A New Mental Health Service Model for NI: Evaluating the Effectiveness of Low Intensity CBT (LI-CBT) delivered in primary/community care settings

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Abstract

The prevalence of mental health problems in Northern Ireland (NI) is 19%, and this is 25% higher than in England (DHSSPS, 2014). In recent years, there have been extensive consultations, and subsequent recommendations made in NI, in an effort to address this issue and to support an improved infrastructure for the training and development of those working within mental health services (DHSSPS, 2012, 2015). Reform within mental health services in NI has been informed over the past decade by the Bamford review from which two action plans have been proposed (DHSSPS, 2012, 2015). In response to this, researchers at Ulster University wanted to demonstrate an evidence base for the implementation of a new primary care/community based psychological therapies service model in NI, based on the UK ‘Improving Access to Psychological Therapies’ (IAPT) service model. This was informed by the National Institute of Clinical Excellence (NICE) guidelines, which advocates the use of low intensity cognitive behavioural therapy (LI-CBT) for mild to moderate anxiety and depression (NICE 2004a, 2004b). Evidence from IAPT sites suggest that the model is clinically effective (Clark, Layard, Smithies, Richards, Suckling & Wright, 2009) but that the appropriate resourcing of steps one and two is a more cost effective way to manage the high demands placed on health services. Hence, the current study aims to evaluate the effectiveness of implementing an IAPT service model using LI-CBT in primary and community care settings in NI. Two clinically valid routine outcome measures were used, which evaluate every client in every session, with data collection for the first phase of the study taking place between January 2015 and October 2016. Preliminary reliable change outcomes for the pilot cohorts showed recovery rates of 47.9%, improvement rates of 76.7% and deterioration rates of 6%. These findings indicate that the IAPT service model is clinically effective in a NI population. Data collection for the study is continuing between November 2016 and November 2017, using the same outcome measures, and additional follow-up data will also be examined in order to determine if the psychological benefits of interventions are maintained over time. Future analyses will also aim to identify individual and service level factors which potentially impact the effectiveness of the intervention.

Background

The English IAPT initiative

‘Improving Access to Psychological Therapies’ (IAPT) is a large scale initiative which has received substantial government investment in England (Gyani, Shafran, Layard and Clark (2013). It was first implemented in 2007, and aims to improve access to evidenced-based psychological treatments for common mental health difficulties, primarily depression and anxiety (Clark, et al, 2009). ‘Access’ specifically refers to the provision of treatments which embrace utilization, and availability, as well as efficiency and effectiveness. Furthermore, improved access is attributed to equity and to promote a culture of social inclusion and patient centeredness (Gulliford, Hughes & Figeroa-Munoz, 2001).

The IAPT service model is informed by the National Institute of Clinical Excellence (NICE) guidelines, which advocate the use of cognitive behavioural therapy (CBT) in the treatment of anxiety and depression (NICE 2004a, 2004b). Importantly, these guidelines also recommend that psychological interventions are delivered according to a stepped care framework, whereby the most effective, yet least resource-intensive, treatment is delivered first. NICE guidelines recommend that mild to moderate depression and anxiety can be managed effectively using low intensity interventions within primary care and community level settings (DHSSPS, 2005). Low intensity in this case refers to forms of CBT treatment which can be delivered in non-traditional formats (e.g. via telephone/online) and often require less practitioner support in terms of the frequency and duration of sessions. The IAPT workforce delivering these interventions are referred to as psychological wellbeing practitioners (PWP: Richards and Whyte, 2011).

Evidence from UK IAPT sites suggest that low intensity CBT is an effective treatment for mild to moderate depression and anxiety (Clark et al, 2009). Gyani, et al. (2013) examined data from 32 IAPT sites, representing approximately 19,000 clinical cases, and reported that 40% of individuals had reliably recovered and 64% had reliably improved since using the service. Within IAPT services, clients complete the PHQ-9 (measuring depression), and the GAD-7 (measuring anxiety) at each contact. Improvement is determined using a reliable change index whereby six and four indicate reliable change in depression and anxiety respectively. Recovery requires a demonstration of reliable improvement, with final scores below clinical thresholds, on both psychometric measures at the end of treatment.

