Introduction to the research on:

the impact and effectiveness of meaningful activity for people with mental health problems

Dr Naomi Harflett, Yasmin Jennings and Kate Linsky

April 2017

NDTi
National Development Team for Inclusion

NHS
Camden and Islington
NHS Foundation Trust

National Development Team for Inclusion

First Floor
30-32 Westgate Buildings
Bath   BA1 1EF
T: 01225 789135
F: 01225 338017

www.ndti.org.uk

NHS
Camden and Islington
NHS Foundation Trust

Background

The National Development Team for Inclusion (NDTi) has carried out four short scoping reviews of research in areas of social care that were identified as relevant to the work of the Camden and Islington NHS Foundation Trust (C&I):

- The effectiveness of supported housing and accommodation for people with mental health problems
- The impact and effectiveness of meaningful activity for people with mental health problems
- Experiences of the Mental Health Act and the role of professionals involved
- What works to improve the social networks and prevent social isolation for people with mental health problems

The focus is on the social, rather than therapeutic or clinical, outcomes.

The papers do not claim to be a comprehensive account of all evidence available in this area. Instead they are provided for those who are interested in what research already exists, where to find it and what areas might usefully be further explored.

Introduction

This paper provides a review of research on the impact and effectiveness of meaningful activity for people with mental health problems.

The summary provides:

- An overview of the quantity and quality of the research in this area
- A summary of the studies reviewed
- Some key findings
- A summary of areas identified for future research
- A table detailing the research studies reviewed and their relevant findings

Overview of the quantity and quality of the research

- Overall there is very little research on 'meaningful activity' or 'meaningful occupation' as concepts and there appears to be little consensus or discussion of what is meant by the terms
- In response to this, the search focused on different types of potentially meaningful activities or occupations including unpaid work and volunteering, horticulture, woodwork, arts and music, physical exercise and leisure
- The majority of studies are small qualitative studies (many with 10 or fewer participants), and only one study uses a comparison or control group
- Most studies focus on one type of meaningful activity or occupation only – no studies were found which compared one type of activity or occupation to another.
- Most studies interview participants while they are currently engaged in the activity or occupation – none of the studies looked at the long-term impact of the activity or occupation
- There was limited use of recognised scales to measure outcomes or effects of participation in the activity or occupation

Summary of the studies reviewed

- 33 studies in total
- 16 qualitative studies with numbers of participants between one and 21
- Eight of the qualitative studies had 10 or fewer participants
- Qualitative methods included interviews (12), interviews and participant observation (three), case vignettes (one)
- Six quantitative studies including five studies which measured baseline and follow-up; one of these included a waiting list control group
- Nine reviews of literature (including three systematic reviews; two with meta-analysis)
- One other or not stated

Some key findings

- The vast majority of the studies found people experience positive outcomes from participating in meaningful activity or occupation, including: a sense of purpose or meaning to life; a structure or routine to the day; acquisition of skills; feeling useful; a sense of identity; social interaction and increased social networks; improved wellbeing; access to employment or education; qualifications; creative challenge; self-expression; improved confidence; aspiration; and improved self-esteem.
- However, due to the dominance of small-scale qualitative research studies and the lack of comparative or long-term studies, these positive outcomes may be overstated. There may be a tendency to focus on positive rather than negative outcomes in these studies, as people who are interviewed are more likely to be those who have had a positive experience, while individuals who have had negative experiences, and especially those who drop out from interventions, are rarely involved in the research or evaluation.
- There is no conclusive evidence to show that volunteering is beneficial for people with mental health problems and some evidence suggests that individuals can experience negative as well as positive outcomes from volunteering.

Summary of areas for possible future research

- Large-scale quantitative studies or controlled trials that build on qualitative findings, in order to:
  - measure the scale of outcomes or effects
  - identify what it is about the activity/occupation which leads to positive outcomes (i.e. the mechanism)
  - explore which particular activities/occupations are more effective than others by comparing activities/occupations.
- Longitudinal and follow-up studies.

