

Impact case study (REF3)

Institution: University of Exeter		
Unit of Assessment: UoA 4 Psychology, Psychiatry and Neuroscience		
Title of case study: Mindfulness-based cognitive therapy as an effective alternative to medication for treating depression and preventing relapse.		
Period when the underpinning research was undertaken: 2005-2019		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Professor Willem Kuyken	Professor; Director of the Mood Disorders Centre	1999-2014
Professor Anke Karl	Associate Professor	2009-present
Professor Ed Watkins	Professor	2004-present
Dr Rachel Hayes	Senior Research Fellow	1997-present
Dr Alison Evans	Lead Clinician	2008-2018
Dr Susan Ball	Senior Research Fellow	2015-present
Period when the claimed impact occurred: 1 August 2013 – 31 July 2020		
Is this case study continued from a case study submitted in 2014? No		
<p>Researchers at Exeter definitively demonstrated that mindfulness-based cognitive therapy (MBCT) is an effective and affordable non-pharmaceutical alternative for treating clinical depression and preventing depressive relapse across the NHS. This work has changed UK and worldwide mental health policies and clinical guidelines for depression/mood disorders; improved access to MBCT in routine clinical service; changed clinical practice by developing and running a national professional training curriculum for MBCT and training mental health practitioners in the NHS and beyond; enhanced experience and outcomes for patients; and delivered cost savings for the NHS and wider society. As a result, over 10,000 patients across 40% of the NHS's depression and anxiety treatment services have been able to receive MBCT, while saving the NHS an estimated £20 million per year. 100% have either recovered or showed significant clinical improvement; access to the treatment is set to double by 2024.</p>		
<h2>2. Underpinning research</h2> <p>Mindfulness-based cognitive therapy (MBCT), a group-based psychosocial intervention that combines cognitive behavioural therapy with mindfulness - the awareness of being mentally, physically and emotionally in the moment - has emerged as a promising treatment for clinical depression. MBCT teaches people skills to become more aware of the bodily sensations, thoughts and feelings associated with depression in order to stay well in the long term. These skills also cultivate self-compassion and remain effective long after the sessions have ended, thus preventing relapse. A Phase 2 trial published in 2008 pointed to the usefulness of MBCT [3.1] but robust scientific evidence was lacking as to whether the treatment could be scaled up as an effective and affordable alternative to antidepressant medication across the NHS. University of Exeter researchers have filled this knowledge gap, definitively demonstrating for the first time that MBCT is as effective as medication in reducing relapse in those suffering from depression. The research has informed and supported the implementation of this valuable new treatment in healthcare settings in the UK and beyond.</p> <h3>Establishing the effectiveness of MBCT</h3> <p>For seven years, researchers at Exeter ran two MRC- and NIHR-funded randomised controlled trials of the effectiveness and cost-effectiveness of MBCT. The definitive trial, PREVENT, published in 2015, [3.2] demonstrated that the psychosocial group intervention was an equally effective, affordable alternative to maintenance antidepressants, with a one-off cost of £112 per patient. MBCT improved physical and psychological quality of life and the use of antidepressants in the MBCT group was significantly reduced with 75% completely discontinuing their antidepressants. [3.1, 3.2] Patients found MBCT skills helpful as a longer-term solution for discontinuing their medication. [3.6] With 12% lower relapse rates than maintenance antidepressant medication, MBCT was particularly beneficial for individuals with recurrent depression who report high severity of childhood abuse. [3.2] A systematic review of the effects of MBCT on those with major depressive disorder concluded that there were positive clinical</p>		

impacts on mindfulness, rumination, worry, self-compassion, attention, memory, self-discrepancy and emotional reactivity. [3.3]