The IAPT initiative has also been demonstrated to have important cost benefits. The estimated average cost for a low intensity session and course of treatment was £99 and £493 respectively. These estimates are supportive of the originally proposed IAPT programme on cost-benefit grounds (Layard, Clark, Knapp & Mayraz, 2007;
Radhakrishnan, Hammond, Jones, Watson, McMillan-Shields, & Lafortune, 2013). The rationale for nationwide implementation has also been motivated by the potential economic gains associated with increased productivity and re-employment (Layard et al., 2007)

**Mental Health Services in Northern Ireland**

The prevalence of mental health problems in Northern Ireland (NI) is 19%, and this is 25% higher than in England (DHSSPS, 2014). Despite the prevalence of mental health difficulties in NI being 25% higher, services in England spend more than double the per capita spend on the provision of support for individuals with mental health difficulties (DHSSPS, 2010; DHSSPS, 2014). In recent years numerous policy documents relating to mental health services in Northern Ireland have been published to address this issue and to support an improved infrastructure for the training and development of those working in mental health services (e.g. Making Life Better 2012-2023, Northern Ireland Public Health Framework 2012; Transforming Your Care, DOH 2011; Health and Wellbeing 2026, DOH 2016). Moreover, reform of mental health services in Northern Ireland has been informed throughout the past decade by the Bamford Review (Bamford, 2006). In 2016, the Department of Health Northern Ireland initiated an evaluation of the 2009-2011 and 2012-2015 Bamford action plans (DHSSPS, 2012, 2015). Preliminary findings highlighted that there remains a need to further promote psychological therapies, to improve access to services in times of crisis, and to improve involvement at the community and voluntary level. Funding reductions are considered to account, in part, for the failure to fully implement Bamford recommendations and best practice initiatives throughout the province. (DHSSPS, 2012, 2015).

The Strategy for the development and implementation of psychological therapy services in Northern Ireland (DHSSPS, 2010) recommended that psychological therapies should be a “core component” within mental health services (pg 49). Recommendations made in regards to strategy implementation indicate that additional investment, in the region of £4.4 million, would be required annually from 2011 within psychological therapies in order to facilitate significant reform.

However, the Bamford Vision acknowledged that further funding would be required for mental health and learning disability services across a 10 to 15-year period, due to historically inadequate investments and the growing need for psychological treatment in NI. Recently reported figures indicate that none of Northern Ireland’s five Health Trusts have met the 13 week waiting time targets for treating individuals with mental health problems during the last three years, and local government already acknowledged the need for a workforce strategy to avoid potential shortfalls such as this (HSCB, 2015). From the perspective of service users and providers, a recent report from Action Mental Health indicated that service users feel they are not treated like people but as problems to be managed. From a systemic perspective, serious concerns were highlighted regarding inadequate funding, fragmentation of services, poor communication and lack of leadership (AMH, 2015).

**Overuse of pharmacological interventions**

It has been recently reported that that GPs in Northern Ireland prescribe anti-depressant medications at a rate 2.5 times higher than in England and Wales (McClure, 2013). Whilst not disregarding the legacy of the ‘Troubles’, prescription rates were found to be significantly higher than in other UK regions with similar economic profiles and even higher rates of depression, which again points to an issue of potentially inadequate access to non-pharmacological help. In response, and in order to provide GPs with an alternative to medications for common mental health problems, ‘Primary Care talking therapy hubs’ were introduced in NI (HSCB, 2015). The aim of such Hubs is to advocate prevention and early intervention using services including counselling, CBT, group therapy, guided self-help, life coaching and signposting to community services. Hubs in the five Health and Social Care Trusts across the province are still in the process of being established, and there has been recognition from local government that additional hubs with appropriately trained staff are required (HSCB, 2015).