Table of the research studies reviewed

Reference	Publication type	Methodology and sample size	Subject, aims or research question	Summary of relevant findings
Occupation or activity in general				
Kilgarriff-Foster, A. and O'Cathain, A. (2015). Exploring the components and impact of social prescribing. *Journal of Public Mental Health*, 14(3), 127-134.	Peer-reviewed journal	Evidence review	To explore the evidence base on social prescribing, including mapping its key components and potential impact	24 studies were included, evaluating a wide range of services with a diverse range of methodologies. Stakeholders such as general practitioners and patients perceived that social prescribing increased patients' mental wellbeing and decreased health service use. However, there is limited quantitative evidence to support this. The only randomised controlled trial showed a decrease in symptoms and increase in functional wellbeing at four months. The other non-controlled designs had large drop-out rates limiting their value in determining effectiveness.
Roberts, C., Davies, J. and Maggs, R.G. (2015). Structured community activity for forensic mental health–a feasibility study. *Journal of Forensic Practice*, 17(3), 180-191.	Peer-reviewed journal	Evaluation of two community-based schemes	To explore the acceptability, feasibility and sustainability of the projects along with the views and achievements of participants from low secure mental health settings. The first project uses the natural environment as a medium in which to deliver opportunities to develop vocational skills. The second provides exercise-based activity to promote healthier living	Both schemes were well attended with positive views from participants and others. Planned positive risk taking enabled individuals to participate in a safe and structured way. Initial evaluation of the projects suggests that they were viewed as acceptable by the service and valued by participants. Participation led to some individuals engaging in new opportunities for vocational and leisure activities.

Rani, S. and Mulholland, F. (2014). An appraisal of service users' structured activity requirements in an Irish forensic setting. *Journal of Psychiatric and Mental Health Nursing, 21*(5), 383–90.	Peer-reviewed journal	Survey of time use of all inpatients of an Irish forensic mental health service (n=93) to measure participation in structured activity	To explore the use of structured activity within the Irish forensic mental health setting (against the recommended 25 hours of structured activity for people in forensic mental health settings) and make recommendations for increasing service users' engagement in meaningful activity. Structured activity includes activity around physical health and exercise, mental health (therapy sessions etc.), and social and occupational rehabilitation and recovery (e.g. arts, leisure, family time, learning etc.)	Service users in more secure units are less likely to meet the 25-hour target of structured activity - with higher levels of security comes greater obstacles to meaningful occupation or activities. Just under half of activities are social, occupational, rehabilitative and recovery-based in nature.
Chugg, A. and Craik, C. (2002). Some Factors influencing Occupational Engagement for People with Schizophrenia Living in the Community. *British Journal of Occupational Therapy, 65*(February), 67–74.	Peer-reviewed journal	Qualitative semi-structured interviews with people with schizophrenia (n=8)	To explore some of the factors influencing occupational engagement for people with schizophrenia	Four main themes emerged: **Health** - occupational engagement was affected by mental and physical health and effects of medication. **Routines** - people generally felt positive about having routines, plus importance of arranging routines around times they functioned at their best. **External factors** - occupational engagement was often attributed to the influence of others (including importance of community workers in encouraging them to engage). **Internal factors** - self-efficacy is an important influence on occupational engagement.