Implementing MBCT in the NHS

After several years of MBCT being recommended by the NICE (National Institute for Health and Care Excellence) guidance for treating depression, Exeter researchers investigated how MBCT could be effectively implemented in the NHS across the UK. Exeter led a collaborative project with the Universities of Bangor and Oxford (2014-2017) revealing improved patient outcomes, quality of life, and wellbeing in routine clinical settings across the UK. [3.4] The NIHR-funded implementation study revealed that recovery was maintained in 96% of remitted depressed individuals and 53% of those currently depressed made a full recovery. [3.5] In a cross-national sample of 1,554 patients, 96% of those currently remitted starting treatment sustained their recovery (i.e. remained in the non-depressed range) across the treatment period, and showed significant reduction in residual symptoms, consistent with a reduced risk of depressive relapse. Almost half (45%) of those clinically depressed at treatment start, recovered or showed significant reduction in depression severity from pre- to post-treatment. [3.5]

3. References to the research

1. **Kuyken, W.**, Byford, S., **Taylor, R.S.**, **Watkins, E.R.**, **Holden, E.R.**, White, K., **Evans A.**, Teasdale, J.D. (2008). Mindfulness-based cognitive therapy to prevent relapse in recurrent depression. *Journal of Consulting and Clinical Psychology*, 76, 966-978. DOI: [10.1037/a0013786](https://doi.org/10.1037/a0013786)
2. Kuyken, W., **Hayes, R.**, Barrett, B., Byng, R., Dalgleish, T., Kessler, D., **Evans A.**, Byford, S. (2015). Effectiveness and cost-effectiveness of mindfulness-based cognitive therapy compared with maintenance antidepressant treatment in the prevention of depressive relapse or recurrence (PREVENT): a randomised controlled trial. *Lancet*, 386(9988), 63-73. DOI: [10.1016/S0140-6736\(14\)62222-4](https://doi.org/10.1016/S0140-6736(14)62222-4)
3. van der Velden, A. M., **Kuyken, W.**, Wattar, U., Crane, C., Pallesen, K. J., Dahlgard, J., Piet, J. (2015). A systematic review of mechanisms of change in mindfulness-based cognitive therapy in the treatment of recurrent major depressive disorder. *Clinical Psychology Review*, 37, 26-39. DOI: [10.1016/j.cpr.2015.02.001](https://doi.org/10.1016/j.cpr.2015.02.001)
4. Rycroft-Malone, J., **Gradinger, F.**, Owen Griffiths, H., **Anderson, R.**, Crane, R.S., Gibson, A., Mercer, S.W., & Kuyken, W. (2019). 'Mind the gaps': the accessibility and implementation of an effective depression relapse prevention programme in UK NHS services: learning from mindfulness-based cognitive therapy through a mixed-methods study. *BMJ Open*, 9(9): 1-10. DOI: [10.1136/bmjopen-2018-026244](https://doi.org/10.1136/bmjopen-2018-026244)
5. Tickell, A., **Ball, S.**, Bernard, P., Kuyken, W., Marx, R., Pack, S., Crane, C. (2019). The Effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) in Real-World Healthcare Services. *Mindfulness*, 11(2): 279-290. DOI: [10.1007/s12671-018-1087-9](https://doi.org/10.1007/s12671-018-1087-9)
6. Tickell A, Byng R, Crane C, Gradinger, F., **Hayes, R.**, Robson, J., Cardy, J., Weaver, A., Morant, N. & Kuyken, W. (2020). Recovery from recurrent depression with mindfulness-based cognitive therapy and antidepressants: a qualitative study with illustrative case studies. *BMJ Open*, 10:e033892. DOI: [10.1136/bmjopen-2019-033892](https://doi.org/10.1136/bmjopen-2019-033892).

4. Details of the impact

More than 300 million people worldwide and 3 in 100 in England experience clinical depression, with chronic and recurring forms of the illness causing not only individual suffering but detrimental economic and social impacts. In the UK, as elsewhere, the health system has for decades relied on prescribing medication for treating depression. Although effective in symptom management and for preventing relapses, antidepressants often have to be taken over years, representing a substantial and growing financial burden for the NHS (e.g. 70.9 million prescriptions were written for antidepressants in 2018 in UK compared to only 36 million prescriptions in 2008). At the same time, medications can be accompanied by undesirable side-effects, such as addiction and withdrawal symptoms, and many patients prefer psychological therapies instead.

