

Aims. A rise in mental illness has inspired the UK government to increase mental health service funding by £2.3 billion/year, deepening the need for robust evidence on how to best allocate mental health resources. The STAR methodology was co-developed by the London School of Economics and the Health Economics Unit to help commissioners allocate resources by combining a value-for-money analysis with stakeholder engagement. The aim of this research was to evaluate the potential benefit of implementing the STAR methodology in the allocation of mental health resources.

Methods. The barriers and facilitators to commissioning cost-effective mental health services were systematically reviewed. The potential for STAR to overcome these barriers and promote these facilitators was then evaluated by analysing its socio-technical components and assessing its real-world implementation in the COPD pathways of five ICSs.

Results. Fragmentation and cross-sectoral responsibility for the funding and delivery of services can hinder multi-sector buy-in. STAR has overcome this barrier in the COPD pathways of five ICSs by pooling their budgets and building partnerships across sectors through decision conferencing that has facilitated shared priority setting.

Lacking community involvement impedes local stakeholders from embracing change. By championing local stakeholders, STAR's 'socio' component involves front-line workers in funding decisions and fosters a sense of ownership over service adjustments.

The value placed on each outcome varies between sectors, often resulting in conflicting incentives. By considering each sector's interests, STAR enables a consensus on which outcomes to optimise for. Furthermore, STAR's 'technical' components strengthen the objective value-for-money evaluations of the interventions that contribute to each outcome. When modelling the health gain and cost of COPD interventions, STAR discovered that CBT offers a relatively high return on investment, despite often being overlooked as a core intervention for COPD. STAR's economic evaluations are communicated in easily interpretable ways to facilitate a shared understanding on which resources are most worth funding.

Conclusion. Resource allocation decisions are fuelled by the quality of evidence supporting them. Compared with physical health services, mental health services lack evidence that reflects the qualitative and quantitative nature of their outcomes. In particular, services that rely mostly on subjective reports, such as psychotherapy, lack objective value-for-money evaluations, resulting in a hesitancy for funding. By measuring the health gain and cost of each mental health intervention in a systematic, transparent and objective way, STAR enables commissioners to improve the allocative efficiency of mental health resources, thus improving population mental health without increasing cost.

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A Systematic Review of Aerobic Exercise to Improve Cognitive Function in Older People Without Known Cognitive Impairment

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doi: 10.1192/bjo.2023.239

Aims. There is an increasing amount of evidence to suggest that regular physical exercise supports healthy ageing. Regular physical

activity provides health benefits for the cardiovascular, respiratory and musculoskeletal systems as well as many other benefits. As well as improving cardiovascular fitness, aerobic activity in particular may also have beneficial effects on cognition among older people. In this paper, we aimed to systematically review the effect of aerobic physical activity, aimed at improving cardio-respiratory fitness, on cognitive function in older people without known cognitive impairment.

Methods. We searched the Cochrane Dementia and Cognitive Improvement Group's Specialized Register, the Cochrane Controlled Trials Register (CENTRAL), MEDLINE, EMBASE, PsycINFO, LILACS, World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP) (<http://apps.who.int/trialsearch>), ClinicalTrials.gov with no language restrictions.

We included all published randomised controlled trials (RCTs) comparing the effect of aerobic physical activity programmes with any other active intervention or no intervention on cognitive function. Participants were ages over 55 with no known cognitive impairment. We looked at trials, which measured effects on both fitness and cognition.

We reviewed the data from trials published since August 2013 to further the research completed by Young J, Angevaren M, Rusted J, Tabet N (published in 2015). This systematic review looked at all the studies completed before August 2013.

Results. There were a few trials that met our inclusion criteria. The aerobic activity programme that participants were subjected to varied in length.

The comparison between aerobic exercise to any active intervention showed no evidence of benefit from aerobic exercise in cognition.

None of our analyses showed a cognitive benefit from aerobic exercise despite the interventions demonstrating benefits to cardiorespiratory fitness

Conclusion. The findings from the available data from the RCTs did not show any evidence that aerobic physical activities, including those which successfully improve cardiorespiratory fitness, have any cognitive benefit in cognitively healthy older adults. Larger studies with longer term interventions and longer follow up would be recommended.

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Exploration Heuristics During Anxiety – an Online Study

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doi: 10.1192/bjo.2023.240

Aims. Every day, we may choose something new randomly (random exploration) or select something new with no prior information (de-novo exploration). The link between exploration and anxiety has only been studied using trait-like anxiety questionnaires, but an experimental manipulation of anxiety could have different results.

Individual differences (e.g., sex or novelty-seeking (NS) trait) also impact specific exploration strategies. Thus, we examined if anxiety manipulation in a task would influence different exploration strategies while also looking at sex, NS bias and trait anxiety.

