

Institution: Cardiff University
Unit of Assessment: UoA4
Title of case study: A programme developed and delivered by Cardiff University transforms access to psycho-education for bipolar disorder
<p>1. Summary of the impact (indicative maximum 100 words)</p> <p>Cardiff University research into the causes and triggers of bipolar disorder led to the development and verification of a first-in-class online intervention programme for patients with bipolar disorder. On-line delivery enabled the widespread availability of psycho-education, delivering patients and healthcare professionals insight into the illness, health behaviour, personal patient routines and attitudes towards medication. Shown to be safe, effective and resource-friendly, the package has been embraced by BipolarUK, components have been incorporated into the Wales Government Strategy for Mental Health and healthcare workers have been trained in its use in the UK, Northern Ireland, the Netherlands, New Zealand and Turkey.</p>
<p>2. Underpinning research (indicative maximum 500 words)</p> <p>Cardiff University research led by Prof Nick Craddock (Research Fellow at Cardiff 1992-1997; Professor of Molecular Psychiatry, Birmingham University 1997-2002; Professor of Psychiatry at Cardiff since 2002) and colleagues Prof Ian Jones (Senior Lecturer & Reader since 2002, Professor from 2013) and Dr Daniel Smith (Research Fellow & Senior Lecturer, 2008-2012), and funded by the Wellcome Trust, investigated the causes and triggers of bipolar disorder during the period 1993-2013. This work provided important new knowledge relevant to the clinical diagnosis and management of bipolar disorder and furthered understanding of aetiology and pathogenesis. As a result, Bipolar Education Programme Cymru (BEP-C) was set up to develop and deliver high quality psycho-education interventions for bipolar disorder. The Cardiff research findings on risk factors and triggers directly influenced the content of a novel training package that was designed and trialled by the Cardiff team in 2008 specifically to benefit bipolar disorder patients via online interactive modules and group sessions. This is described below.</p> <p>Underpinning research influences online interactive educational programme content</p> <p>From 2007 to 2010, through National Institute for Health Research (NIHR) funding and in partnership with the commercial healthcare software company SmileOn (www.healthcare-learning.com), the Cardiff BEP-C team developed and tested a web-based interactive educational programme, "Beating Bipolar". This psycho-educational programme includes eight online modules, completed by patients at their own pace, and an online, moderated discussion forum^{3.1} where participants can share their experiences. This is complemented by educational training material for healthcare professionals so that they can better recognize and manage bipolar disorder, including guiding patients in their use of our psycho-educational materials.</p> <p>Examples of research findings used directly as content within these psycho-educational materials include:</p> <ul style="list-style-type: none"> • There is a high risk of post-partum psychotic episodes in bipolar women, particularly if there is a family history of post-partum bipolar episodes.^{3.2} • Despite similarities, there are subtle differences between depression symptoms in bipolar disorder and unipolar depression, which might help with early recognition and diagnosis.^{3.3} • Bipolar disorder that starts with a manic episode tends to be characterized by more manic episodes during its future course than if it started with a depressive episode.^{3.4} <p>Underpinning research validates selection of online delivery methods</p> <p>In 2008, BEP-C conducted a randomised controlled efficacy trial^{3.5} (current controlled trials registration number: ISRCTN81375447) to test the validity of the novel online delivery model with</p>

their target audience.

Fifty participants were randomized to receive either the Beating Bipolar intervention plus treatment-as-usual, or just treatment-as-usual. The intervention was carried out over a 4-month period and outcomes were assessed 6 months later. Results showed that Beating Bipolar was safe, highly acceptable to service users and produced significant improvement ($p < 0.05$, i.e. only a 5% probability of occurring by chance alone) in measures of participants' psychological functioning, including an increased sense of control over bipolar disorder, reduced stigma and improved understanding for family and carers.^{3,1}