**Psychological Therapies in Primary Care**

Although the efficacy of early interventions such as low intensity cognitive behavioural therapy (LI-CBT) is most strongly evidenced with depression and anxiety, and although such approaches are shown to save money in the long term (Layard et al., 2007), a stepped care model has not yet been fully established in NI (Blane, Williams, Morrison, Wilson and Mercer, 2014). Psychological therapy service provision in NI has tended to focus on the more complex end of the spectrum of mental health difficulties, and consequently, educational and professional training has similarly concentrated largely on individuals working at these levels. In 2013, the Northern Ireland Mental Health Services Threshold Criteria acknowledged that low intensity therapists working at stepped care
levels one and two, including those delivering LI-CBT, are crucial for the establishment of an effective stepped care approach to psychological therapy provision in the province (MHSTC, 2013).

**Training of Psychological Wellbeing Practitioners in Northern Ireland**

In light of the mental health problems faced by large numbers of the population in NI, and in recognition of the need for an appropriately skilled and experienced workforce to fill the aforementioned gap in service provision, Ulster University developed accredited training in evidence-based low intensity interventions for common mental health difficulties. Since 2014, this has facilitated the training of British Psychological Society accredited Psychological Wellbeing Practitioners (PWPs), who deliver low intensity cognitive behavioural therapy interventions to individuals within Primary/Community Care level services throughout training.

**Aims and Objectives**

Considering the evidence presented above, it is clear that the current provision of psychological therapies at the Primary/Community Care Level in NI is in its early stages of development, with few empirical evaluations to date of the effectiveness of treatment approaches at this level. Indeed, the recent DoH (2016) indicated that the improvement of access to psychological services has been wholly inadequate and significant funding is required to match that which is being offered in England. Hence, there is a need to provide evidence of a service model that works, and can be implemented effectively in NI. The main objective of the current pilot study is to present the preliminary findings of an evaluation of PWPs providing LI-CBT for common mental health difficulties working directly with the newly established ‘Primary care Talking Therapies Hubs’ and community care settings in an NI context. It was predicted that following a course of LI-CBT there would be a reduction in PHQ-9 and GAD-7 scores to normal range below clinical thresholds, and that these findings would be in keeping with existing IAPT UK outcomes, thereby providing initial evidence that the IAPT service model is effective in a Northern Ireland context.

**Method**

This was a prospective study following a cohort of participants from baseline (before commencement of therapy), through the course of LI-CBT weekly treatment (1-11) sessions, and ‘follow-up’ (4 months post-discharge). This study is limited to examining changes in psychological status in participants before and after therapy; the follow-up analysis is part of an on-going project.

**Sample**

Trainee PWPs consisted of students on the MSc applied psychology course at Ulster University, which facilitated clinical skills, training, placements and supervision. Data from a total of 199 patients who attended a trainee PWP within the 2015 and 2016 cohorts was collected. (see figure 1). In keeping with IAPT recommendations (Gyani et al., 2013), the clinical outcomes reported here are related only to clients meeting “caseness” criteria. This required at least two contacts with a PWP as pre and post treatment scores cannot be collected based on a single initial session. A ‘case’ client must also have scored above the clinical thresholds on at least one of the measures at assessment, more specifically this refers to scores of 10 and/or 7 or above on the PHQ-9 and GAD-7 respectively. 165 clients were identified as “case” and 35 were identified as “non-case” prior to analysis, in accordance with this IAPT “caseness” criteria. Of the clients fitting caseness criteria, there were 105 females and 60 males. Ages ranged from 18 to 77, with a mean age of 39. 55% of patients were treated in community settings, 18% in a GP practice, and 27% at primary care services psychological therapies within a Northern Ireland NHS Trust.

**Measures**

As per IAPT service protocol, each client at each contact completed two routine outcome measures.