Over the past twenty years, interest has been growing in the potential for mindfulness-based cognitive therapy (MBCT) as a non-pharmaceutical alternative for the treatment of depression and

depressive relapse prevention. However, before the Exeter research, it was unknown whether MBCT could be effective as a stand-alone treatment in the NHS and how it could be rolled out to treat large numbers of patients. The Exeter research filled this knowledge gap, leading to **five distinct and beneficial impacts**: changes in policy and clinical guidelines; improved clinical training and practice; greater access to MBCT; enhanced patient experience and outcomes; and cost savings for the NHS and wider society. Each impact is detailed below.

Changes in UK and worldwide mental health policies and clinical guidelines for depression/mood disorders

Exeter's research [3.2] was referenced by the Mindfulness All-Party Parliamentary Group who recommended group-based MBCT for depressive relapse in their 2015 report *Mindful Nation UK*, [5.1] and it will also be recommended in the updated version of *Depression in adults: treatment and management*, [5.2] guidelines which will be published in 2022 by NICE. The lead of the NICE Depression Guideline Development Group confirms that "Exeter's work was vital in understanding how MBCT could be successfully implemented in psychological services, providing an effective alternative to antidepressant medication to those suffering from recurrent depression. This has directly led to the inclusion of MBCT in the NICE Guidelines on Depression as a recommended intervention for relapse prevention." [5.3]

Significance: Prior to the Exeter research, policy and clinical guidelines in the UK for depression treatment and relapse prevention did not prioritise MBCT. Exeter's work has led to policy makers and clinicians in the UK and overseas promoting MBCT for the first time.

Reach: Up to 15% (87,000) of the patients suffering from depression and being at risk for relapse across the UK [5.1, see page 5 for example] will benefit from the new policies and guidelines influenced by Exeter's work. The policy impacts extend overseas too: MBCT for depression treatment and relapse prevention is now recommended by the American Psychological Association, one of the largest professional organisations worldwide, with Exeter research [3.3] cited in its treatment guidelines [5.4]. Similarly, MBCT is now recommended in the national clinical guidelines for relapse prevention in Canada, Australia and New Zealand, [5.4] and again Exeter's research is cited [3.1], [3.2] and [3.3].

Improved access to MBCT in routine clinical services

As well as influencing policy, since 2014, Exeter has worked closely with IAPT (Improving Access to Psychological Therapies), the key national treatment provider for depression and anxiety disorders in England, to improve access to MBCT for patients with depression.

Reach: To date, MBCT has been implemented in about 40% of IAPT services, encompassing 63 NHS Trusts, across England and, between 2015 and 2020 West IAPT staff were trained in MBCT at Exeter, which informed the development of a national programme in 2016/17 (funded by NHS England) when Exeter partnered with four other mindfulness centres across the UK to deliver MBCT IAPT training: London and South East Sussex Mindfulness Centre, North Oxford Mindfulness Centre, Centre for Mindfulness Research and Practice (Bangor University), Midlands and East Nottingham Centre for Mindfulness (Nottinghamshire Healthcare NHS Foundation Trust) and the MBCT Training Programme in Tees Esk and Wear Valley NHS Foundation Trust. As of autumn 2020, 154 IAPT staff have been trained nationally, of those 100 in Exeter alone, each with a capacity to deliver MBCT to approximately 50 or more patients per year. It is anticipated that a further 80 MBCT therapists will be trained. [5.5]

Significance: Exeter researchers are directly responsible for the increased access to MBCT in the southwest and nationally. The Programme Director of IAPT training until August 2020, confirms that: "...as a result of the PREVENT research conducted at the University of Exeter on MBCT, we have been able to train and partner with other organisations to train IAPT therapists in MBCT across both the South West and the whole of England" [5.5], has benefitted a total of 10,453 patients, [5.10] with up to an additional 44000 projected to be receiving MBCT by 2024. From 2024, the level of access is likely to ramp up still further because IAPT aims to double its current reach to 1.9 million patients by 2023/24. Conservatively, that would equate to between 5,000 and 10,000 patients who could receive MBCT every year across the country [prediction based on NHS Mental Health Implementation Plan 2019/20 – 2023/24, published July 2019, page 23].

