

**Results.** Improvements were found in sleep quality and wellbeing. Most patients attended all three sessions and actively used the Fitbit and its software apps, guidance and workbook to set goals and to make positive changes to their lifestyle and daily routines to improve motivation, quality of sleep, and level of physical activity.

**Conclusion.** Healthy effective sleep and physical activity/exercise are important to SMI patients' wellbeing and mental and physical health. A health coach successfully and fully integrated the Well-Track intervention into routine service provision. The intervention was beneficial, relatively easy and low cost to implement, and well-liked by patients and staff; and therefore, could be offered by all community mental health teams (CMHTs) and physical health check services. SMI services should consider and assess sleep and physical activity/exercise issues and promote healthy effective sleep and physical activity/exercise within a recovery focused practice.

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### 'Flow' Transcranial Direct Current Stimulation (tDCS) Device and Behaviour Therapy Training Software Used at Home for Community Mental Health Team (CMHT) Patients With Symptoms of Depression

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**Aims.** Flow is a transcranial direct current stimulation (tDCS) treatment for depression without major side effects that patients use at home. Over 30 years of research/clinical use show tDCS is safe (Razza et al., 2020). Flow is CE-marked for treating depression in Europe. Recent NICE briefing published (NICE, 2023). The patient self-administers and remains awake (NICE, 2015), treatment sessions last for about 30 minutes, and are repeated 5 times weekly for three weeks (Flow, 2023). After the initial three-week period, patients self-administer 3 sessions per week for 3 weeks, and then as long as required (Flow, 2023). Meta-analyses of randomised sham-controlled trials (RCT) show tDCS is associated with significant improvements in depressive symptoms and high rates of clinical response and remission relative to placebo sham stimulation (Mutz et al., 2018, 2019; Moffa et al., 2020; Razza et al., 2020). Flow RCT study depression remission rates are 45% (Fu et al., In Press). Flow incorporates an evidence backed healthy lifestyle behaviour training software app, and depression symptom tracking that enables users to monitor their progress/symptoms. Training modules on: 'Behaviour activation', 'Mindfulness', 'Exercise for your brain', 'An anti-depression diet', and 'Therapeutic sleep'. Flow also provides an integrated platform for clinicians to monitor use and depression symptoms.

In a first for the NHS, in a post-marketing informed consent study, NHFT's community mental health team (CMHT) offered Flow to their patients with a diagnosis of depression and evaluated the feasibility and impact.

**Methods.** Outcome measure data collection from baseline to 6 week follow-up point. Self-report measures used were depression: Personal Health Questionnaire (PHQ-9) and Montgomery-Asberg Depression Rating Scale (MADRS); health related quality of life: EQ-5D-5L; and functioning: Work and Social Adjustment Scale (WSAS). In-depth interviews were undertaken with 14 patients.

**Results.** There has been high level of adherence (70%) to treatment protocol. There has been statistically significant and 'reliable improvement' in depression symptoms. There was statistically significant improvements in real world meaningful functioning and quality of life. Most participants described a positive impact on depressive symptoms, sleep, and functioning.

**Conclusion.** Flow has been successfully integrated into CMHT treatment offer. It is important to offer CMHT patients an evidence-backed alternative to existing depression treatments (antidepressant medication and talking therapies). Findings provide support for the approach of delivering together both tDCS and evidence-backed wellbeing behaviour therapy training to patients of CMHTs with experience of depression.

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### Acceptability and Effectiveness of Low Intensity Mental Health Services for Children and Young People Attending a General Hospital

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**Aims.** Despite the high prevalence of mental health disorders in children and young people (CYP) with long-term health conditions (LTCs), these difficulties are often overlooked and untreated. Previous research demonstrated the effectiveness of low intensity psychological support provided via a drop-in mental health centre in a single specialist paediatric hospital. The aim of this study is to determine the effectiveness and acceptability of accessible low intensity mental health services for CYP attending a general hospital.

**Methods.** This project was part of a wider prospective non-randomised single-arm multi-centre interventional study (Trial registration: ISRCTN15063954). CYP aged up to 25 years old with a LTC, who had been receiving care for their LTC for 6 months or more, and their parent/carer were eligible to be referred by their clinician or self-refer to the trial. The primary outcome is the difference in the total difficulties score on the Strengths and Difficulties Questionnaire (SDQ) reported by parent or CYP between baseline and 6 months. Interventions provided were: low intensity CBT, onward referral or signposting.