3. References to the research (indicative maximum of six references)

Key publications

1. **Smith, D. J., Griffiths, E., Poole, R., di Florio, A., Barnes, E., Kelly, M. J., Craddock, N., Hood, K., & Simpson, S.** (2011). Beating Bipolar: Exploratory trial of a novel Internet-based psychoeducational treatment for bipolar disorder. *Bipolar Disorders*, 13, 571-577. <http://dx.doi.org/10.1111/j.1399-5618.2011.00949.x>.
2. Robertson, E., **Jones, I.**, Haque, S., Holder, R., & **Craddock, N.** (2005). Risk of puerperal and non-puerperal recurrence of illness following bipolar affective puerperal (post-partum) psychosis. *British Journal of Psychiatry*, 186, 258-259. <http://dx.doi.org/10.1192/bjp.186.3.258>
3. **Forty, L., Smith, D. J.**, Jones, L., **Jones, I.**, Caesar, S., Cooper, C., **Fraser, C.**, **Gordon-Smith, K.**, Hyde, S., Farmer, A., McGuffin, P., & **Craddock, N.** (2008). Clinical differences between bipolar and unipolar depression. *British Journal of Psychiatry*, 192, 388-389. <http://dx.doi.org/10.1192/bjp.bp.107.045294>
4. **Forty, L.**, Jones, L., **Jones, I.**, **Smith, D. J.**, Caesar, S., **Fraser, C.**, **Gordon-Smith, K.**, Hyde, S., & **Craddock, N.** (2009). Polarity at illness onset in bipolar I disorder and clinical course of illness. *Bipolar Disorders*, 11, 82-88. <http://dx.doi.org/10.1111/j.1399-5618.2008.00654.x>
5. **Barnes, E., Simpson, S., Griffiths, E., Hood, K., Craddock, N., Smith, D. J.** (2011). Developing an online psychoeducation package for bipolar disorder. *Journal of Mental Health*, 20, 21-31. PubMed PMID: 21271823. <http://dx.doi.org/10.3109/09638237.2010.525565>.

Key research grant

National Institute of Health Research (NIHR) Personal Award Scheme: Postdoctoral Fellowship: "Improving outcomes in major depression: focus on bipolarity". 2007-2010, **PI: D.J. Smith**, Co-applicant: **N. Craddock**. Value: £434,047. This funded the development and evaluation of "Beating Bipolar".

4. Details of the impact (indicative maximum 750 words)

Introduced to wider audiences from 2008 onwards, the success of Beating Bipolar's content and delivery format has since had major impact upon national policy and widespread availability of this mental health intervention. Additionally, Cardiff University has benefited from further grant funding to develop and deliver our psycho-educational interventions.

Psycho-education and international adoption of online delivery

Medications are effective for bipolar disorder, a condition suffered by at least 1% of the UK population, but treatment non-adherence and psychosocial effects can adversely affect long-term outcomes. Psycho-education aims to address some of these issues. Psycho-education is an evidence-based intervention, offering peer support alongside expert information and coping strategies for people with bipolar disorder.

Despite being recommended by the 2006 UK NICE (National Institute for Health and Clinical Excellence) guidelines for Bipolar Disorder, psycho-education was not readily available to UK NHS patients. Having elected for an online format, BEP-C has enabled cheap, rapid, nationwide adoption of the Beating Bipolar psycho-education package, which the leading support organization, Bipolar UK, made freely available through its website in 2010. Shown by BEP-C research to be both safe and effective, the Cardiff package has been embraced by NHS services across Wales. Additionally, the Cardiff psycho-education package has been adopted by several Trusts in England (e.g., Leicester, Devon, Oxford, Hereford, West London, Camden & Islington, Tees Esk and Wear, Brent, Sussex), three Trusts in Northern Ireland (Northern Health and Social Care Trust, South Eastern Trust, Belfast Trust), one in Scotland (Forth Valley), and health providers abroad (e.g., New Zealand, Netherlands, Turkey).

Impact on national policy and industry strategy

To embed psycho-education within the mental health services in Wales, the BEP-C co-produced information leaflets with NHS Wales that emphasize key Beating Bipolar messages on how bipolar patients can achieve mood stability and optimize their own ability to function. Over 14,000 copies have been distributed as hard copy or pdf download at the Welsh National Centre for Mental Health websites (<http://www.ncmh.info/bepcymru>), average visits per month = 5,666. Important components of Cardiff University's psycho-education research and outputs are now incorporated into the Welsh Government's Strategy for mental health: *Together for Mental Health*.^{5.1} This is an all-age, cross-Governmental strategy for mental health and wellbeing in Wales that seeks to improve outcomes for users of mental health services, their carers and their families, and the wellbeing and resilience of the wider population.