Kelly, S., McKenna, H., Parahoo, K. and Dusoir, A. (2001). The relationship between involvement in activities and quality of life for people with severe and enduring mental illness. *Journal of Psychiatric and Mental Health Nursing*, *8*(2), 139–46.	Peer-reviewed journal	Randomly sampled structured interviews with people with severe and enduring mental illness (n=92), measuring participation in activities and quality of life	To examine the relationship between involvement in activities and self-reported quality of life for people with severe and enduring mental illness. Activities measured were: shopping, going to restaurant/coffee shop, trip in bus or car, walk, laundry, preparing a meal, reading newspaper or magazine, cleaning home, watching film or play, playing or watching sport, going to library, watching TV or listening to radio, out at social activity, participating in hobby	Over half the sample had no structured occupational activities in their lives. A very weak positive correlation was found between participation in activities and global quality of life. Although statistically significant, the weak association led the researchers to conclude that there was no positive correlation between involvement in activities of living and global quality of life. A moderate positive relationship was found between satisfaction with activities of living and global quality of life.
Unpaid work/volunteering				
Fegan, C. and Cook, S. (2012). Experiences of volunteering: a partnership between service users and a mental health service in the UK. *Work*, *43*(1), 13–21.	Peer-reviewed journal	Purposively sampled interviews with service user volunteers (n=11) with a serious mental illness	To investigate how people with serious mental illness perceived the experience of volunteering for the health care organisation in which they had received a service	Volunteering fosters positive risk-taking and gives individuals a valued identity, beyond symptoms, illness and disability, which focuses on strengths, wellbeing and 'doing'. Having something to give as well as needing help was an important part of recovery and building positive self-esteem. Some participants wanted to move towards paid work in a care environment.
Svanberg, J., Gumley, A. and Wilson, A. (2010). How do social firms contribute to recovery from mental illness? A qualitative study. *Clinical Psychology &*	Peer-reviewed journal	Purposively sampled interviews with unpaid participants of two emerging social firms (n=16), project leaders (n=2) and volunteers (n=1) in West Scotland	To explore experiences of recovery from mental illness in the context of two emerging social firms – a bike repair and maintenance project and a woodwork and furniture-making project	Individuals recovering from mental illness experience social firms as providing a flexible environment which promotes feelings of belonging, success, competence and individuality. Concludes that social firms provide a secure base for recovery – influenced by characteristics such as a flexible structure, a meaningful and diverse activity, an accepting

Psychotherapy, *17*(6), 482–96.				social group and an inclusive leadership.
Farrell, C. and Bryant, W. (2009). Voluntary work for adults with mental health problems: A route to inclusion? A review of the literature. *British Journal of Occupational Therapy*, *72*(April), 163–173.	Peer-reviewed journal	Literature review	To review the evidence base for the use of volunteering to promote social inclusion for people with mental health problems and discuss the implications for occupational therapy	Although voluntary work is promoted as a useful means of improving mental health and promoting social inclusion, there is currently little evidence to support this, and much of what exists is methodologically flawed. Some US-based work suggests that volunteering can be beneficial for mental health among the general population, but this is mainly for older people and causal link is unclear. Some evidence appears to indicate that people with mental health problems may face additional barriers such as stigma and discrimination – there is potential the volunteering can be socially excluding and detrimental to mental health.
Howlett, S. (2004). Volunteering and mental health: A literature review. *Voluntary Action*, *6*(2), 55–72.	Peer-reviewed journal	Literature review	To review the evidence on whether volunteering is beneficial for people with mental health problems	The links between volunteering and mental health remain relatively unresearched and there is little UK-based research. There appears to be evidence that volunteering is beneficial for mental health as it is associated with improved wellbeing; however this is mainly US-based research, mainly in over 65s, and a causal link is not clear. It is unclear whether it is volunteering which is beneficial for mental health, or whether any social participation would have the same effect; the mechanisms that increase mental wellbeing appear to be little understood.