**Results.** 53 families were recruited at this hospital which made up 44% of the total study sample (120 families). Patients recruited were made up of 34 females, 18 males and one young person who identified as non-binary. The mean age of the CYP was 16.13 years and they were living with a range of different LTCs including cancer, asthma and diabetes. At baseline the average

self-reported and parent reported SDQ scores were within the “very high” range (21.52 and 22.03, respectively). All participants were offered an initial assessment within 3 weeks of consenting (average 19.6 days) and treatment began within a month. Qualitative feedback from families has identified how the service “fills a gap” between physical and mental health and their satisfaction with how “time-sensitive” support was available.

**Conclusion.** There is significant demand for this service and CYP living with different LTCs are accessing and utilising the service provided. This model of intervention allows timely access to evidence-based mental health support for CYP attending a general hospital for their physical health needs, compared with standard waiting times in other services.

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### Unlocking Optimal Strategies: A Systematic Review Exploring the Efficacy of Physical Exercise vs Cognitive Training for Enhancing Executive Functions in Mild Cognitive Impairment and Dementia

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**Aims.** While there is research on physical exercise and cognitive training on cognitive improvement in older adults, there is none comparing these two interventions for their efficacy on executive functioning specifically in the population with a diagnosis of Mild Cognitive Impairment (MCI) or dementia. This study aims to bridge this gap and determine the superiority between the two interventions to enhance executive functions among individuals with MCI or dementia. Besides establishing evidence for the benefits of these socially prescribed interventions, it also aims to highlight their differential effects on executive functions. Additionally, it seeks to evaluate the feasibility of implementing these interventions to provide evidence-based insights that inform clinical practice.

**Methods.** Sixteen randomised control trials were meticulously selected using the Cochrane selection manual and PRISMA guidelines from an extensive search across prominent academic databases. Stringent quality assessment was conducted for each study using the modified Centre for Reviews and Dissemination checklist, Jadad and PEDro scales and the Cochrane Risk of Bias tool ensuring methodological rigour. The studies provided a total of 1593 participants with a mean age of 74.36 (SD = 5.54), randomly allocated in various intervention groups. Each study was critically appraised, analysed and the findings presented as a narrative synthesis and a meta-analysis performed with the available data.

**Results.** Physical exercise showed statistically insignificant improvement on the Stroop Test ( $p = 0.19$ ) while no significant correlation was seen in Verbal Fluency ( $p = 0.032$ ). Cognitive Training intervention had a significant improvement in both Stroop test ( $P = 0.0009$ ) and Verbal Fluency ( $p = 0.00$ ). The study also found that diverse contextual and personal factors like socioeconomic levels, education, personal preferences, general health conditions, mood, dependence on others, and genetics, are some factors that influence an individual's response to intervention and hence determine its efficacy.

**Conclusion.** There is limited statistical evidence to conclude the superiority of one intervention over the other. However, this systematic review highlights that the effectiveness of an intervention cannot be assessed solely on its statistical effect size. Rather, one must go beyond numerical assessments for a comprehensive understanding of individual circumstances that may pose barriers to engagement with the interventions, thus influencing their acceptability and effectiveness. A holistic and multidimensional perspective of the disease with a personalised intervention plan may be the new solution.

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### Developing a Framework for Examining and Improving Decision-Making in Complex Mental Health Systems

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**Aims.** Whether focusing on clinical or non-clinical roles, activity within organizations (and, by extension, outcomes) depends on decision-making. The conscious experience of decision-making (as if it is the outcome of an objective and explicit appraisal of pertinent information) belies the complex nexus of influences on this process. Whilst extensive research has been undertaken on both organizational and clinical decision-making, these literatures have largely remained separate. The authors contend that, when account is taken not only of the interplay between decisions that are deemed either ‘organizational’ or ‘clinical’, but also that this dichotomy itself is invalid, there is an imperative to take a whole system approach to decision-making in health organizations.

The aim of this study was to develop a framework for understanding decision-making that has applicability across a complex mental health system.

#### Methods.

- Step 1: Define the domain of discourse (i.e. decision-making in a complex adaptive mental health system including clinical and non-clinical settings);
- Step 2: Generate a dataset of domain-relevant statements by iterative reflection on the respective areas of practice (clinical and non-clinical);
- Step 3: Thematically analyse the dataset to identify a thematic structure.

**Results.** A hierarchical thematic structure was identified. At the highest order, this structure comprises a dichotomy between embodied and disembodied conceptualizations. The embodied theme is further divisible by perspectives that are intra- or inter-personal. The former includes ways of thinking, assumptions, approximations, uncertainty, holding the model, and epistemic humility; and the latter includes relationships, trust/resentment, and disagreeing well. The disembodied theme incorporates both broad-brush characteristics of the system (such as holistic, connections, relata and complexity) and those characteristics with explanatory power (such as nonlinear, fuzziness and nondeterministic).

**Conclusion.** The framework defined by this analysis has the potential to facilitate the examination of facets of, and influences