or in-development trials on the use of FearFighter were identified in the preparation of this briefing.

### Cost and resource impact

#### Technology costs

The license fee for FearFighter ranges from £12 to £119 per licence, depending on the number of licences purchased. An average service would be expected to pay around £24 per licence (prices including VAT). In addition to the licence cost, approximately 76 minutes of band 5 PWP time is needed in total per course of treatment (Marks et al. 2004), costing £24. The total cost of FearFighter including licence fee and clinical time would therefore be £48.
Two economic studies on FearFighter were identified. Kalthenthaler et al. (2006) did an economic evaluation on 5 computerised CBT technologies, including FearFighter. The study concluded that the cost effectiveness of FearFighter compared with therapist-delivered CBT was not clear.

A second economic study by McCrone et al. (2009) used data from the study by Marks et al. (2004), which compared FearFighter with self-exposure led by a clinician and with computer-based guided relaxation. FearFighter and clinician-led self-exposure were both found to be more effective and more expensive than relaxation. The authors noted that the cost of FearFighter would depend on the training of staff supporting the user.

**Costs of standard care**

**Resource consequences compared with standard care**

Table 2 Costs per treatment course per person of FearFighter compared with current treatments for panic and specific phobia

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Existing cost</th>
<th>Cost using FearFighter</th>
<th>Cost/saving</th>
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<tbody>
<tr>
<td>Antidepressant medication (weighted average cost based on 6 months of SSRIs and tricyclic antidepressants)</td>
<td>£183</td>
<td>£48</td>
<td>£135 saved</td>
</tr>
<tr>
<td>CBT (7 to 14 hours)</td>
<td>£560</td>
<td>£48</td>
<td>£512 saved</td>
</tr>
<tr>
<td>Brief CBT (7 hours) with structured self-help materials</td>
<td>£126</td>
<td>£48</td>
<td>£78 saved</td>
</tr>
<tr>
<td>Bibliotherapy (reading material) based on CBT principles</td>
<td>£10</td>
<td>£48</td>
<td>£38 cost</td>
</tr>
</tbody>
</table>

Abbreviations: CBT, cognitive behavioural therapy; SSRI; selective serotonin reuptake inhibitor.

The following costing assumptions have been made for FearFighter:

- The FearFighter user subscription is expected to cost around £24 per person (including VAT).
• FearFighter may be delivered by a PWP (AFC band 5); costs include 76 minutes of their time per person.
• The cost for training therapists is included in the licence fee.

Overall impact
Using FearFighter is unlikely to deliver cash-releasing savings but it may free staff time, which could in turn reduce waiting times and increase access to care. For example, a reduction in face-to-face CBT would release therapist time.

Cost and resource impact statement from the developer
The developer stated that FearFighter offers recovery rates above the standard care for step 2 treatment, at lower costs than face-to-face care.

IAPT expert panel considerations
The expert panel considered the assessments of therapeutic content, digital technical factors, clinical evidence and resource impact. The panel concluded that FearFighter should not proceed to the evaluation in practice phase of this programme.

Technical assessment
The panel noted that acceptable scores were achieved in the DAQ domains of clinical safety, privacy and confidentiality, and technical stability. Remediation plans provided by CCBT were acceptable for issues in the DAQ domains of security, usability and accessibility, and interoperability. However, the technical assessors noted caution regarding the remediation plans for the accessibility issues, because they involved the planned change of platform from web programme to an app. Before the app could be considered in this programme, it would need to undergo its own DAQ assessment.
Content assessment

The panel noted that FearFighter was found to be generally consistent with the CBT competence frameworks for panic disorder and specific phobia. Although the panel commended the branching structure and the engaging therapist videos, they were concerned that aspects of the content were outdated, noting that the treatment approaches for social phobia and the inclusion of relaxation techniques were not in keeping with modern practice. They noted that it may have been better to focus FearFighter on treating a single indication of panic, rather than trying to treat several different conditions in a single programme.

Clinical evidence

The panel had some reservations about the clinical evidence presented for FearFighter. They compared the outcomes reported in the trials, noting that there was no consensus to show clear benefits to people using FearFighter. They regarded the pattern of results reported in the Schneider et al. (2005) study as unusual, because the FearFighter group showed the greatest improvements only after their treatment had finished.

Cost and resource impact

The panel noted that a course of treatment using FearFighter would be cheaper than antidepressant medication for 6 months, face-to-face CBT, or guided self-help, and slightly more expensive than bibliotherapy based on CBT.
Development of this briefing

This briefing was developed by NICE for NHS England’s assessment of digitally enabled psychological therapies for IAPT. The briefing was presented to NICE’s IAPT expert panel, who considered FearFighter for this assessment programme. The process and methods statement sets out the process for selecting topics, and how the briefings are developed, quality-assured and approved for publication.

Panel members

- Professor Tim Kendall (chair), national clinical director for mental health, NHS England and NHS Improvement.
- Ms Lauren Aylott, lay member.
- Professor Peter Bower, professor of health services research, Manchester University.
- Professor Chris Hollis, professor of child and adolescent psychiatry, University of Nottingham.
- Dr Ifigeneia Mavranezouli, senior health economist, University College London.
- Dr Nicholas McNulty, primary care psychologist, South London & Maudsley NHS Trust.
- Professor Steve Pilling, professor of clinical psychology and clinical effectiveness, University College London.
- Dr Georgina Ruddle, learning disabilities and dementia commissioner, NHS Wiltshire Clinical Commissioning Group.

Specialist contributors

The following specialist commentators provided content for this briefing:

- Professor Tony Roth, professor of clinical psychology, University College London