For example:^{5.1}

- Outcome 2 is that "People and communities are more resilient and better able to deal with the stresses in everyday life and at times of crisis", and one of the means by which this is to be achieved is "Cardiff University maternal mental health learning programme module for Midwives to be used across Wales" in order "to improve resilience of children and young people".
- Outcome 6 is that "People in Wales have the information and support they need to sustain and improve their mental health and self-manage mental health problems", and one of the means by which this is to be achieved is "The National Centre for Mental Health (NCMH) to work collaboratively with stakeholders" in order to "ensure that people of all ages are better informed about mental health and mental illness."

Impact on patients

Group psycho-education for bipolar disorder has been shown to be effective (Colom et al., [2003], *Arch Gen Psychiatry*, 60, 402-407) by increasing time to relapse and reducing the number of relapses, the number of days in hospital and overall symptoms, and by leading to better treatment adherence. By making psycho-educational intervention more readily available to a wider audience, Cardiff's Beating Bipolar programme benefits both health care workers and patients.

The online programme enables clinicians to provide patients with information about their diagnosis and treatment, and encourage self-management skills and techniques to avoid relapse. It enables patients to become informed, collaborative partners with clinicians, fully concordant with treatments. Having groups of participants at differing stages of illness provides useful peer learning for people at all stages of the illness.

Patient discussion, feedback, and commentary on online forums enable healthcare practitioners to better understand patient behaviours and responses and to improve training and services. For example, in response to feedback from the qualitative aspects of the evaluation in the underpinning research, the team is developing a simple smartphone application for mood monitoring in bipolar disorder to complement the online educational package. (Prototype app Android and an iPhone/iPod downloads (at 1 October 2013, downloads = 11,700).

At 1 October 2013, over 14,000 Beating Bipolar online registrations had been distributed to bipolar patients across the UK. A detailed qualitative analysis (Poole et al. [2012], *BMC Psychiatry*, 12, 139), using standard thematic analysis techniques with 20 individuals following completion of the package showed that users felt benefits in terms of insight into their illness, health behaviour, personal routines and attitudes towards medication. The programme was thought to be most beneficial for those recently diagnosed because they had most opportunity to benefit from learning about illness and its management. Quantitative feedback from 72 individuals following completion of the programme showed a very high level of appreciation, with 96% indicating that they would definitely recommend the intervention to fellow-patients. A further 1000 individuals have accessed introductory modules through BipolarUK webpages (<http://www.bipolaruk.org.uk/beating-bipolar/>) and continue to progress through the programme.

Attracting additional funding and extended remit

Since the launch of the original Beating Bipolar, the programme's success has attracted additional funding from the Big Lottery, Welsh Government and the British Occupational Health Research Foundation (total funding = £900k). This has enabled the BEP-C to extend its psycho-educational resources to include:

- Modules and materials for families and carers (http://www.beatingbipolar.org/families_and_carers/)
- Modules and materials that deal specifically with risk in relation to childbirth and other reproductive events (http://www.beatingbipolar.org/women_and_bipolar/)
- Modules and materials that train and help professionals to identify and manage bipolar disorder and help patients to use our psycho-education package (e.g., <http://www.beatingbipolar.org/perinataltraining/>)
- A group psycho-education programme (10 sessions, each of 2 hours duration) that includes interactive exercises and uses embedded modules from Beating Bipolar (see www.ncmh.info/bepcymru)
- A module for bipolar patients, employers and health professionals about work and employment (<http://ncmh.info/our-resources/education-training/>)

5. Sources to corroborate the impact (indicative maximum of 10 references)

1. *Together for Mental Health* Welsh Government Strategy available at <http://wales.gov.uk/docs/dhss/publications/121203planen.pdf>. Cited in outcomes 2.1 and 6.1 [pdf downloaded on 26 July 2013 available from HEI]
2. The Funding Officer at the *Big Lottery Fund Together for Mental Health* programme will verify our charitable delivery of evidence-based psycho-education across Wales.
3. Web-based access to psycho-educational materials and packages can be seen at the National Centre for Mental Health website (<http://ncmh.info/our-resources/education-training/>) [pdf downloaded on 26 July 2013 available from HEI]
4. The Senior Medical Officer for Mental Health, Welsh Government will verify our provision of psycho-education in Wales.
5. The Chair of BipolarUK will verify that BeatingBipolar has been made available to members of BipolarUK and that our psycho-education materials and packages are widely appreciated by bipolar patients across the UK.
6. BipolarUK website with access pages for BeatingBipolar is available at <http://www.bipolaruk.org.uk/beating-bipolar/> [pdf downloaded on 26 July 2013 available from HEI]