The Patient Health Questionnaire (PHQ-9) was used to measure the severity of depressive symptoms. This is a nine-item standardised measure which has been validated in a UK depressed population (Cameron, Crawford, Lawton & Reid, 2008). The scores range from 0 to 27, with a score of ten or more being the threshold to identify clinically relevant depressive symptoms (Kroneke, Spitzer & Williams, 2001).

The General Anxiety Disorder Questionnaire (GAD-7) has also been determined to have good psychometric properties having been validated in U.S. populations. The scores range from 0 to 21 and a score of eight or more
being the threshold to identify clinically relevant general anxiety disorder (Kroneke, Spitzer, Williams, Monahan & Lowe, 2007).

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A ‘case’ client must also have scored above the clinical thresholds on at least one of the measures at assessment; more specifically, this refers to scores of 10 or above on the PHQ-9 and/or 8 or above on the GAD-7. 165 clients were identified as “case” and 34 were identified as “non-case” prior to analysis, in accordance with the IAPT “caseness” criteria. Of the clients fitting caseness criteria, there were 105 females and 60 males. Ages ranged from 18 to 77, with a mean age of 39. 55% of patients were treated in community settings, 18% in a GP practice, and 27% at primary care psychological therapies service within a Northern Ireland NHS Trust.

Reliable change rates

The Reliable Change Index (Jacobson & Truax, 1991) is an appropriate way of assessing deterioration or improvement in anxiety and depression symptoms, as it allows one to determine whether an increase or decrease in psychometric scores from baseline to post-treatment exceeds the measurement error of the relevant scale, and thereby can be considered statistically reliable. In keeping with existing IAPT evaluations (Gyani et al., 2013), a reduction or increase of six or more points on the PHQ-9 and a reduction or increase of four or more points on the GAD-7 have been determined as the thresholds for reliable change in depression and anxiety symptoms respectively. Clients are considered to have ‘reliably improved’ if either of their measure scores reliably decreased and the score for the other measure either remained the same or did not reliably deteriorate. Clients are considered to have ‘reliably deteriorated’ if either measure score reliably increased, or the other score either also increased or did not reliably improve. A reliable recovery index was also used in line with existing IAPT studies (Gyani et al., 2013). Clients are considered to be ‘reliably recovered’ if they scored above the clinical threshold on at least one psychometric measure at assessment interview, showed reliable improvement during the course of treatment, and scored below clinical thresholds on both the PHQ-9 and GAD-7 at the point of treatment completion. For example:

- A case client with the following scores would have demonstrated reliable improvement: baseline PHQ-9 (13), baseline GAD-7 (9), final PHQ-9 (7), final GAD-7 (8).
- A case client with the following scores would have demonstrated reliable deterioration: baseline PHQ-9 (14), baseline GAD-7 (10), final PHQ-9 (9), final GAD-7 (14).
- A case client with the following scores would have demonstrated reliable recovery: baseline PHQ-9 (15), baseline GAD-7 (8), final PHQ-9 (8), final GAD-7 (5)
Results

A total of 199 participants sought access to the service. Of these, 198 were assessed and of these 178 attended a second session at least; the rate of uptake of LICBT was therefore 89.4%. Overall, 47.9% of patients who met caseness criteria demonstrated reliable recovery. 76.7% of these patients demonstrated reliable improvement, and 6.1% demonstrated reliable deterioration (see table 1).

Table 1: Frequencies and percentages of reliable recovery, improvement and deterioration rates for LICBT patients meeting caseness criteria for cohorts 2014/15 and 2015/16.