National Centre for Volunteering (2003). *Volunteering for mental health* **(pp. 1–4). London: National Centre for Volunteering.**	Research summary report	Survey of volunteers with direct experience of mental health issues (n>100)	To demonstrate the value of volunteering to mental health and to raise awareness of mental health issues throughout the voluntary sector	Almost half of respondents said that volunteering had a positive effect on their mental health. Respondents reported that volunteering had given structure, direction and meaning to their life, widened their social networks, improved their vocational and interpersonal skills and helped them to gain access to employment, education and training. Individuals also reported negative experiences - more than a third said they couldn't always cope with their volunteering and that this made them feel stressed. Others felt it was difficult to talk to staff about their mental health issues, and some reported that the organisation did not need them. Barriers included their own self-confidence, other people's lack of awareness or opinions of mental health issues, effect on benefits, side effects of medication and the need to provide references.
Horticulture				
Bragg, R., Wood, C. and Barton, J. (2013). *Ecominds effects on mental wellbeing: An evaluation for Mind*. **London: Mind.**	Evaluation report	Pre and Post standardised questionnaires of participants in the Ecominds scheme (n=515) and a sub-sample of nine Ecominds projects in more depth (n=287)	To evaluate Mind's Ecomind scheme (130 ecotherapy projects which comprise of nature-based facilitated and structured interventions, in which 12,071 people living with mental health problems participated), focusing on impact on wellbeing, social inclusion and connection to nature	**Wellbeing** - the majority of participants experienced a statistically significant increase in self-esteem and wellbeing over the duration of the scheme. **Social inclusion** - there was a statistically significant increase in participants' social engagement and support score between beginning and end of participation in the schemes evaluated in depth. 81% of the beneficiaries showed an increase in the frequency of getting involved in community activities after being involved in the project. More people felt they belonged to the community after they had been involved in the project. Other themes that emerged were the importance of social contact, being outside, learning new skills and activities, having fun and experiencing a sense of achievement.

Barley, E. A., Robinson, S. and Sikorski, J. (2012). Primary-care based participatory rehabilitation: Users' views of a horticultural and arts project. *The British Journal of General Practice, 62***(595), e127–34.**	Peer-reviewed journal	Semi-structured interviews with participants of Sydenham Garden, a horticultural and participatory arts rehabilitation project in South London (n=16)	To explore views and experiences of participants of a primary-care-based horticultural and participatory arts rehabilitation project – participants had a range of mental and physical health problems, and most had depression	Participants were overwhelmingly positive. They considered the project to promote wellbeing by providing purposeful and enjoyable activity and interest, improving mood and self-perceptions, and providing an escape from life's pressures. Being outdoors was considered therapeutic. The most valued aspect of participation was the social contact derived as a result of it. Many participants developed transferable skills including nationally recognised qualifications. There was some initial anxiety about attending.
Fieldhouse, J. (2003). The Impact of an Allotment Group on Mental Health Clients ' Health, Wellbeing and Social Networking. *British Journal of Occupational Therapy, 66***(July), 286–296.**	Peer-reviewed journal	Qualitative in-depth semi-structured interviews (n=9) with people with a serious mental health problem	To explore the experiences, meaning and impact of involvement with an allotment group for individuals with a mental health problem	**Environment** - participants valued the natural outdoors, green environment and sense of peace, and the social environment was felt to be accepting, safe and supportive. **Subjective experience** - participants described experiencing a clearer head, emotional responses such as an appreciation of beauty and gaining new perspectives on their own ability. **Occupational performance** - engagement was compared favourably to previous experiences of social isolation and inactivity. Goals emerged spontaneously in response to newly mobilised skills. Participants described the benefits of regular access to a social network characterised by friendships and reciprocal goals; it was an access point into the community through contact with other allotments owners interacting on common issues.
Woodwork				
Mee, J., Sumsion, T. and Craik, C. (2004). Mental Health Clients Confirm the Value of Occupation in Building Competence and Self-Identity. *British Journal of Occupational Therapy, 67***(May), 225–233.**	Peer-reviewed journal	Qualitative research in two mental health day services - a woodwork workshop and a drop-in facility. Participant observation of 10 sessions and in-depth interviews with clients (n=6)	To evaluate occupational therapy's beliefs in the restorative powers of occupation from the perspective of people living in the community with enduring mental health problems	Expands on two themes identified in Mee and Sumsion (2001). Occupation was identified both as a means for building competence through the acquisition of skills, coping with challenges and achieving success, and as a medium for developing self-identity through the drive to create, feelings of usefulness and engendering a sense of self.