Improved clinical practice by uniform national professional training curriculum for MBCT and training of mental health practitioners in the NHS

MBCT is a complex approach that needs to be delivered well to gain full benefit. Through online and in-person training, Exeter researchers have directly influenced the improvement of the standard of professional training for clinicians practising, or seeking to practise, mindfulness-based interventions. In 2016 Exeter researchers influenced and contributed to the development of a new national MBCT professional training curriculum for IAPT staff. [5.6] In tandem with Bangor University, Exeter researchers developed online training resources and assessment materials [3.4] which are freely available to MBCT practitioners for continuing professional development (<http://www.implementing-mindfulness.co.uk>). The CBT Lead for West Dorset branch of the British Association for Behavioural and Cognitive Psychotherapies, completed the Exeter University IAPT mindfulness teaching pathway in 2014. They have since treated over 300 patients who are showing improvement in line with national data and experiencing continued positive mental health.

"I have access to Exeter's online training resources and assessment materials so I may continue to update my practice and refer back to at any time, strengthening my skills and abilities to help this population." [5.7] Exeter researchers (in collaboration with Bangor and Oxford) have also developed and validated a new tool, MBI: TAC (Mindfulness-Based Interventions: Teaching Assessment Criteria), for assessing the teaching competence and programme adherence of MBCT practitioners during professional training. The tool has improved training quality standards for mindfulness practitioners, ultimately enhancing patient care. [5.8]

Significance: Exeter's work has influenced the Professional training standards of MBCT across the UK and beyond.

Reach: To date 154 practitioners in the UK have directly or indirectly benefited from training in MBCT provided by Exeter researchers. [5.5] In addition, MBCT training materials have been accessed by health care practitioners from around the world (a list of practitioners from around the world is available at <https://www.accessmbct.com>).

Improved outcome and patient experience

MBCT has sustained recovery in most of those not currently depressed and contributed to clinical improvement and recovery in half of those currently depressed. Testimonies from patients in Exeter's Accessing Evidenced Based Psychological Therapies (AccEPT) clinic demonstrate the profound impact of MBCT, one attendee stating: *"I am delighted to confirm that I found the MBCT course to be extremely beneficial. I can honestly say that it changed my life for the better. I had learned how to become aware of my current mood and when this was deteriorating, to make use of the mindfulness practice to get myself on an even keel again."* [5.9]

Significance: Patient outcomes, at both local and national level, have been significantly boosted by MBCT. Since 2014, 888 patients have received the therapy within Exeter's AccEPT clinic. Since 2014, three audits have revealed between 64-75% of these patients showed reliable improvement and 50-51% met criteria for reliable recovery. [5.10] Similar outcomes have been recorded at the national level; in a 2018/19 annual report the NHS found that about 50% of 3,957 patients receiving MBCT (of whom 1,566 reported current depression) fully recovered and 50% showed significant clinical improvement. [5.11]

Reach: As noted above, with national access to psychological treatments expected to double, the benefits of MBCT – currently enjoyed by over 10,000 people suffering from depression in the UK – are likely to reach 20-40,000 patients by 2024 [prediction based on NHS Mental Health Implementation Plan 2019/20 – 2023/24, published July 2019, page 23].

Benefits for the NHS and society

In the last 10 years the number of annual prescriptions for antidepressant medication has doubled to 70 million, and today antidepressants cost the health service an estimated £5.5 million every week. At a one-off cost of £112 per person [3.2], MBCT can be cheaper than long-term antidepressant maintenance medication (median of £49.69/year with a treatment time of 3-5 years), as well as alternative individual psychological treatments for depression, such as cognitive therapy (£334/person). Further, 87% of patients receiving MBCT were able to reduce or taper off their medication [3.2] suggesting that this therapy will yield substantial cost savings for the NHS, and for wider society, particularly when treatment adherence is accounted for.