<table>
<thead>
<tr>
<th>Caseness criteria met (n= 165)</th>
<th>Reliable Improvement demonstrated</th>
<th>Reliable Deterioration demonstrated</th>
<th>Reliable Recovery demonstrated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>125 (77%)</td>
<td>10 (6%)</td>
<td>78 (48%)</td>
</tr>
<tr>
<td>No</td>
<td>38 (23%)</td>
<td>153 (94%)</td>
<td>85 (52%)</td>
</tr>
<tr>
<td>Missing</td>
<td>2 (1.2%)</td>
<td>2 (1.2%)</td>
<td>2 (1.2%)</td>
</tr>
</tbody>
</table>

*At least 2 sessions attended and above clinical thresholds on one or both measures at baseline = caseness

Discussion

Initial Northern Ireland outcomes: Clinical effectiveness

Findings from the current study are in keeping with outcomes from UK IAPT sites including the previously reported 2015/16 outcomes (HSC, 2016). More specifically, when NI reliable change rates are compared directly with the most recently published IAPT UK outcomes, recovery rates are 47.9% and 46.3% respectively. Improvement rates are 76.7% and 62.2% for NI and England respectively (HSC, 2016). These preliminary results provide initial evidence that low intensity cognitive behavioural therapy is an effective treatment for mild to moderate level mental health difficulties in NI. As reported earlier the prevalence of mental difficulties in NI is 25% higher than in England (DHSSPS, 2014). More explicitly, the Northern Ireland Health Survey (2014/15) reported that 19% of respondents exhibited symptoms of a potential mental health problem (Bell & Scarlett, 2015). Assuming this population was suitable for LI-CBT, it may be estimated based on the current findings that prevalence could be reduced to 4.4% with reference to improvement rates and 9.9% with reference to recovery rates.

Cost benefits: increasing reemployment and productivity

Furthermore, research also indicates that 22% of individuals in NI live in poverty (Bell & Scarlett, 2015). Indeed, in Northern Ireland, the prevalence of mental health difficulties is doubled (30%) for those in the most deprived areas, when compared with those in areas of less deprivation (15%) (Bell & Scarlett, 2015). It is estimated that recent public cuts have affected Northern Ireland in a particularly detrimental way, given that the region relies on public spending for 62.2% of its output, compared to 39.8% in the rest of the UK.

Compared with other regions of the UK, NI has the highest proportion of adults not in work (28.4%). More precisely, this is 5% higher than the UK average (O’Neill, McGregor & Merkur, 2012). Absenteeism is heavily attributed to mental health difficulties, more specifically accounting for 31.9% of all lost days, and 39.1% of long-term sick leave (NISRA, 2015). The economic gains directly associated with IAPT in England in the first three years include almost 45,000 individuals moving off benefits (Clark, 2011). As the IAPT model has been applied to mental health clients in the current study, the LI-CBT interventions used here could have a similar impact on individuals moving off benefits and returning to work in NI. The findings of the current study can therefore be
tentatively applied to infer that such evidence based interventions for common mental health problems could reduce rates of absenteeism in the province. Using the NISRA figures, days lost through mental health issues could therefore be reduced to 7.43% as per improvement rates found in the current study, and 16.7% as per recovery rates. However, this would need to be formally evaluated, and hence our future research recommendations are to assess prospective employment/benefit rates for the 2016/2017 cohort.

Further expansion of the English IAPT initiative has been recommended as a step to achieving better access to mental health services by 2020 (DOH, 2014). Investment in health care is important for both socioeconomic and ethical reasons, but has also been emphasised in order to counteract perceived “institutional bias”. More resources are dedicated to physical healthcare even though mental ill health can accrue an annual societal cost of up to 100 billion (DOH, 2014).

Moreover, Layard and Clark (2015) have recently reported on reasons why more psychological therapy would cost nothing. In the majority of wealthy countries, approximately 1% of the working age population are on benefits due to depression or anxiety. This costs the UK government £650 more per month per person, compared with if they were not receiving these payments. If a minimum of just 4% of this patient population worked for just one more month following treatment, the actual cost of treatment would be fully repaid. The argument to expand service provision is therefore thoroughly justified.