Mee, J.and Sumsion, T. (2001). Mental Health Clients Confirm the Motivating Power of Occupation. *British Journal of Occupational Therapy*, *64*(March), 121–128.	Peer-reviewed journal	Qualitative research in two mental health day services - a woodwork workshop and a drop-in facility. Participant observation of 10 sessions and in-depth interviews with clients (n=6)	To explore the perceived benefits of engagement in occupation, from the perspective of people with enduring mental health problems who live in the community	Three themes emerged - generating motivation, building competence and developing self-identity. The second two are presented in Mee et al (2004). Generating motivation - participants identified their need to occupy time in a meaningful way and described the boredom and desolation experienced when they had nothing purposeful to do. All were positive in the way they described the motivating power of engaging in occupation in terms of giving them a sense of purpose, a way to organise their time/provide structure, and the importance of a safe and supportive environment where they could foster choice and personal empowerment.
Arts and music				
Van de Venter, E. and Buller, A.M. (2015). Arts on referral interventions: a mixed-methods study investigating factors associated with differential changes in mental well-being. *Journal of Public Health*, 37(1), 143-150.	Peer-reviewed journal	Mixed methods study of an Arts on Referral scheme. Pre and Post-measurement of wellbeing scores for 44 volunteers, and six semi-structured interviews	Explored influences on differential changes in measured wellbeing among participants of an Arts on Referral	Changes in wellbeing scores were significant. Female participants and those from BME groups appeared to show greater improvement in wellbeing scores than White British or male participants. These findings were supported by qualitative interviews, which also suggested that these differences might be due to the importance of sharing experiences, reduced social isolation, and external stressors. The findings suggest that Arts on Referral interventions can improve wellbeing for those with short and long-term mental health challenges, although the results of the pre-post design and potential differences between ethnic groups and genders should be interpreted with caution due to the small sample size.

Lawson, J., Reynolds, F., Bryant, W. and Wilson, L. (2014). 'It's like having a day of freedom, a day off from being ill': Exploring the experiences of people living with mental health problems who attend a community-based arts project, using interpretative phenomenological analysis. *Journal of Health Psychology*, 19(6), 765-777.	Peer-reviewed journal	Qualitative research in one community arts project. In-depth interviews with eight participants with long-term mental health problems	To explore the psychosocial benefits of participation in a two-year community arts project	Participants experienced the arts project as improving self-worth, emancipating self from illness labels, offering a sense of belonging, enabling acquisition of valued skills and offering meaningful occupation and routines. Some regarded their developing creative skills as improving their self-management of mental health. There was some anxiety concerning the ending of the project.
Stickley, T. and Eades, M. (2013). Arts on prescription: a qualitative outcomes study. *Public Health*, 127(8), 727–34.	Peer-reviewed journal	Two-year follow-up qualitative interviews with people who were using or had used mental health services, and who participated in an Arts on Prescription (AOP) programme (see Stickley and Hui, 2012a) (n=10 of original sample)	To conduct a follow-up study to previous research, two years after participation in an AOP programme	For each of the 10 participants, a lengthy attendance of AOP had acted as a catalyst for positive change – participants reported increased self-confidence, improved social and communication skills, and increased motivation and aspiration. Grouped themes emerged of: outcomes – education, practical and aspirational achievements; and broadened horizons – accessing new worlds, assuming and sustaining identities, and social and relational perceptions. The soft outcomes such as raised confidence and self-esteem seemed to facilitate hard outcomes such as education and voluntary work.
Swindells, R., Lawthom, R., Rowley, K., Siddiquee, A., Kilroy, A. and Kagan, C. (2013). Eudaimonic well-being and community arts participation. *Perspectives in Public Health*, 133(1), 60–5.	Peer-reviewed journal	Semi-structured interviews (n=21) with people involved in Invest to Save Arts projects in Manchester – two projects for older people (n=16) and two projects for people with mental health problems (n=5)	To consider eudaimonic models of psychological wellbeing in relation to the Invest to Save Arts project. The mental health projects were AOP projects for people with depression	The programme provided a sense of purposeful occupation, cognitive and creative challenge and opportunities for autonomous self-expression and heightened concentration. Many participants were intrinsically motivated to develop what they considered to be their innate continued psychological wellbeing.