Methods. 117 healthy subjects (58 female) completed online questionnaires (novelty-seeking dimension of the Cloninger's Tridimensional Personality Questionnaire (TPQ-NS), trait anxiety questionnaire (STAI)) and performed the Maggie's farm task. This task allows to review different exploration strategies, promoting exploration via the number of available choices (horizon). The threat of aversive stimuli (loud noises appearing at random times) was used to emulate anxiety, in a between-subject design. Comparing computational models of exploration, the best-fitting model (evaluated by Bayesian Information Criterion) in our data was a Thompson model with an ϵ -greedy element (random exploration) and a novelty bonus η (de-novo exploration). We used repeated-measures ANOVA, comparing the effect of horizon on the ϵ and η parameters with the anxiety category as a between-subject factor. We used partial Pearson's correlations of ϵ and η derivatives (mean and standardised-difference (SD) across horizon) with STAI and TPQ-NS measures correcting for participant's reported stress levels and anxiety category. Partial correlations analyses were repeated after splitting the data by sex.

Results. There was no between-subject effect of anxiety category on the horizon of either ϵ ($F(1,1) = 0.253, p = 0.6$) or η ($F(1,1) = 0.305, p = 0.58$). SD of ϵ was negatively correlated with TPQ-NS ($r = -0.184, p = 0.050$) but no other partial correlation was significant. When splitting by sex, SD of ϵ was negatively correlated with the STAI score ($r = -0.341, p = 0.01$) in females and the TPQ-NS score in males ($r = -0.275, p = 0.038$). The mean η positively correlated with the STAI score ($r = 0.318, p = 0.016$) in males.

Conclusion. While the experimentally modulated anxiety did not affect the exploration parameters, individual differences in NS and trait anxiety are suggested to affect random and de-novo exploration in a sex-dependent manner. Imaging research, or research into anxiety population could help further solidify these results in the future.

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Telemedicine for Memory Service Assessments, a Literature Review

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doi: 10.1192/bjo.2023.241

Aims. Memory clinic waiting times are at a record high, increasing from 13 weeks in 2019 to 17.7 weeks in 2022. This backlog is partially due to COVID-19 disruption. Staff are concerned that waiting times are resulting in missed diagnoses, particularly with early-onset memory loss, and that relatives of patients with challenging behaviours are not receiving adequate support. At the start of the pandemic, many Memory Service Assessments (MSAs) were done via teleconsultation to ensure patients could access services despite lockdowns. Telemedicine has continued to be used for MSAs and is a strategy proposed to tackle waiting times. This literature review explores whether using telemedicine for MSAs is evidence-based.

Methods. A search using the MEDLINE database was conducted, using the terms 'dementia', plus 'telemedicine', 'video calls', and 'telephone calls'. This identified one relevant systematic review

and one clinical trial. The identified evidence was insufficient for a systematic review. A google search carried out with the same terms, identified a variety of non-academic papers: NHS Audits, Quality Improvement Projects, Clinical Network publications, and one governmental publication.

Results. Telemedicine was reported to reduce waiting lists. Appointments could be organised quickly, without infection risk, and without requiring transportation. At-home telemedicine consultations were relaxing for some patients and reduced demand for home visits. However, clinicians reported that some environments were cluttered and noisy, impacting the MSA.

Patients struggled with the complex telemedicine technology; carers were required to facilitate the calls, which increased the risk of an inaccurate assessment. Patients with sensory impairments disliked telemedicine, and clinicians struggled to distinguish between cognitive impairment and poor hearing. Financial inequalities at times prevented telemedicine. Some relatives felt that patients would mask their memory symptoms in teleconsultations, and not speak openly about their concerns. Clinicians felt adequate safeguarding assessments were not possible over teleconsultation. There was no inclusion of the long-term impact of these assessments. No distinction was made between dementia subtypes.

Conclusion. The National Audit of Dementia, RCPsych 2021, encourages the future use of telemedicine for MSAs. However, there is limited evidence to support its use. Telemedicine was essential during COVID-19 and may help reduce waiting times, but may also produce worse outcomes than face-to-face consultations. Only pilot studies without randomisation exist on the topic and none of these are UK based. Further research is required to produce NHS-specific data on the impact telemedicine has on: the quality of MSAs, the patients', carers', and clinicians' experiences, and memory service waiting times.

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Patterns of Insomnia and Its Treatment in North Central London: Using Primary Care Data to Establish Unmet Needs and Health Inequalities

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doi: 10.1192/bjo.2023.242

Aims. There is robust research evidence that insomnia is highly prevalent in the general population, with a significant adverse impact on physical and mental health and quality of life. There is also strong evidence of the cost-effectiveness of cognitive-behavioural therapy for insomnia (CBT-I), the first-line treatment for insomnia recommended by the UK's National Institute for Health and Care Excellence. However, data from primary care records has not been used in the UK to establish real-world impact, including local prevalence, treatment rates and inequalities. This study's aim was to establish these in North London.

Methods. Pseudonymised data were extracted from primary care records across three North London boroughs for 765,035 patients (aged 15+ years). Insomnia prevalence was determined by identifying patients with a code for insomnia in previous five years,