**Adhering to the evidence base: Delivering the right treatment, at the right time, in the right place**

As outlined earlier, the IAPT service model is informed by evidence based clinical guidelines. Our findings support these NICE guidelines in a NI context, which advocate the use of cognitive behavioural therapy for depression and anxiety. NICE assemble a panel of experts made up of clinicians, researchers and consumers who carefully review the available evidence base on the optimum treatments for each physical and mental health problem. In 2004, NICE carried out systematic reviews of research investigating the effectiveness of interventions for depression and anxiety disorders. The resultant clinical guidelines advocate the provision of specific kinds of cognitive behavioural therapy (CBT) for depression and anxiety disorders (NICE, 2004).

Crucially, cognitive behavioural therapy is considered to be more effective than medication given that it reduces the likelihood of relapse by at least 50%, and moreover, the vast majority of patients prefer it to a psychological treatment (McHugh, Whitton, Peckham, Welge and Otto, 2013).

As previously outlined, NICE guidelines further recommend that mild to moderate depression and anxiety can be managed effectively using low intensity interventions within primary care level settings (DSSPS, 2005). Furthermore, low intensity interventions improve the flexibility, capacity and responsiveness of the relevant services while increasing patient-choice, and enhancing service cost-effectiveness (Bennett-Levy et al., 2012).

**Conclusion**

Currently, the mental health service framework in NI does not formally apply this NICE evidence, which has also been highlighted in the recent Evaluation of the Bamford Action Plans (DoH, 2016). Our findings indicate that reliable recovery and improvement have been demonstrated for clients in NI who have presented with common mental health difficulties. Indeed, LI-CBT interventions (provided by PWPs) provides the only evidence base to date in NI for treating anxiety and depression at stepped care levels 1-3. Additionally, the Bamford evaluation highlighted a need to further promote psychological therapies, to improve access to services in times of crisis, and to improve involvement at the community and voluntary level (DOH, 2016; Betts & Thompson, 2017). Our initial findings indicate that PWP’s have addressed this need.
Clinical Policy Recommendations:

- Whilst the findings of this study are preliminary, the current pilot offers a potential solution to addressing the need for evidence-based treatment and suggests that low intensity CBT (provided by accredited PWP’s), is a clinical and cost-effective intervention, as well as being an effective service model within primary and community care settings in NI (stepped care 1-3).

- Therefore, our recommendation to practice and policy implementation, is that in order to assist the people of NI to gain access to appropriate, clinical and cost effective psychological interventions at steps 1-3, a province-wide PWP service (embedded within the talking therapy hubs and GP practices) needs to be fully established and adequately funded. This could potentially prevent more complex mental health issues through the use of early intervention and quicker access to services with reduced waiting times, and by enabling service users to access the right treatment in the right place at the right time.

- Indeed, some recent recommendations made by Sands (2017) have suggested the placing of mental health practitioners, offering the appropriate level of CBT, in every GP practice in NI. We are suggesting that PWP’s can be that ‘mental health practitioner’, who are fit for purpose and fit for the future of NI mental health services.

Research recommendations:

- The collection of patient data and routine outcome measures is continuing at pre-treatment, post treatment and follow up points. In this study future analyses will focus on this larger sample of all previous, current and future cohorts combined. Reliable recovery, improvement and deterioration rates will be produced.

- Previous IAPT studies have determined that many of the psychological benefits resulting from interventions had been maintained (Clark et al., 2009). In order to produce comparative data regarding longer-term effectiveness, future N. Ireland research will also examine data collected from clients at a four month follow-up point after discharge from the service.

- In order to test for individual differences in treatment effect, a series of latent growth curve models will be specified and tested in order to determine if there are different rates of change for unobservable sub-populations, and to identify individual or service level variables which potentially increase or reduce the effectiveness of the intervention.

- Furthermore, data on employment statuses and medication usage pre and post treatment will be scrutinised. Increasingly, governments are driven by the recognition of the huge economic and social costs of high prevalence disorders, and so we need future research to evaluate cost effectiveness in order to inform future service design and planning. Randomised controlled trials facilitating a comparison of service models may also provide further evidence for the effectiveness of the IAPT model in a Northern Ireland context.
References


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