Margrove, K. L., Heydinrych, K. & Secker, J. (2013). Waiting list-controlled evaluation of a participatory arts course for people experiencing mental health problems. *Perspectives in Public Health*, *133*(1), 28–35.	Peer-reviewed journal	Baseline and follow-up survey of intervention group on participatory arts course (n=26) and control group on the waiting list (n=32) with mental health need. Measures included wellbeing and social inclusion scale	To conduct a naturalistic waiting-list-controlled evaluation of the effects of participation in a 12-week arts course	There were no statistically significant differences between the groups at baseline. Intervention group scores for wellbeing and social inclusion were significantly higher after participation on the arts course but no significant differences were found across time for the control group. This provides some preliminary evidence to suggest that participatory arts groups are likely to have benefits for mental health service users in terms of improved wellbeing and social inclusion.
Stickley, T. and Hui, A. (2012a). Social prescribing through arts on prescription in a U.K. city: participants' perspectives (part 1). *Public Health*, *126*(7), 574–9.	Peer-reviewed journal	In-depth narrative interviews with people who were or had used mental health services (n=16) who participated in an AOP project	To explore the experiences of people who have engaged with an AOP programme of work	Participants experienced AOP as a creative and therapeutic environment. They experienced social, psychological and occupational benefits and gained a sense of belonging and of pride. Some found new opportunities for the future including employment, education and volunteering.
Stickley, T. and Hui, A. (2012b). Social prescribing through arts on prescription in a U.K. city: referrers' perspectives (part 2). *Public Health*, *126*(7), 580–6.	Peer-reviewed journal	In-depth semi-structured interviews with referrers to the above AOP programme (n=10) including Occupational Therapists, GPs, support workers and social workers	To investigate the views of referrers to an AOP programme regarding quality and effectiveness	Referrers valued AOP programmes – they reported that their clients take pride in the work they have created and AOP helps them build confidence, find meaningful occupation, develop skills and express themselves. The social opportunities and peer support are significant for participants.

Leckey, J. (2011). The therapeutic effectiveness of creative activities on mental well-being: a systematic review of the literature. *Journal of Psychiatric and Mental Health Nursing*, *18*(6), 501–9.	Peer-reviewed journal	Systematic review of studies looking at the effectiveness of creative arts on mental health between 1990 and 2010	To examine and critically appraise the literature to consider the effectiveness of creative arts on mental wellbeing within a mental health context	11 studies were identified. None of the studies were randomised controlled trials, none used non-intervention control groups and only one measured long-term effects by measuring outcomes at different times. The evidence suggests that creative activities can have a healing and protective effect on mental wellbeing as it seems to promote relaxation, provides a means of self-expression, and reduces stress. Evidence suggests that participation may contribute to improvements within the individual's immediate social networks. However, overall the evidence base is weak and assumptions were made that lacked reliability and validity.
McCaffrey, T., Edwards, J. and Fannon, D. (2011). Is there a role for music therapy in the recovery approach in mental health? *The Arts in Psychotherapy*, *38*(3), 185–189.	Peer-reviewed journal	Case vignettes (n=3) of individuals with an enduring mental illness attending music therapy sessions	To explore the congruence between music therapy and the recovery approach	The cases exemplify how music therapy can realise some of the central themes of recovery by responding to the individual wishes and requests of people with enduring mental illness in a way that realises their personal strengths and potentials so that they can reclaim control over their lives. Music therapy can help people to re-establish a positive identity (by reawakening musicality), building a meaningful life and take responsibility and control during journey of recovery.