Significance: Long-term cost estimation models accounting for treatment adherence (around 80% for MBCT versus 45% for antidepressant medication), identified MBCT as more economical than maintenance antidepressant medication, with approximately £1,300 lower costs over a 24-month time horizon, and 0.08 higher quality-adjusted life years (QALYs) [see Pahlevan, T., et al. (2020) Cost-Utility Analysis of Mindfulness-Based Cognitive Therapy versus Antidepressant Pharmacotherapy for Prevention of Depressive Relapse in a Canadian Context. *Can J Psychiatry* 65(8): 568-576]. Furthermore, MBCT offers cost savings for wider society, in the form of, among others, improved long-term physical health, reduced suffering, improved daily functioning (work, parenting, interpersonal relationships) and enhanced participation in and enjoyment of life. Based on Layard et al.'s cost benefit analysis of psychological therapies in general, this cost saving for the society can be estimated at £19.98 million [see Layard et al. (2007) Cost-benefit analysis of psychological therapy. *National Institute Economic Review*, 202 (1). 90 -98].

Reach: When prescribed as an alternative to antidepressant medication MBCT has the potential to cut costs wherever implemented in the NHS, assuming practitioners are effectively trained.

5. Sources to corroborate the impact

1. Mindful Nation UK. (2015). Mindfulness All-Party Parliamentary. *The Mindful Nation UK report was the first policy document of its kind, seeking to address mental and physical health concerns in the areas of education, health, the workplace and the criminal justice system through the application of mindfulness-based interventions. It has also been translated into Spanish.*
2. National Institute for Health and Care Excellence (NICE). (2018). Depression in adults: treatment and management. [Draft Guideline] *Guideline for mental health professionals that covers how to identify, treat and manage depression in people aged 18 and over. It recommends tailoring care and treatment based on the severity of a person's depression. It also includes advice on preventing relapse and managing complex and severe depression.*
3. Letters of support from the lead of NICE Guideline Development Group *emphasising the influence of Exeter research on the new guidelines for the treatment of depression*
4. Policy changes abroad: a) American Psychological Association. (2019). Clinical practice guideline for the treatment of depression across three age cohorts; b) Parikh, S. V. et al. (2016) Canadian Network for Mood and Anxiety Treatments (CANMAT) 2016 Clinical Guidelines for the Management of Adults with Major Depressive Disorder: Section 2. Psychological Treatments. *The Canadian Journal of Psychology* Vol. 61(9) 524-539; c) Malhi, G.S. (2015) Royal Australian and New Zealand College of Psychiatrists clinical practice guidelines for mood disorders. *Australian and New Zealand Journal of Psychiatry*, Vol. 49(12) 1-185.
5. Letter of support on Exeter training by the Lead of High Intensity IAPT and the Lead of the MBCT training course
6. NHS (June 2017) IAPT: Mindfulness-based Cognitive Therapy National MBCT Training Curriculum.
7. Letter of support by the CBT Lead for West Dorset branch of the British Association for Behavioural and Cognitive Psychotherapies
8. Crane, R.S., Eames, C., Kuyken, W., Hastings, R. P.1, Williams, J.M.G., Bartley, T., Evans, A., Silverton, S., Soulsby, J.G., Surawy, C. (2013) Development and validation of the Mindfulness-Based Interventions – Teaching Assessment Criteria (MBI:TAC), Assessment. DOI: 10.1177/1073191113490790
9. Letter of Testimony from Exeter MBCT attendee
10. AccEPT Clinic Service Audit Report from the AccEPT Clinic Director, Kim Wright.
11. NHS. (2019) Additional analyses of therapy-based outcomes in IAPT services (England 2018-19 experimental statistics). *This publication describes patient outcomes in IAPT in terms of courses of mindfulness therapy given and patient outcomes.*