Perruzza, N. and Kinsella, E. A. (2010). Creative arts occupations in therapeutic practice: A review of the literature. *The British Journal of Occupational Therapy, 73*(6), 261–268.	Peer-reviewed journal	A review of the qualitative and quantitative literature on the use of creative arts occupations (including painting, drawing, creative writing, music, textiles, arts and crafts) between 2000 and 2008	To gather, describe and analyse the available research on the use of creative arts occupations with respect to perceived outcomes on health and wellbeing	23 studies were identified, 16 qualitative, four quantitative and three mixed methods. 14 of the studies were from the UK. 10 of the studies focused on people with mental health problems. The only randomised controlled trial did not show significant results. Six themes were identified in the qualitative and mixed methods research: enhanced perceived control, building a sense of self, expression, transforming the illness experience, gaining a sense of purpose, and building social support. Concludes that the use of creative occupations may have important value for individuals living with mental and physical disabilities.
Physical exercise				
Broderick J., Knowles A., Chadwick J. and Vancampfort D. (2015) Yoga versus standard care for schizophrenia. *Cochrane Database of Systematic Reviews, 10.* **(Art. No.CD010554), 1-67.**	Cochrane Database of Systematic Reviews	Systematic review	To examine the effects of yoga versus standard care for people with schizophrenia	Eight short-term (less than six months), randomised studies met the inclusion criteria. Some findings suggest that yoga may be beneficial to people with schizophrenia, with positive effects on mental state, social functioning and quality of life. However, the evidence is limited and weak, with a small number of studies and short-term follow-up only. Important outcomes were not addressed by the studies, including changes in cognition, economic considerations and daily living activities. There was not enough high-quality evidence to suggest that yoga should be prescribed as an add-on to standard care for schizophrenia.

Long, C., West, R., Rigg, S., Spickett, R., Murray, L., Savage, P., Butler, S., Stillman, S.K. and Dolley, O. (2015). Increasing physical activity in a secure psychiatric service for women. *Mental Health Review Journal, 20*(3), 144-155.	Peer-reviewed journal	Quantitative, pre-post design in two secure wards for women. Measures collected over a three-month baseline period were repeated six months post-intervention	Evaluate the effectiveness of measures designed to increase physical activity in women in secure psychiatric care	A range of interventions (environmental and motivational) designed to increase participation in physical activities were introduced on two secure wards for women. Changes in frequency, duration and intensity of physical activity, attendance at physical activity sessions, exercise motivation, exercise-related mood, attitudes to exercise and health and biological indices were assessed. Significant changes occurred in both attitudes to exercise and health, exercise motivation and exercise behaviour following the initiatives.
Rosenbaum, S., Tiedemann, A., Sherrington, C., Curtis, J. and Ward, P.B. (2014). Physical activity interventions for people with mental illness: a systematic review and meta-analysis. *The Journal of clinical psychiatry,75*(9), 964-974.	Peer-reviewed journal	Systematic Review	To determine the effects of physical activity on depressive symptoms (primary objective), symptoms of schizophrenia, anthropometric measures, aerobic capacity and quality of life (secondary objectives) in people with mental illness	39 RCTs were included in the study. Interventions included exercise programs, exercise counselling, lifestyle interventions, tai chi, or physical yoga. Physical activity reduced symptoms of schizophrenia and improved anthropometric measures, aerobic capacity and quality of life among people with mental illness. However, the size of these effects was smaller for trials of higher methodological quality.
Cooney G.M., Dwan K., Greig C.A., Lawlor D.A., Rimer J., Waugh F.R., McMurdo M. and Mead G.E. (2013) Exercise for depression. *Cochrane Database of Systematic Reviews, 9* (Art. No.CD004366), 1-156.	Cochrane Database of Systematic Reviews	Systematic review	An update to a previous Cochrane review (2010), which suggested that exercise can reduce symptoms of depression, but the effect was small and did not seem to last after participants stopped exercising	39 studies with a total of 2326 participants were included in the review. When only high-quality trials were included, exercise had only a small and statistically insignificant effect on mood. When compared to psychological or pharmacological therapies, exercise appears to be no more effective, though this conclusion is based on a few small trials.

Alexandratos, K., Barnett, F. and Thomas, Y. (2012). The impact of exercise on the mental health and quality of life of people with severe mental illness: A critical review. *The British Journal of Occupational Therapy,* *75(2), 48–60.*	Peer-reviewed journal	Critical review of qualitative and quantitative studies between 1998 and 2009 on the impact of exercise on mental health	To describe the effect of exercise intervention on the mental health and quality of life of people with severe mental illness	16 articles were identified, six qualitative (five of these from the UK) and 10 quantitative. Six of the quantitative studies were randomised controlled trials. The research shows exercise can contribute to improvements in mental illness symptoms including mood, alertness, concentration and sleep patterns. It may reduce or provide a distraction from psychotic symptoms such as hallucinations. Exercise may lead to a reduction in depressive symptoms and improvements in psychosocial functioning. Research also shows that exercise can contribute to quality of life for people who experience severe mental illness, as it provides opportunity and avenues for social interaction, meaningful use of time and purposeful, goal-directed activity. Exercise can also lead to empowerment and increased personal control.
Carless, D. (2008). Narrative, Identity, and Recovery from Serious Mental Illness: A Life History of a Runner. *Qualitative Research in Psychology, 5(4), 233–248.*	Peer-reviewed journal	Narrative life history ethnographic research of one person with schizophrenia - includes in-depth interviews with participant, interviews and focus group with mental health professionals, analysis of medical records and participant observation	To illuminate the role of exercise in one man's progress toward recovery, beyond the alleviation of symptoms to look at the importance of meaning, purpose and identity	Serious mental illness had disrupted the participant's pre-existing athletic identity - by returning to exercise he reclaimed his athletic identity and reinstated some degree of continuity and coherence. His story suggests that exercise can contribute to recovery by being a personally meaningful activity which reinforces identity and sense of self.

Carless, D. and Douglas, K. (2008). Narrative, identity and mental health: How men with serious mental illness re-story their lives through sport and exercise. *Psychology of Sport and Exercise*, *9*(5), 576–594.	Peer-reviewed journal	Semi-structured narrative interviews with men with a serious mental illness (n=11)	To explore the way in which involvement in exercise and sport may play a part in allowing individuals to re-story their life in a more positive way than the dominant illness narratives of deficit and dysfunction	Three narrative types were identified: an action narrative about 'going places and doing stuff', an achievement narrative about accomplishment through effort, skill or courage, and a relationship narrative of shared experiences to talk about combined with opportunities to talk about those experiences.
Leisure				
Craik, C. and Pieris, Y. (2006). **Without Leisure … 'It wouldn't be much of a life': the Meaning of Leisure for People with Mental Health Problems.** *British Journal of Occupational Therapy*, *69* (May), 209–216.	Peer-reviewed journal	Qualitative semi-structured interviews (n=10) with people with major mental health problems engaging with an assertive outreach team in South East England	To explore the leisure occupations of people with enduring mental health problems living in the community in order to determine the value that participants placed on leisure	Participants overwhelmingly felt it would be detrimental not to have opportunities to engage in leisure. Leisure provides opportunities for participants to make some connection with the outside world of normal occupations. A sense of keeping busy in the absence of occupation or work and planned time was valued, and leisure went some way to meeting these needs. Although all feelings expressed were positive, on prompting, negative feelings were also expressed including anxiety about being late due to ritualistic behaviours, inability to sustain occupation, feeling of anti-climax following leisure occupation - sometimes these discourage or prevents further involvement.

Notes on the search

- Sources searched include an academic search engine which accesses numerous research indexes, databases and online libraries, Social Care Online database and websites of relevant organisations.
- Inclusion criteria included UK-based research from 2000 (note that literature reviews may include earlier studies and research conducted outside of the UK).
- Initial searches were conducted between April and June 2014. An updated search for relevant publications since June 2014 was undertaken between July and September 2016. A further updated search was undertaken in April 2017.